



भारत हेवी इलेक्ट्रिकल लिमिटेड  
**BHARAT HEAVY ELECTRICALS LIMITED**  
(A Government of India Undertaking)  
पारेषण व्यापार समूह, नोएडा/Transmission  
Business Group, Noida

**निविदा आमंत्रण सूचना**  
**NOTICE INVITING TENDER**

Sir/Madam,

Bharat Heavy Electricals Limited (hereinafter referred to as BHEL) is a Central Public Sector Enterprise, having its Branch office at Transmission Business Group, 10TH Floor, Plot no.:- C-20, 1A/1, Joy towers, C Block, Phase 2, Industrial Area, Sector-62, Noida, Distt. Gautambudh Nagar, UP-201301, invites offer in sealed cover under two part bid system (Part-I: Techno commercial Part & Part-II: Price Part) from the competent agencies for "Supply of 96 kV Surge arrester for 110 kV Switchyard for (RMU) of TANGEDCO KODAYAR, Tamilnadu as per the tender document".

Please submit your competitive offer for the above subject work as per the tender terms & conditions.

**SCHEDULE TO TENDER**

1.	Tender Reference No.	34Q2300048 dated 23.05.2022
2.	Date of Issue of Tender:	23.05.2022
3.	Type of Tender:	Open Tender
4.	Tender Title:	"Supply of 96 kV Surge arrester for 110 kV Switchyard for (RMU) of TANGEDCO KODAYAR, Tamilnadu"
5.	Tender issuing Authority	Transmission Business Group, 10TH Floor, Plot no.:- C-20, 1A/1, Joy towers, C Block, Phase 2, Industrial Area, Sector-62, Noida, Distt. Gautambudh Nagar, UP-201301
6.	Last date/ time for receipt of tender:	02.06.2022 by 11.00 Hrs
7.	Date/ time of opening of (Part-I):	02.06.2022 at 16.00 Hrs
8.	Offer/Bid submission mode	Tender is invited through e-Procurement System only. The bidder shall submit their bid through e-Procurement platform at <a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a> .
9.	Tender will be opened at:	BHEL TBG- HQ Noida of above mentioned address at point no. 5.
10.	Date/Time of price bid opening:	Will be intimated separately to the Techno-commercially qualified bidders in due course of time.
<b>Note:- For other instructions; bidder may please refer the Terms &amp; Conditions and Special terms &amp; conditions</b>		

All corrigenda, addenda, amendments, Bid Submission extension, clarifications, etc. to the tender will be hosted on website <http://www.bhel.com> and <https://eprocurebhel.co.in> only. Bidders should regularly visit website till the due date of submission to keep themselves updated. Any clarification(s) regarding Notice Inviting Tender (NIT), if required, should be sought before the tender due date from the officials as mentioned in the tender Document.

Thanking you,

For & on behalf of  
Bharat Heavy Electricals Ltd.

5<sup>TH</sup> Floor, Advant Navis IT Business Park, Tower-A, Plot no-7, Sector-142, Express way Noida, Distt. Gautambudh Nagar-201301

पंजीकृत कार्यालय: बी.एच.ई.एल. (सरकारी फोटो) नई दिल्ली 110049 -

Regd. Office : BHEL HOUSE, Siri Fort, New Delhi - 110049

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**PART-II**

1	PRICE BOQ - BIDDER has to quote their price in the On line ( <a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a> ) Price Bid format Only.
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## SPECIAL TERMS & CONDITIONS

**Enquiry No: 34Q2300048 dated 23.05.2022**

**Item: Supply of 96 kV Surge Arrester**

**Project: 110 kV Switchyard for (RMU) of TANGEDCO KODAYAR**

**In case any discrepancy between the requirements mentioned under addendum to General Terms and conditions (GTC), General Terms and conditions and Special Terms and conditions, Special Terms and conditions shall prevail.**

