

FORMAT B.1**Format for Technical Pre-Bid Queries****Tender No : TPSODL/OT/2021-22/084****Pack: Rate contract for supply of 33kV & 12kV 10KA Lightning Arrester****Bidder Name:**

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 Document

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

Sr. No.	Detailed Reference to TPSODL Technical Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	TPSODL Response
1	2	3	4	5
1	Clause no. 4 - General Technical Requirements - Page no. 3 of 14 of Technical specification of 12kV LA	Sl. No. 10 - Distribution class - Station Class-SM	1. Clarify whether requirement is for distribution class or station class. 2. If requirement is station class 2, the arrester classification will be SL and if requirement is Class 3, the arrester classification will be SM. Clarify whether class 2 or class 3 requirement	Class-2(SL), Station class
2	Clause no. 4 - General Technical Requirements - Page no. 3 of 14 of Technical specification of 12kV LA	Sl. No. 11 - Line discharge class 2	If requirement is station class 2, the arrester classification will be SL and if requirement is Class 3, the arrester classification will be SM. Clarify whether class 2 or class 3 requirement	Class-2(SL), Station class
3	Clause no. 4 - General Technical Requirements - Page no. 3 of 14 of Technical specification of 12kV LA	Sl. No. 12 - Repetitive charge transfer withstand (Qrs) - > 1.6C	If requirement is station class 2, the arrester classification will be SL and Qrs value will be > 1.0 C If requirement is Class 3, the arrester classification will be SM and Qrs value will be > 1.6C Clarify whether class 2 or class 3 requirement and accordingly specify Qrs value	Repetitive charge transfer as >1.0C for Class-2 , Station class(SL) as per IEC 60099-4 2014

4	Cluase no. 4 - General Technical Requirements - Page no. 4 of 14 of Technical specification of 12kV LA	Sl. No. 13 - Thermal energy withstand rating (Wth) - 7kJ/kV Ur (2 shots)	If requirement is station calss 2, the arrester classification will be SL and Wth value will be > 4.0 kJ/kV If requirement is Class 3, the arrester classification will be SM and Wth value will be > 7kJ/kV Clarify whether class 2 or class 3 requirement and accordingly specify Wth value	AS PER IEC 60099, Thermal energy withstand test rating as >4kJ/Kv for station class2
5	Cluase no. 4 - General Technical Requirements - Page no. 4 of 14 of Technical specification of 12kV LA	Sl. No. 24 - Total creepage length of the arrester - 500mm (min)	As per IEC standard, even considering very heavy pollution area of application, creepage requirement specified is 31mm/kV which will workout to 372mm. Clarify and amend accordingly.	creepage requirement is 31mm/kV i.e 372 mm
6	Cluase no. 5 - General Construction - Page no. 5 of 14 of Technical specification of 12kV LA	Sl. No. 9 : Pressure releif system requirement	Polymer arresters are manufactured without any air gap between block column and outer housing (unlike Porcelain Type), hence there are no usage of seals in the design / manufacturing. Also because of no air gap presence and non-fragile housing, pressure relief device is not required since there is no scope of pressure development inside	Ok Noted
7	Cluase no. 5.1 - Assembly - Page no. 5 of 14 of Technical specification of 12kV LA	Sl. No. 9. The arrester disconnecter shall be suitable for screwing directly to L.A with terminal of M10.	The terminal can be M12 also which will be robust compared to M10	OK, M12 terminal is accepted

8	Cluase no. 5.1 - Assembly - Page no. 6 of 14 of Technical specification of 12kV LA	Sl. No. 13. The 12kV 10kA station class Lightning Arrester shall have L-shaped terminal clamp suitable for conductor size of 9mm-16mm diameter.	If L-shaped terminal clamps are used, the insulating terminal cap will not fit / assemble properly while mounting in the field, hence it is suggested to use flexible cable with lug for line connection	Shall be finalised during detailed Engineering
9	Cluase no. 5.3 - Mounting Bracket - Page no. 6 of 14 of Technical specification of 12kV LA	Additionally one mounting bracket shall be provided	The supplied mounting bracket can be directly fixed on to the structure / pole, hence there is no need of additional mounting bracket	Ok Noted
10	Cluase no. 5.5 - Surge Counter - Page no. 6 of 14 of Technical specification of 12kV LA	Surge counter requirement	If mounting bracket and disconnectors are used, there is no requirment of surge counter. Clarify whether surge counter is required or not.	Disconnector is not required however, Surge Counter is Required inline with Technical Specification
11	Cluase no. 7.1 - Type Test - Page no. 8 of 14 of Technical specification of 12kV LA	Sl. No. 1 - Power Frequency reference Voltage test (Both in Dry and Wet condition)	This is not a type test as per IEC / IS standard and falls under routine and acceptance tests (only dry), hence not applicable for type test	Specification to be complied
12	Cluase no. 7.1 - Type Test - Page no. 8 of 14 of Technical specification of 12kV LA	Sl. No. 2 - Lightning impulse residual voltage on complete arrester	This is not a type test as per IEC / IS standard and falls under routine and acceptance tests, hence not applicable for type test	Specification to be complied
13	Cluase no. 7.1 - Type Test - Page no. 8 of 14 of Technical specification of 12kV LA	Sl. No 16 - Seal leak rate test	Polymer arresters are manufactured without any air gap between block column and outer housing (unlike Porcelain Type), hence there are no usage of seals in the design / manufacturing. Hence this test is not applicable	Ok Noted

