

**FORMAT B.1****Format for Technical Pre-Bid Queries****Tender No TPSODL/OT/2022-23/057****Package Name Rate Contract for Supply of 30kV-10kA (Class-3 with surge counter) & 11kV, 10KA (Class-2 without surge counter)**

**Note :** The said format to be used only for Technical Pre-Bid Query. Any Commercial Query has to be strictly in Format B2 Format for Commercial Pre-Bid Query and sent separately

Format to be used for query regarding Technical Pre-Qualification Requirement, Safety Pre-Qualification Requirement, Technical Set of Documents

**Pre-Bid Query has to be sent in editable Excel file format only**

**Pre-Bid Query has to be sent through e-mail in TPSODL E-Tender System**

<b>Sr. No.</b>	<b>Detailed Reference to TPSODL Technical Document. Please specify Document No / Clause No / Page No</b>	<b>Description as per Bid Document</b>	<b>Remarks - Query / Clarification</b>	<b>TPSODL Response</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	Clause no. 2 - Page no. 2 of 16 APPLICABLE STANDARDS of Specification for 33kV Lightning Arrester (10KA)	IEC : 60507 Artificial pollution tests on high voltage insulators	This test is applicable for Ceramic / Glass Insulators, hence the same is not applicable for Polymer type Lightning Arresters	<b>Specification to be Complied</b>
2	SL. No. 2 - Clause no. 4 General Technical requirements - Page no. 5 of 16 of Specification for 33kV Lightning Arrester (10KA)	Reference standards - IEC 61109	IEC 61109 standard is for polymer insulators, hence the same is not applicable for LA.	<b>Specification to be Complied</b>
3	SL. No. 10 - Clause no. 4 General Technical requirements - Page no. 5 of 16 of Specification for 33kV Lightning Arrester (10KA)	Short circuit rating - 63KA	Generally 33kV Systems will not have short circuits more than 40KA, hence the arresters requirements shall be 40KA rating	<b>Specification to be Complied</b>
4	SL. No. 10 c - Clause no. 4 General Technical requirements - Page no. 5 of 16 of Specification for 33kV Lightning Arrester (10KA)	Prospective symmetrical fault current - 63 KA	Generally 33kV Systems will not have short circuits more than 40KA, hence the arresters requirements shall be 40KA	<b>Specification to be Complied</b>
5	SL. No. 17 - Clause no. 4 General Technical requirements - Page no. 6 of 16 of Specification for 33kV Lightning Arrester (10KA)	Energy Absorption capability - 8KJ/kV	As per IEC standard for Class 3 (SM) type, value is 7KJ/KV, hence the same is to be revised	<b>Specification to be Complied</b>
6	SL. No. 18 - Clause no. 4 General Technical requirements - Page no. 6 of 16 of Specification for 33kV Lightning Arrester (10KA)	Repetitive charge transfer withstand (coloumbs), Qrs - 2 Coloumbs	As per IEC standard for Class 3 (SM) type, value is ≥ 1.6, hence the same is to be revised	<b>Specification to be Complied</b>
7	SL. No. 22 - Clause no. 4 General Technical requirements - Page no. 6 of 16 of Specification for 33kV Lightning Arrester (10KA)	Max. Cantilever Strength - 325 kgM	The value specified is for porcelain arrester. For polymer LA, since it is moulded type cantilever strength will be less which will be 35 kgM (min)	<b>Cantilever Strength Shall be 325 kgF</b>