1. **Clause No. 1.7 of GTC** – For any technical clarification, please contact:-  
Mr. Vyom (Dy Manager-TBEM) / Shri Jai Kumar ( Sr Manager TBEM) ,BHEL, Transmission Business Group, Joy Tower, Sectro-62, Noida-201301, UP, India, Phone: +91 (0) 0120-6748522/8533, Fax: +91 (0) 0120 – 6748580,, Mobile :- 08826813370/9403955336  
E-mail: [vyom@bhel.in](mailto:vyom@bhel.in); jaik@bhel.in
2. **Clause No. 1.8 of GTC** - For any commercial clarification, please contact:-  
Mr. Rajiv Ranjan, Manager (TBMM)/ Shri Sunil Kumar, Sr DGM-TBMM  
BHEL, Transmission Business Group, Joy Tower, Sectro-62, Noida-201301, UP, India,  
Phone: +91 (0) 0120- 6748575/8471, Fax: +91 (0) 0120 – 6748580.  
Mobile :- 9650299229/09761724520  
E-mail: rajiv\_ranjan@bhel.in'; sunil.kumar@bhel.in
3. **Project Status** – Domestic. GST as applicable.
4. **Clause No. 1 of Addendum to GTC** – **Offer Submission Time: 11 Hrs IST**  
**Offer Opening Time: 16 Hrs IST**
5. **Clause No. 2 of Addendum to GTC (Sl. No. a, b)** – Point no. (a) & (b) is not applicable.
6. **Clause No. 3 of Addendum to GTC (Sl. No. I & II)** - Tender is invited through NIC Portal System only. The bidder shall submit their bid through e-Procurement platform at <https://https://eprocurebhel.co.in/>.
7. **Clause No. 6 of Addendum to GTC (PQR)** - As enclosed along with Technical Specification No. - TB-417-316-103 Rev 01 Dated 17.05.2022. (Section – 1, ANNEXURE\_TQR).
8. **Clause No. 8 of Addendum to GTC** – Delivery Plan – As per Activity Schedule [Annexure II].
9. **Clause No. 9 of Addendum to GTC** – Payment Terms: - As per clause 3.1 of GTC (Endorsed LR is not required in GST regime).
10. **Clause No. 13 of Addendum to GTC for Reverse Auction** - Applicable.  
“BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on [www.bhel.com](http://www.bhel.com)) for this tender. RA shall be conducted among the techno commercially qualified bidders. Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered for RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking.”

Abridged Version of “**Guidelines for Reverse Auction-2021**” may also be seen at BHEL website ([www.bhel.com](http://www.bhel.com)) on “Supplier Registration” Page.

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11. **Clause No. 18 of Addendum to GTC for Integrity Pact** - Not Applicable.

12. **Clause No. 21 of Addendum to GTC** - Offer of techno – commercially acceptable vendors shall be considered for conducting Reverse Auction subject to their approval from Customer.

13. **Clause No. – 17 of GTC - Tender Evaluation** – Grand Total Package Wise (**Up to Site**) **Evaluation in case of more than one L-1 bidders** - In the course of evaluation, if more than one bidder happens to occupy L-1 status, effective L-1 will be decided by soliciting discount from respective L-1.

In case more than one bidder happens to occupy the L-1 status even after soliciting discounts, the L-1 bidder shall be decided by a toss/draw of lots, in the presence of the respective L-1 bidder(s) or their representative(s).

Ranking will be done accordingly. BHEL's decision in such situations shall be final and binding.

14. **Clause No. 39 of GTC** – Quantity Variation:- BHEL shall have the right to variation in quantities of items within  $\pm 10\%$  of the total Purchase Order / Contract value at the time of placement of PO or award of Contract on overall basis for all amendments together within two years from the date of original Purchase Order / Contract or completion of execution of the Purchase Order / Contract whichever is earlier but quantities of individual items may vary to any extent or may get deleted unless otherwise specified in the technical specifications. No compensation is payable due to variation in the quantities and the Supplier / Contractor shall be bound to accept the same the contracted prices / rates without any escalation. However, if the Purchase Order / Contract is on "Lumpsum" basis, no variation of Purchase Order / Contract value shall be admissible to the Supplier / Contractor within the scope of Purchase Order / Contract, as long as the inputs remain unchanged.