14	Cluase no. 7.1 - Type Test - Page no. 8 of 14 of Technical specification of 12kV LA	Sl. No 17 - Radio interference voltage (RIV) test	As per IEC standard, this test is applicable for arresters for 72.5kV and above systems, hence not applicable	Ok Noted
15	Cluase no. 7.1 - Type Test - Page no. 8 of 14 of Technical specification of 12kV LA	Sl. No. 18 - Test to verify the dielectric withstand of internal components	This is part of operating duty test and hence not required to be conducted separately and hence not applicable	Ok Noted
16	Cluase no. 7.1 - Type Test - Page no. 8 of 14 of Technical specification of 12kV LA	Sl. No. 19 - Test of internal grading components	No grading components are used in the assembly of LA, hence this test is not applicable	Ok Noted
17	Cluase no. 7.1 - Type Test - Page no. 9 of 14 of Technical specification of 12kV LA	Sl. No. 20 - Thermal cyclic test	This test is again applicable for LA having grading components. Since no grading components are used, this test is not applicable.	Ok Noted
18	Cluase no. 7.2 - Routine Test - Page no. 9 of 14 of Technical specification of 12kV LA	Sl. No. 4 - Satisfactory absence from partial discharges and contact noise shall be checked on each unit by any sensitive method adopted by the manufacturer.	This test is same as Internal Partial Discharge test, hence to be deleted	Specification to be complied

19	Cluase no. 7.2 - Routine Test - Page no. 9 of 14 of Technical specification of 12kV LA	Sl. No. 5 - For arrester for arrester units with an enclosed gas volume and separate sealing system the sealed housing leakage check shall be made on each unit by any sensitive method adopted by the manufacturer on the arrester and on surge monitor.	As there is no enclosed gas volume in the arrester, this test is not applicable	Ok Noted
20	Cluase no. 7.3 - Acceptance Test - Page no. 9 of 14 of Technical specification of 12kV LA	Sl. No. 3 - Partial Discharge Test (Both in Dry and Wet condition)	Partial discharge test in wet condition is not specified in IEC / IS standard, hence the same is not applicable. Test in dry condition only is applicable	Specification to be complied
21	Cluase no. 7.3 - Acceptance Test - Page no. 9 of 14 of Technical specification of 12kV LA	Sl. No. 5 - On disconnector used in combination with NGLA, bending moment and tensile load tests shall be performed.	This test is not applicable as the arresters are not of NGLA type	Noted
22	Cluase no. 7.3 - Acceptance Test - Page no. 10 of 14 of Technical specification of 12kV LA	Sl. No. 9 - Thermal stability test	This test is part of operating duty test, hence not applicable as acceptance test	Noted

23	Clause no. 7.4 - Special test as acceptance test - Page no. 10 of 14 of Technical specification of 12kV LA	<p>SPECIAL THERMAL STABILITY TEST as per As per IEC 60099-4 Ed.3 clause 9.2.2 and 8.7 or IS:3070 part3 cl.7.3-TPSODL. Reserves right to perform special thermal stability test during acceptance if required. No failure from the randomly selected sample shall qualify for acceptance.</p> <p>WATT LOSS TEST.</p>	<p>This test is part of operating duty test, hence not applicable as acceptance test</p> <p>Not specified in standard, hence not applicable</p>	Noted
24	Clause no. 8.0 - Type test certificates - Page no. 10 of 14 of Technical specification of 12kV LA	Type test certificates : 3. Type tests should have been conducted in certified Test laboratories during the period not exceeding 5 years from the date of opening the bid.	As per latest guidelines issued by Central Electricity Authority, Type Tests conducted within 10years are valid for Lighting Arresters, hence the same needs to be accepted.	Noted,Subject to there is no design change. Same has to be given in undertaking