8	SL. No.30 - Clause no. 4 General Technical requirements - Page no. 6 of 16 of Specification for 33kV Lightning Arrester (10KA)	Insulating terminal cap	Clarify Insulating Cap is required or not	<b>Insulating Cap is required</b>
9	Clause no. 5.4 (a) Surge counter - Page no. 8 of 16 of Specification for 33kV Lightning Arrester (10KA)	Cyclometric 5-digit, non-resetting type counter	Standard design available in the market is 6 digit, hence to be accepted	<b>Ok, Accepted</b>
10	Clause no. 5.4 (d) Surge counter - Page no. 8 of 16 of Specification for 33kV Lightning Arrester (10KA)	<p>The connecting conductor from lightning arrester earth terminal to the discharge counter incoming terminal shall be insulated for a minimum of 4 kV</p> <p>Approved Make for this Cable is Polycab/KEI/KEC/Sterlite/Finolex/Havells.</p> <p>Bimetallic strips must be provided along with Surge Counter for bimetallic connections</p>	<p>The standard flexible cable available in the market is 1.1kV insulated as 4kV cable falls under HT category which are armoured cables and are not flexible and are not suitable for connection. Also the connecting lead from arrester to surge counter of 1.1kV is sufficient to perform the function as current flow through LA is in micro amps in standard condition. Also the colour of cable will be black which is standard colour of all cables in the marked (1.1kV)</p> <p>Approved Make for this Cable is Polycab/KEI/KEC/Sterlite/Finolex/Havells or any other equivalent make</p> <p>Bimetallic strips are not required as current flow through LA is in micro amps during standard condition.</p>	<b>Specification to be Complied</b>
11	Clause no. 5.5 Connectors - Page no. 9 of 16 of Specification for 33kV Lightning Arrester (10KA)	<p>Tin coated aluminium terminals</p> <p>This terminal shall be connected via wedge connector</p> <p>Paddle type connector shall be considered for wedge</p>	<p>Tin coating on aluminium is not possible. Also aluminium material doesn't require any coating since it is rust proof.</p> <p>Wedge connectors are not in our scope of supply as they are not standard type unlike bolted connectors which are standard item available in the market</p> <p>Standard bolted type connector is sufficient as Lightning Arresters are not current carrying equipment and doesn't require high end connector</p>	<b>Specification to be Complied, However, Standard bolted type connector (L-Shaped) shall be acceptable.</b>

10	Clause no. 7.1 Acceptance tests Page no.10 of 16 of Specification for 33kV Lightning Arrester (10KA)	e) For Arrester units with sealed housing leakage check shall be made on Arrester	As Polymer arresters are directly moulded, there is no need of providing seal and hence this test is not applicable	<b>Specification to be Complied</b>
11	Clause no. 7.1 Acceptance tests Page no.10 of 16 of Specification for 33kV Lightning Arrester (10KA)	i) Lightning impulse residual voltage on the arrester at nominal discharge current (Dry & wet power frequency voltage test)	This test is not applicable as per IEC / IS standards. Residual voltage test on complete arrester at nominal discharge current level will be conducted as per standard	<b>Specification to be Complied</b>
12	Clause no. 7.2 Routine tests Page no.10 of 16 of Specification for 33kV Lightning Arrester (10KA)	d) Satisfactory absence from partial discharges and contact noise shall be checked on each unit by any sensitive method adopted by the manufacturer.	This is same as Partial Discharge Test hence to be deleted	<b>Specification to be Complied</b>
13	Clause no. 7.2 Routine tests Page no.10 of 16 of Specification for 33kV Lightning Arrester (10KA)	e) For Arrester units with sealed housing leakage check shall be made on	As Polymer arresters are directly moulded, there is no need of providing seal and hence this test is not applicable	<b>Specification to be Complied</b>
13	Clause no. 7.2 Routine tests Page no.10 of 16 of Specification for 33kV Lightning Arrester (10KA)	g) Power frequency voltage	This test is same as measurement of reference voltage, hence to be deleted	<b>Specification to be Complied</b>
14	Clause no. 7.3 Type tests Page no. 11 of 16 of Specification for 33kV Lightning Arrester (10KA)	7 A) e) - Short circuit test (Low (600A)/High Current (63kA)	High current short circuit level shall be 40KA instead of 63KA as explained in point no. 4 above	<b>Specification to be Complied</b>
15	Clause no. 7.3 Type tests Page no. 11 of 16 of Specification for 33kV Lightning Arrester (10KA)	k) Radio interference voltage (RIV)	This test is applicable for arresters > 77kV as per standard, hence the same is not applicable	<b>Specification to be Complied</b>
16	Clause no. 8 Type Test Certificates Page no. 11 of 16 of Specification for 33kV Lightning Arrester (10KA)	Type Test certificates validity 5 years	As per latest Central Electricity Authority guidelines, validity of type test reports are for 10 years, hence the same needs to be accepted	<b>Noted Subject to meeting the requirement of Technical specification</b>
17	Clause no. 11 Guarantee Page no. 12 of 16 of Specification for 33kV Lightning Arrester (10KA)	In the event any defect is found by the Company up to a period of 60 months from the date of commissioning or 66 months from the date of last supplies made under the contract, whichever is earlier	For Lightning Arresters, standard clause is 18 months from the date of supply of 12 months from the date of commissioning whichever is earlier.	<b>Specification to be Complied</b>