15. **Clause No. 05 of GTC** – **Guarantee Clause (Defect Liability Period)**: The equipment / material supplied and services rendered (if applicable) shall be guaranteed to be free from all defects and faults in design & engineering, material, workmanship & manufacture and in full conformity with the Purchase Order / Contract, Technical Specifications & approved drawings / data sheets, if any, for **18 months from the date of last delivery OR up to 10.01.2026; whichever is later with claim period of 3 months extra over and above**. The defective equipment / material / component shall be replaced free of cost at site. Freight & Insurance during transit shall also be in the scope of the supplier / contractor. Any expenditure for dismantling and re-erection of the replaced equipment / material / component shall be to supplier's / contractor's account. All replacements during the guarantee period shall be delivered at site promptly and satisfactorily within a period not more than 45 days from the date of reporting the defect / rejection etc. In the event of the supplier / contractor failing to replace the defective equipment / material / component within the time period mentioned above, BHEL may proceed to undertake the replacement of such defective equipment / material / component at the risk and cost of the supplier / contractor without prejudice to any other rights under the contract and

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recover the same from PBG / other dues of this Purchase Order / Contract or any other Purchase Order / Contract executed by the supplier / contractor.

"Bidder agrees to submit performance security required for execution of the contract within the time period mentioned. In case of delay in submission of performance security, enhanced performance security which would include interest (SB/ rate + 6%) for the delayed period, shall be submitted by the bidder. Further, if performance security is not submitted till such time the first bill becomes due, the amount of performance security due shall be recovered as per terms defined in NIT I contract, from the bills along with due interest "

16. **Clause No. 07 of GTC** – **Performance Bank Guarantee** - Validity period of BG is required as per Guarantee Clause mentioned above with claim period of 3 months extra over and above.

17. **Clause No. 2.1 of GTC** - Prices shall be on FIRM basis including packing and forwarding charges. Vendor to quote prices on FOR destination basis including GST.

18. **Liquidated Damage** – **As per clause no. – 11 of Addendum to GTC.**

19. **GeM Seller ID**- GeM seller ID is mandatory for the bidders and must be mentioned in their offer. In case at the time of submission of offer GeM seller ID is not available with bidder, then successful tenderer should ensure to have GeM Seller ID prior to award of contract. Department of Expenditure (DOE) OM no. 6/9/2020-PPD dated 24.08.2020 may be referred in this regard.

20 Bidder to mention their works address below from where material will be supplied to Site.

Works Address- -----  
-----  
-----

Communication Address- -----  
-----  
-----

Person Name - -----

Email ID – -----

Contact no. - -----

**(Sign and seal of Bidder)**

Name:

Signature:

Stamp:

## SPECIAL TERMS & CONDITIONS

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### Additional Information to the Bidders:-

Sl No.	Head	Information
1	Project Name	Renovation, Modernisation and Uprating (RMU) of Kodayar Power House-I from 1x60MW to 1x70MW.
2	Ultimate Customer	Tamilnadu Generation and distribution Company (TANGEDCO)
3	Location of Plant	Location: Kodayar Lower Camp, Kanyakumari District, Pin Code: 629102 Access by: Road/Rail Nearest Railway Station: Kanyakumari Nearest Airport: Trivandrum Major Towns/ Cities: Kanyakumari
4	Delivery Address	Stores Officer, Kodayar Sub Store, Kodayar Lower Camp Kanyakumari District, Pin Code: 629102
5	Consignee Address	Stores Officer, Kodayar Sub Store, Kodayar Lower Camp Kanyakumari District, Pin Code: 629102
6	Mode of Dispatch	By Road/Rail/on Door Delivery
7	<b>Bill to Address:</b>	Bharat Heavy Electricals Limited-TBG, 10th Floor, Plot No.C-20/1A/1, Joy Tower, Sector-62, Noida-201301, U.P. <b>GSTN-09AAACB4146P2ZC</b>
8	MQP (Manufacturing Quality Plan):	Inspection shall be carried out as per approved Quality Plan. For the same, Supplier to submit the Quality Plan to BHEL for Customer approval.
9	Inspection	Inspection shall be carried out jointly by as per approved Quality Plan. Inspection Agency:- BHEL/Customer (TANGEDCO)
10		Bidders to ensure that Third party / customer issued certificates being submitted as proof of PQR qualification should have verifiable details of document / certificate issuing authority such as name & designation of Issuing Authority and its organization contact number and e-mail Id etc. In case the same found not available, Purchaser has right to reject such document from evaluation.
11		Bidder to submit the details as per format as per Annexure-A.