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FORMAT B.1**Format for Technical Pre-Bid Queries****Tender No : TPSODL/OT/2021-22/084****Pack: Rate contract for supply of 33kV & 12kV 10KA Lightning Arrester****Bidder Name:**

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

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1	2	3	4	5
1	Clause no. 4 - General Technical Requirements - Page no. 3 of 14 of Technical specification of 33kV LA	Sl. No. 18 - Disconnector requirement	Normally Station Class Lightning Arrester are pedestal mounting type which does not require disconnector to be used in conjunction with Lightning Arrester. Disconnectors are more relevant to distribution class Lightning Arresters	Disconnector is not required however, Surge Counter is Required inline with Technical Specification
2	Clause no. 5 - General Construction - Page no. 4 of 14 of Technical specification of 33kV LA	Sl. No. 2 - Terminal arrangement - The top metal cap and base of the lightning arrester shall be galvanized	Our design of Lightning Arrester does not use any MS material, hence this clause is to be mentioned as "Wherever Applicable"	Noted
3	Clause no. 5 - General Construction - Page no. 4 of 14 of Technical specification of 33kV LA	Sl. No. 3 - Sealing and pressure release device	Polymer arresters are manufactured without any air gap between block column and outer housing (unlike Porcelain Type), hence there are no usage of seals in the design / manufacturing. Also because of no air gap presence and non-fragile housing, pressure relief device is not required since there is no scope of pressure development inside	Noted
4	Clause no. 5 - General Construction - Page no. 4 of 14 of Technical specification of 33kV LA	Sl. No. 4 - Insulating Base requirement	Normally Insulating Base are used in Lightning Arresters during the usage of Surge Monitor. Clarification required whether surge monitor is also needed to be supplied.	Surge Counter is Required inline with Technical Specification

5	Cluase no. 5 - General Construction - Page no. 4 of 14 of Technical specification of 33kV LA	Sl. No. 5 - Disconnector requirement	Disconnectors and Brackets are generally used in Lightning Arrester for distribution system application. For Station Class LA which is pedestal mounting type, hence not required.	Disconnector is not required however, Surge Counter is Required inline with Technical Specification
6	Cluase no. 5 - General Construction - Page no. 5 of 14 of Technical specification of 33kV LA	Sl. No. 6 - Pressure relief device	As detailed in point no. 3 above, pressure relief devices are not applicable for polymer lightning arresters	Noted
7	Cluase no. 5 - General Construction - Page no. 5 of 14 of Technical specification of 33kV LA	Sl. No. 7 - Surge Counter requirment	Surge counter / Surge Monitors are generally used in HV Lightning Arresters of rating 66kV & above. Hence this requirement need not be specified	Surge Counter is Required inline with Technical Specification
8	Cluase no. 5 - General Construction - Page no. 5 of 14 of Technical specification of 33kV LA	Sl. No. 7.1 - Cyclometric 5-digit, non-resetting type counter, dial type surge counter shall be provided for each lightning arrester for automatically recording the number of discharges.	If surge counter is required, cyclometric counter which is used will be of 6 digit type, which is standard available with the manufacturer	Noted
9	Cluase no. 5 - General Construction - Page no. 5 of 14 of Technical specification of 33kV LA	Sl. No. 7.4 - The connecting conductor from lightning arrester earth terminal to the discharge counter incoming terminal shall be insulated for a minimum of 4 kV and this insulated conductor shall be supplied along with the arrester by the bidder	If surge counter is required, the connecting conductor supplied will be of 1.1kV insulated as this is the standard available in the market. Also 4kV conductor is not a multi strand copper wire type and is armoured type which cannot be bent and connection from Lightning Arrester to Surge counter terminal will be a problem.	Specification to be Complied