18	Clause no. 11 Guarantee Page no. 12 of 16 of Specification for 33kV Lightning Arrester (10KA)	Bidder shall further be responsible for 'free replacement' for another period of THREE years from the end of the guarantee period for any 'Latent Defects' if noticed and reported by the Purchaser	Not applicable as Lightning Arrester is a protective device and in the process conducting surges appearing in the system, it may get fail since the intensity of the surge is not controllable and not measurable.	<b>Specification to be Complied</b>
19	3.9 page 11 of 25	Type test validity 5 years	As per CEA Guidelines type test validity is 10 years, please consider the same.	<b>Noted Subject to meeting the requirement of Technical specification</b>
20	ENG_ELC-018 page 5 of 16 sr.no. 2	Reference standard IS 3070	IS 3070 is withdrawn. Present standard IS 15086 part-4 2017	<b>Noted as per Latest Guidelines</b>
21	ENG_ELC-018 page 5 of 16 sr.no. 10	Short circuit rating 63kA	For Medium voltage arresters short circuit rating is 40kA	<b>Specification to be Complied</b>
22	ENG_ELC-018 page 5 of 16 sr.no.22	Max. Cantilever strength - 325kgM	Max. Cantilever strength for polymer surge Arresters-325kgf	<b>Noted.</b>
23	ENG_ELC-018 page 5 of 16 sr.no.29	Material of Insulating base - UV resistance Fire retardant DMC	Offered insulating bases are UV resistance Fire retardant HDPE (High density polyethylene) which is better than DMC	<b>Specification to be Complied</b>
24	ENG_ELC-018 page 5 of 16 sr.no.30 & clause 5.1	Insulating terminal cap - Polyolefin	Offered insulating terminal cap material is Silicone polymer which is better than polyolefin.	<b>Specification to be Complied</b>
25	ENG_ELC-018 page 10 of 16 sr.no.7.1.i	Dry & wet power frequency voltage test	Comes under type test report will be submitted for review. Dry power frequency withstand test not applicable for outdoor surge Arresters	<b>Specification to be Complied</b>
26	ENG_ELC-018 page 11 of 16 sr.no.7.3.i	Dry & wet power frequency voltage test	Dry power frequency withstand test not applicable for outdoor surge Arresters	<b>Specification to be Complied</b>
27	ENG_ELC-018 page 11 of 16 sr.no.7.3.k	Radio interference voltage test	Not applicable for 30kV Surge Arresters	<b>Specification to be Complied</b>
28	ENG_ELC-018 page 11 of 16 sr.no.8	Type test validity 5 years	As per CEA Guidelines type test validity is 10 years, please consider the same.	<b>Noted Subject to meeting the requirement of Technical specification</b>
29	12kV Surge Arresters			
30	ENG-ELC-019 page 3 of 14 clause . 4. sr.no. 2	Reference standard IS 3070	IS 3070 is withdrawn. Present standard IS 15086 part-4 2017	<b>Noted as per Latest Guidelines</b>
31	ENG-ELC-019 page 4 of 14 clause . 4.. sr.no. 29 & clause 5.5 a	Material of Insulating base - UV resistance Fire retardant DMC	Insulating mounting bracket will be provided for bracket type mounting . Material of the insulating mounting bracket is ABS which is much superior than DMC	<b>Specification to be Complied</b>
32	ENG-ELC-019 page 5 of 14 clause . 4.. sr.no. 30 & clause 5.4	Disconnecter (optional )	Kindly confirm whether disconnecter required or not	<b>Surge counter required</b>
33	ENG-ELC-019 page 5 of 14 clause . 4.. sr.no. 30.a	Insulated flexible tinned plated copper braid with lugs	Insulated copper cable will be provided with lugs	<b>Specification to be Complied</b>

34	ENG-ELC-019 page 5 of 14 clause . 4.. sr.no. 31 & clause 5.1	Insulating terminal cap - Polyolefin	Offered insulating terminal cap material is Silicone polymer which is better than polyolefin.	<b>Specification to be Complied</b>
35	ENG-ELC-019 page 9 of 14 clause . 7.1.. Sr.no. e	All acceptance tests shall be witnessed by TPSODL/ the purchaser's or his authorised representative. The above mentioned tests shall be made on 100% of arresters to be supplied	As per IEC 60099-4 2014 acceptance tests shall be performed in cube root of total quantity offered	<b>Specification to be Complied</b>
36	ENG_ELC-018 page 8 of 14 sr.no.7.3 l	Dry & wet power frequency voltage test	Dry power frequency withstand test not applicable for outdoor surge Arresters	<b>Specification to be Complied</b>
37	ENG_ELC-018 page 9 of 14 sr.no.8	Type test validity 5 years	As per CEA Guidelines type test validity is 10 years, please consider the same.	<b>Noted Subject to meeting the requirement of Technical specification</b>
38	ENG_ELC-018 page 10 of 14 sr.no.13	Tender sample	Kindly confirm whether tender sample required or not	<b>Refer Clause 13. Tender Sample of Tender Specification</b>
39	SL. No. 2 - Clause no. 4 General Technical requirements - Page no. 3 of 14 of Specification for 11kV Lightning Arrester (10KA)	Reference standards - IEC 61109	IEC 61109 standard is for polymer insulators, hence the same is not applicable for LA.	<b>Tender Specification to be Complied</b>
40	SL. No. 13 - Clause no. 4 General Technical requirements - Page no. 4 of 14 of Specification for 11kV Lightning Arrester (10KA)	Long duration current is mentioned as 75A and 1000T micro sec	Clarify whether requirement is Station Class SL or Distribution class as 75A and 1000T micro sec falls under distribution class LA	<b>30kV-10kA (Class-3 ) &amp; 11kV-10KA (Class-2) with surge counters</b>
41	SL. No. 14 - Clause no. 4 General Technical requirements - Page no. 4 of 14 of Specification for 11kV Lightning Arrester (10KA)	High current impulse operating duty 65KA (peak)	If arrester is distribution class - 65kA (Peak) is correct. If it is station class - 100KApeak is the requirement. Clarify on station or distribution type	<b>30kV-10kA (Class-3 ) &amp; 11kV-10KA (Class-2) with surge counters</b>
42	SL. No. 30 - Clause no. 4 General Technical requirements - Page no. 5 of 14 of Specification for 11kV Lightning Arrester (10KA)	Disconnecter is mentioned as Optional	Clarify whether disconnecter is required or not as it is mentioned as optional	<b>Surge Counter Required</b>
43	Clause no. 5 General Construction - Page no. 5 of 14 of Specification for 11kV Lightning Arrester (10KA)	5.1 a) The 12kV 10kA station class Lightning Arrester shall have L-shaped terminal clamp suitable for conductor size of 148 sqmm	If L shaped terminal clamp is provided, Insulating terminal cap will not fit properly. It is suggested to use cable with lug to connect line side of LA to the system	<b>Specification to be Complied</b>
44	Clause no. 5.4 Disconnecter - Page no. 6 of 14 of Specification for 11kV Lightning Arrester (10KA)	Disconnecter optional  Disconnecter shall be suitable for screwing directly to LA with terminal of M10.	To clarify whether disconnecter is required or not  Terminal can be M10 or M12	<b>Surge Counter Required</b>