10	Clause no. 7.1 Type Tests - Page no. 6 of 14 of Technical specification of 33kV LA	Type test b) Power frequency voltage sparkover test c) Standard lightning voltage impulse spark over test d) Lightning-voltage impulse spark over voltage test e) Switching-voltage impulse spark over voltage/time curve test	These tests are applicable for gapped arresters which is an outdated technology. All arresters are of gapless type and hence these tests are not applicable	Noted
11	Clause no. 7.1 Type Tests - Page no. 6 of 14 of Technical specification of 33kV LA	Type test i) pressure relief tests	This test is applicable for porcelain type Lightning Arresters where there will be a gap between MOV block column and Arrester Housing which requires internal pressure to be relieved in the event of arrester failure to avoid violent shattering of housing. Unlike above, polymer arrester doesn't contain this gap and also the housing is not fragile, hence this test is not applicable.	Noted
12	Clause no. 7.1 Type Tests - Page no. 6 of 14 of Technical specification of 33kV LA	Type test j) Tests of arrester disconnectors when fitted	Not applicable as disconnectors are not provided	Noted
13	Clause no. 7.1 Type Tests - Page no. 6 of 14 of Technical specification of 33kV LA	Type test k) Temperature cycle test	This test is applicable for porcelain type Lightning Arrester, hence not applicable	Noted
14	Clause no. 7.1 Type Tests - Page no. 6 of 14 of Technical specification of 33kV LA	Type test l) Galvanizing test on metal parts 86 of 363	Not applicable as there are no ferrous parts in our design	Noted
15	Clause no. 7.1 Type Tests - Page no. 6 of 14 of Technical specification of 33kV LA	Type test m) Visual examination	This is not a type test as per standard	Noted
16	Clause no. 7.1 Type Tests - Page no. 6 of 14 of Technical specification of 33kV LA	Type test n) Sealing test (not specified in IS:3070 (Part-I) - 1985) To prove the effectiveness of sealing of the lightning arresters	This test is applicable for arresters which has gap between MOV blocks and arresters columns that requires using of seals. Polymer arrester design is without gaps, hence not applicable	Noted

17	Clause no. 7.2 - Routine tests - Page no. 7 of 14 of Technical specification of 33kV LA	Routine tests The following shall constitute the routine tests: a) Dry power-frequency voltage spark over test b) Visual examination c) Sealing test (See clause 7.1 (o) above)	All routine tests are as per IS : 3070 part (3) / IEC 99-4 Standards. Tests mentioned in the specification are specified in the standard	Noted
18	Clause no. 7.2 - Acceptance tests - Page no. 7 of 14 of Technical specification of 33kV LA	Acceptance tests a) Dry power-frequency voltage spark over test on the complete arrester. b) Standard lightning - voltage impulse spark over test on the complete arrester. c) Residual voltage test at the nominal discharge current on the complete arrester or sections. d) Temperature cycle test. e) Galvanizing test on metal parts. f) Visual examination . g) Sealing test (see clause 7.1 (o) above)	All acceptance tests are as per IS : 3070 part (3) / IEC 99-4 Standards. This test is not applicable as it is for gapped arrester This test is not applicable as it is for gapped arrester OK Applicable for porcelain type LA, hence not applicable Not specified in standard, hence not applicable Not applicable as explained in Clause 7.1 type test	Noted

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Technical Pre-Bid Queries

TPSODL/OT/2021-22/084

Rate contract for supply of 33kV& 12kV , 10kA Lightning Arresters at TPSODL

Sr. No.	Clause description	Description as per Bid Document	Bidder Query	TPSODL Response
1	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.	Noted, Subject to there is no design change. Same has to be given in undertaking
2	ENG-HV-050 page 2 of 14 sr.no. 2	Reference standard IS 3070	IS 3070 is withdrawn. Present standard IS 15086 part-4 2017	Noted as per Latest Guidelines
3	clause 4.0 ENG-HV-050 page 3 of 14 sr.no. 12	Lightning impulse protective level - 105kA	Lightning impulse protective level - 105kV	Noted
4	clause 4.0 ENG-HV-050 page 3 of 14 sr.no. 13 Clause 7.0 ENG-HV-050 page 6 of 14	Long duration current requirement Acc. To IS 3070	IS 3070 is withdrawn. Present standard IS 15086 part-4 2017 is applicable	Noted as per Latest Guidelines
5	clause 4.0 ENG-HV-050 page 3 of 14 sr.no. 15	Steep current protection level at 10kA -100kA	Steep current always more than lightning impulse protective level i.e more than 105kV . Kindly confirm the value	Noted as per relevant IS/IEC
6	General	30kV 10kA class-2	Medium voltage arresters being offered in TWO models: 1. Fully moulded arrester (without any voids) with WRAP construction with short circuit current rating upto 31.5kA 2. Fully moulded arrester (without any voids) with CAGE construction with short circuit current rating upto 40kA Kindly confirm construction / short circuit rating. For 12kV Surge Arresters CAGE construction has been mentioned in the TS kindly confirm for 30kV Surge Arresters also.	CAGE Construction is required
7	clause 4.0 ENG-HV-050 page 3 of 14 sr.no. 18	Disconnectors	disconnectors used for distribution line arresters. Kindly confirm the requirement for station class arresters	Disconnector is not required in Station Class LA
8	clause 4.0 ENG-HV-050 page 3. of 14 sr.no. 19	Material of insulating terminal cap- Polyolefin	Kindly confirm insulating terminal cap requirement for 30kV 10kA SL (class-2) Surge arresters	Insulating terminal cap- Polyolefin is required
9	clause 5.0 ENG-HV-050 page 3 of 14 sr.no. 1	Hermetically sealed .	Offered surge arresters are fully moulded surge Arresters of design B . Separate sealing arrangement is not required.	Noted
10	clause 5.0 ENG-HV-050 page 4 of 14 sr.no. 3.	Sealing and pressure release	Offered surge arresters are fully moulded surge Arresters of design B . Separate sealing arrangement is not required	Noted
11	clause 5.0 ENG-HV-050 page 4 of 14 sr.no. 5.	Disconnectors	As per clause 5 sr.no. 1 Arrester shall be self supporting, structure mounting type. Please note disconnector provided for the line arresters, these are not self supporting arresters, shall be mounted with insulating bracket. Kindly confirm	Disconnector is not required in Station Class LA
12	clause 5.0 ENG-HV-050 page 5 of 14 sr.no. 6	Pressure relief system	Offered surge Arresters are fully moulded design B arresters so separate pressure relief arrangement is not required. The short circuit arc is commuted outside by burning, cracking and tearing of silicone rubber	Noted

Sr. No.	Clause description	Description as per Bid Document	Bidder Query	TPSODL Response
13	clause 5.0 ENG-HV-050 page 5 of 14 sr.no. 7	Surge counter	Kindly confirm scope includes disconnectors or surge monitor. Surge monitor are used for continuous monitoring of surge arresters which are mounted on the structures by using insulating bases. Where as disconnector used for distribution side when arresters mounted on the pole with the help of mounting bracket , if arrester fails, the disconnector give visual indication. Disconnector with surge monitor is not possible. Kindly confirm scope includes disconnectors or surge monitor.	Surge Counter is Required inline with Technical Specification
14	clause 7.1 ENG-HV-050 page 6 of 14 sr.no. b,c,d,e	b. Power frequency voltage spark over test c. Standard lightning voltage impulse spark over test d. Lightning voltage impulse spark over voltage test e. Switching voltage impulse spark over voltage / time curve test	Spark over voltage test is not applicable for gapless arresters (present generation arresters).	Noted
15	clause 7.1 ENG-HV-050 page 6 of 14 sr.no. l	Pressure relief test	It is nothing but short circuit test.	Noted
16	clause 7.1 ENG-HV-050 page 6 of 14 sr.no. J	Tests of arrester disconnectors when fitted	Kindly confirm the requirement is with disconnector or surge monitor.	Surge Counter is Required inline with Technical Specification
17	clause 7.1 ENG-HV-050 page 6 of 14 sr.no. k	Temperature cycle test	Not applicable for polymer surge arresters	Noted
18	clause 7.1 ENG-HV-050 page 6 of 14 sr.no. l	Galvanizing test on metal parts	Not comes under type test. Being performed as acceptance test .	Specification to be Complied
19	clause 7.1 ENG-HV-050 page 6 of 14 sr.no. m	Visual examination	Not comes under type test. Being performed as routine test .	Noted
20	clause 7.1 ENG-HV-050 page 6 of 14 sr.no. n	Sealing test	Not a type test for design B polymer surge Arresters as per IEC 10.8.13.1.	Noted
21	clause 7.2 ENG-HV-050 page 7 of 14 sr.no. a	Dry power frequency voltage spark over test	Not comes under routine test . Spark over test is not applicable for Gapless (present generation) arresters	Noted
21	clause 7.3 ENG-HV-050 page 7 of 14 sr.no. a & b	b. Dry Power frequency voltage spark over test on the complete arrester c. Standard lightning voltage impulse spark over test on the complete arrester	Not comes under Acceptance tests .Spark over test is not applicable for Gapless (present generation) arresters	Noted
22	clause 8 ENG-HV-050 page 7 of 14 sr.no. 3	Type test validity 5 years	As per CEA Guidelines type test validity is 10 years, please consider the same.	Noted,Subject to there is no design change. Same has to be given in undertaking
23	clause 4 ENG-HV-2004A page 3 of 14 sr.no. 11	Line discharge class-2	As per IEC 60099-4 2014 equivalent discharge class for SM is class-3. (class-2 is not applicable)	Class-2(SL), Station class is required
24	clause 4 ENG-HV-2004A page 4 of 14 sr.no. 13	Thermal energy withstand rating 7kJ/kV Ur (2 shots)	As per IEC 60099-4 2014 thermal energy withstand rating applied in n number of shots (2 shots is not applicable)	AS PER IEC 60099, Thermal energy withstand test rating as >4kJ/Kv for station class2