45	Clause no. 7.3 Type tests Page no. 8 of 14 of Specification for 11kV Lightning Arrester (10KA)	e) Moisture ingress test and water immersion test	This test is not specified in IEC / IS standard. Also as Polymer arresters are directly moulded, there are no seals used and hence this test is not applicable.	<b>Specification to be Complied</b>
46	Clause no. 7.3 Type tests Page no. 8 of 14 of Specification for 11kV Lightning Arrester (10KA)	m) Seal leak rate test	As Polymer arresters are directly moulded, there are no seals used in the assembly and hence this test is not applicable. This is applicable for porcelain type.	<b>Specification to be Complied</b>
47	Clause no. 7.3 Type tests Page no. 8 of 14 of Specification for 11kV Lightning Arrester (10KA)	n) Pressure relief test	Pressure relief test and short circuit tests are same, hence not applicable	<b>Specification to be Complied</b>
48	Clause no. 7.1 Acceptance tests Page no. 8 of 14 of Specification for 11kV Lightning Arrester (10KA)	e) For Arrester units with sealed housing leakage check shall be made on The above mentioned tests shall be made on 100 % of arrestors to be supplied	As Polymer arresters are directly moulded, there is no need of providing seal and hence this test is not applicable  Acceptance tests are performed as per sampling plan mentioned in IS / IEC standard	<b>Specification to be Complied</b>
49	Clause no. 7.2 Routine tests Page no. 8 of 14 of Specification for 11kV Lightning Arrester (10KA)	d) Satisfactory absence from partial discharges and contact noise shall be checked on each unit by any sensitive method adopted by the manufacturer.	This is same as Partial Discharge Test as mentioned in ( c ), hence to be deleted	<b>Specification to be Complied</b>
50	Clause no. 7.2 Routine tests Page no. 8 of 14 of Specification for 11kV Lightning Arrester (10KA)	e) For Arrester units with sealed housing leakage check shall be made on	As Polymer arresters are directly moulded, there is no need of providing seal and hence this test is not applicable	<b>Specification to be Complied</b>
51	Clause no. 7.4 Special Thermal Stability test Page no. 8 of 14 of Specification for 11kV Lightning Arrester (10KA)	Special Thermal Stability test	This is part of operating duty type test, hence the same is not applicable as acceptance test / routine test	<b>Specification to be Complied</b>
52	Clause no. 8 Type Test Certificates Page no. 9 of 14 of Specification for 11kV Lightning Arrester (10KA)	Type Test certificates validity 5 years	As per latest Central Electricity Authority guidelines, validity of type test reports are for 10 years, hence the same needs to be accepted	<b>Noted Subject to meeting the requirement of Technical specification</b>
53	Clause no. 11 Guarantee Page no. 10 of 14 of Specification for 11kV Lightning Arrester (10KA)	Bidder shall further be responsible for 'free replacement' for another period of THREE years from the end of the guarantee period for any 'Latent Defects' if noticed and reported by the Purchaser	Not applicable as Lightning Arrester is a protective device and in the process conducting surges appearing in the system, it may get fail since the intensity of the surge is not controllable and not measurable.	<b>Specification to be Complied</b>
54	Clause no. 13 Tender sample Page no. 10 of 14 of Specification for 11kV Lightning Arrester (10KA)	Tender sample requirement	Clarify whether tender sample is required or not	<b>Refer Clause 13. Tender Sample of Tender Specification</b>