Sr. No.	Clause description	Description as per Bid Document	Bidder Query	TPSODL Response
25	clause 4 ENG-HV-2004A page 4 of 14 sr.no. 18, 19.1, 19.2 & 19.3	Disconnecter, Tinned copper braid, size & length of insulated copper cable	Kindly confirm disconnector requirement	Disconnector is not required in Station Class LA
26	clause 4 ENG-HV-2004A page 4 of 14 sr.no. 20	Material of insulating bracket	Kindly confirm whether the requirement is for station class of self supporting type or suitable for pole/line mounted type.	Class-2(SL), Station class is required
26	clause 4 ENG-HV-2004A page 4 of 14 sr.no. 24	Total creepage length of the arrester (min)-500mm	For 12kV Surge Arresters for heavily polluted environments creepage distance is 31mm/kV i.e 372mm kindly confirm	Noted
27	clause 4 ENG-HV-2004A page 4 of 14 sr.no. 29	Maximum residual voltage during impulse discharge of 8/20 micro sec 5kAp - 26kVp 10kAp -28kVp	For 12kV Surge Arresters maximum residual voltages are 5kAp - 30kVp 10kAp -32kVp	Specification to be Complied
28	clause 4 ENG-HV-2004A page 4 of 14 sr.no. 31	Material of insulating terminal cap- Polyolefin	Kindly confirm requirement for 12kV 10kA SM polymer surge Arresters	Insulating terminal cap- Polyolefin is required
29	clause 5 ENG-HV-2004A page 5 of 14 sr.no.6	Hermetically sealed .	Offered surge arresters are fully moulded surge Arresters of design B . Separate sealing arrangement is not required.	Noted
30	clause 5.5 ENG-HV-2004A page 5 of 14	Surge counter	Surge monitor are used for continuous monitoring of surge arresters which are mounted on the structures by using insulating bases. Where as disconnector used for distribution side when arresters mounted on the pole with the help of mounting bracket , if arrester fails, the disconnector give visual indication. Disconnector with surge monitor is not possible. Kindly confirm scope includes disconnectors or surge monitor.	Surge Counter is Required inline with Technical Specification
31	clause 7.1 ENG-HV-2004A page 8 of 14 sr.no. 1	Power frequency reference voltage test (both in Dry and wet condition)	Dry power frequency not applicable for outdoor surge arresters as per IEC 60099-4 2014	Specification to be Complied
32	clause 7.1 ENG-HV-2004A page 8 of 14 sr.no. 10,12,13	Operating withstand test, mechanical tests , temperature cycling and seal pumping test on disconnector	Not applicable for distribution side disconnectors. Applicable for TLA disconnectors only,	Disconnector is not required in Station Class LA
33	clause 7.1 ENG-HV-2004A page 8 of 14 sr.no. 16	seal leak rate test	Seal leak test not applicable for design B arresters as there is no separate sealing arrangement as per IEC 60099-2014	Noted
34	clause 7.1 ENG-HV-2004A page 8 of 14 sr.no. 17	Radio interference voltage test	Not applicable for 12kV Surge Arresters as per IEC 60099-4 clause 10.8.14	Noted
35	clause 7.1 ENG-HV-2004A page 8 of 14 sr.no. 18	Test to verify the dielectric withstand of internal components	Performed as a part of operating duty test	Noted
36	clause 7.1 ENG-HV-2004A page 8 of 14 sr.no. 19	Test of internal grading components	Not applicable as there is no internal grading components	Noted
37	clause 7.3 ENG-HV-2004A page 9 of 14 sr.no. 5 & Annexure-1 sr.no. 8	On disconnector used in combination with NGLA , bending moment test and tensile load tests shall be performed	Not applicable for distribution side disconnectors	Noted

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38	clause 7.3 ENG-HV-2004A page 10 of 14 sr.no. 8 & Annexure-1 sr.no. 7	Peel off test (removal of housing)	One sameple against total rate contract shall be offered for peel off test	Specification to be Complied
39	clause 7.3 ENG-HV-2004A page 10 of 14 sr.no.9 & Annexure-1 sr.no. 9	Thermal stability test	As per IEC 60099-4 2014 test shall be performred on 3 nos. of Metal oxide varistors	Noted
40	clause 8 ENG-HV-2004A page 10 of 14 sr.no.3	Type test validity 5 years	As per CEA Guidelines type test validity is 10 years, please consider the same.	Noted,Subject to there is no design change. Same has to be given in undertaking

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DRMAT B.1**chnical Pre-Bid Queries****Tender No: TPSODL/OT/2021-22/084****Package Name: Supply of 33kV & 12kV, 10KA Lightning Arrester (LA) at TPSODL****Bidder :**

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1	5.5, Page No.43	Cyclometric 5-digit, non-resetting type counter, dial type surge counter shall be provided for each lightning arrester for automatically recording the number of discharges	Is Surge Counter mandatory for both type of LA i.e. 12kV & 30kV. Please confirm.	Surge Counter is Required inline with Technical Specification	
2	ENG-HV-200 2.0 Page 27 of 162	IS 3070 : Part 3 : 1993 : Lightning Arresters for Alternating Current Systems - Specification - Part 3 : Metal Oxide Lightning Arresters Without Gaps	IS 3070 is withdrawn. Present standard IS 15086 part-4 2017	Noted as per Latest Guidelines	
3	ENG-HV-200 2.0 Page 27 of 162	IS 2633 : 1986 : Methods for testing uniformity of coating of zinc coated articles IS	Raychem follows Hot-Dip Galvanizing Standard ISO 1461	Specification to be complied	
4	ENG-HV-200 5.0 Page 28 of 162 Clause 1	The lightning arresters shall be of pedestal mounting type suitable for outdoor installation on steel/cement concrete structures	SMC 6 Shed Bracket will be provided with OCP2 for mounting Arrester, it doesn't required pedestal as it is light in weight we have supplying it globally since last 2 decades and it has been performing without any issue.	Noted, Shall be finalised during detailed Engineering	
5	ENG-HV-200 5.0 Page 29 of 162 Clause 2	The top metal cap and the base of the lightning arrester shall be galvanized. The top cap shall be provided with a terminal arrangement suitable for both horizontal and vertical take-off. The base of the lightning arresters shall be provided with two separate terminals distinctly marked for connection to earth	Insulating Cap is applicable only for horizontal take off	Specification to be complied	
6	ENG-HV-200 5.0 Page 29 of 162 Clause 4	Lightning arrester shall be supplied with the insulating base, terminal connector and necessary hardware	Nut & Bolt arrangement is provide for lug connection applicable for Line & Earth Terminals	Specification to be complied	
7	ENG-HV-2004 Page 30 of 162 Clause 5.0 sr no. 7 point 4	The connecting conductor from lightning arrester earth terminal to the discharge counter incoming terminal shall be insulated for a minimum of 4 kV and this insulated conductor shall be supplied along with the arrester by the bidder. The surge arrester to surge counter connection shall be done by means insulated multi strand copper cable of minimum size 35 sq.mm to withstand the fault currents during severe operating conditions	35 sq. mm. 1.5 metre 3.3 kV Insulated copper Cable as per standard. (35 sq. mm. 1.5 metre 1.1kV Insulated copper Cable is sufficient)	Specification to be complied	

Sr. No.	Detailed Reference to TPSODL Technical Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	TPSODL Response	Bidder's Name & Contact Details
8	ENG-HV-2004 Page 31 of 162 Clause 6.0	3. The Name plate/product shall have marking of "PO no. with date" & "Property of TPSODL" 4. The following information shall be mentioned on the Name Plate: i. Continuous operating Voltage ii. Rated Voltage iii. Rated Frequency iv. Nominal Discharge Current v. Manufacturer's Name vi. Type and Identification of the complete arrester vii. Year of Manufacture viii. Serial Number	Due to limitation of Space on end fittings Name Plate details as per below can only accomodate- 3. The Name plate/product shall have marking of "PO no. with date"- we can incorporate few numerical digits of PO Instead of "Property of TPSODL" we will provide "TPSODL" 4. The following information shall be mentioned on the Name Plate: i. Continuous operating Voltage ii. Rated Voltage iii. Rated Frequency iv. Nominal Discharge Current v. Manufacturer's Name vi. Type and Identification of the complete arrester vii. Year of Manufacture viii. Serial Number	Shall be finalised during detailed Engineering	
9	ENG-HV-2004 Page 31 of 162 Clause 7.1 Clause i	Pressure-relief tests	It is nothing but short circuit test.		
10	ENG-HV-2004 Page 31 of 162 Clause 7.1 Clause n	Sealing test (not specified in IS:3070 (Part-I) - 1985) To prove the effectiveness of sealing of the lightning arresters, either of the following two tests shall be carried out: - i. Bubble Test A positive pressure shall be created inside the arrester and it shall be immersed in water to check if there are any bubbles ii. Pressure/Vacuum Test Leakage shall be checked by measuring leak rate either by monitoring drop in pressure or rise in vacuum level with time or by making use of special detectors	Seal leak test not applicable for design B arresters as there is no separate sealing arrangement as per IEC 60099-2014	Noted	
11	ENG-HV-2004 Page 31 of 162 Clause 7.1 Clause l	Galvanizing test on metal parts 86 of 363	Hot Dip Galvanizing is not part of Type Test as per IEC Standard 60099-4, we will be providing vendor test certificate during Inspection	Specification to be complied	
12	ENG-HV-2004 Page 32 of 162 Clause 8.0	2. All the tests shall be conducted at CPRI / ERDA as per the relevant standards. 3. Type tests should have been conducted in certified Test laboratories during the period not exceeding 5 years from the date of opening the bid	As per CEA Guidelines type test validity is 10 years, please consider the same.	Noted, Subject to there is no design change. Same has to be given in undertaking	
13	ENG-HV-2004 Page 40 of 162 Clause 4.0 sr no.31	Maximum Continuous Operating Voltage (MCOV) , Uc - 12kV	For Ur - 12kV Uc will be 10kV. Rating of Surge Arrester and Continuous Operating Voltage cannot be same	Noted & Shall be finalised during Detailed Engineering	
14	ENG-HV-2004 Page 41 of 162 Clause 4.0 sr no.19.1	Disconnecter connecting lead- Insulated flexible tinned plated copper braid with lugs	Copper Cable PVC Insulated with Copper Lugs will be provided	Disconnecter is not required in Station Class LA	
15	ENG-HV-2004 Page 41 of 162 Clause 4.0 sr no.19.2	Size of Insulated Tinned copper braid -25 sq. mm.	Please confirm requirement 35 sq. mm. or 25 sq. mm. As in Clause 5.5 sr no. 5 it is mentioned The connecting conductor from lightning arrester earth terminal to the discharge counter incoming terminal shall be insulated for a minimum of 4 kV and this insulated conductor shall be supplied along with the arrester by the bidder. The surge arrester to surge counter connection shall be done by means insulated multi strand copper cable of minimum size 35 sq.mm to withstand the fault currents during severe operating conditions	35 Sq. mm	

FORMAT B.2**Format for Commercial Pre-Bid Queries****Tender No : TPSODL/OT/2021-22/084****Package Name: Rate contract for supply of 33kV & 12kV 10KA Lightning Arrester****Bidder Name:****Note :**

The said format to be used only for Commercial Pre-Bid Query. Any Technical Query has to be strictly in Format B.1 Format for Technical Pre-Bid Query and sent separately

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**

Sr. No.	Detailed Reference to TPSODL Tender Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	TPSODL Response
1	2	3	4	5
1	Clause no. 3.9 of page no. 11 of 25 Type Tests	Type tests should have been carried out within 5 years prior to the date of opening of technical bid	As per latest guidelines issued by Central Electricity Authority, Type Tests conducted within 10 years are valid for Lightning Arresters, hence the same needs to be accepted.	Tender conditions shall prevail
2	Clause no. 7.1 of page no. 13 of 25 Special Condition of Contract - Delivery Period	Delivery period shall be 45 days from date of receipt of release order / CAT-A issuance	Delivery period shall be 60 days from date of receipt of release order / CAT-A issuance for the first Release Order and 45 days from the subsequent Release Orders as the material needs to be procured after approval of the drawings which has lead time	Tender conditions shall prevail
3	Annexure I - Schedule for items	Sl. No. 2 description is mentioned as LA 12KV 10KA M-OXIDE GAPLESS POLYMER 15KV	Clarify whether rating requirement is 12kV or 15kV	Tender conditions shall prevail
4				
5				
6				
7				
8				
9				