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<u>ANNEXURE-A</u>	
<b>CONTACT DETAILS OF BIDDER</b>	
<b>Works Address-</b>	
<b>Communication Address-</b>	
<b>Details of contact person for clarification regarding bid:</b>	
Contact Person Name:	
Designation:	
Email Id.:	
Mobile No.:	
Landline No.:	
12	<p><b>Bidders may please be noted that the minimum local Content in line with PPP-MII order, order ref no.:- A-1/2021-FSC-Part (5) dated 16.11.2021 issued by Govt of India, Ministry of Power for the item Surge/ Lighting Arrester is 60%. The bidder has to Declare this local content in Annexure-V.</b></p> <p><b>The Bidder's declaration in Annexure-V for Local content Less than 60% shall not be considered as Class-I supplier and their bid shall be rejected.</b></p> <p><b>( For details please refer Addendum to General Terms and Conditions (GTC-2016))</b></p>

**(Sign and seal of Bidder)**

Name:

Signature:

Stamp:

**BHARAT HEAVY ELECTRICALS LTD.  
(TRANSMISSION BUSINESS GROUP)**

**GENERAL TERMS AND CONDITIONS FOR TENDER ENQUIRY / CONTRACT**

**This is to be submitted duly signed by bidder in original. Clause-wise deviations and / or additional conditions / clarifications, if any, are to be brought out clearly in “Schedule of Commercial Deviation”. Deviations and / or additional conditions / clarifications, if any, mentioned elsewhere in the bid / offer, shall not be considered.**

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1.	<p><b>INSTRUCTION TO BIDDERS :</b></p> <p>1.1 Sealed bids are invited for the items mentioned in the tender enquiry conforming to the NIT including Technical Specifications. Bids should be typed and free from overwriting and erasures. Corrections or additions / deletions, if any, must be clearly written and attested, otherwise offer may be rejected.</p> <p>1.2 Bidder must ensure that their bid is submitted / dropped in the tender box on or before <b>14-00 Hrs.</b> IST on the due date of opening, unless otherwise specified in the NIT, at the address as follows :-</p> <p style="padding-left: 40px;">Tender Box, Materials Management, Transmission Business Group, Bharat Heavy Electricals Limited, 5<sup>th</sup> Floor, Tower-A, Advant Navis IT Business Park, Plot-7, Sector-142, Noida Expressway, Noida, Dist. G. B. Nagar, U. P. 201305</p> <p>1.3 In case tender enquiry is floated through the e-procurement system, offer / bid has to be submitted through the e-procurement system <b>ONLY</b> as per instructions given in the e-procurement portal (<a href="https://bheleps.buyjunction.in">https://bheleps.buyjunction.in</a>).</p> <p>1.4 The bids shall be opened at 14-30 Hrs. IST on the due date of opening, in the presence of participating bidders who may like to be present, unless otherwise specified in the NIT. Bids received late are liable for rejection. Bidders sending bids by courier or post will have to ensure that it is timely delivered at the above address.</p> <p>1.5 Bids are to be submitted duly signed with seal in two parts :-</p> <p style="padding-left: 40px;">a) <b>Techno-commercial Bid (Part-I)</b> To be submitted in 2 sets (original + copy). A copy of Price Bid (Part-II) clearly mentioning all the necessary information as per format <b>without prices</b> “Un-Priced Bid” is also to be enclosed in Part-I Bid.</p> <p style="padding-left: 40px;">b) <b>Price Bid (Part-II)</b> To be submitted only in one set in a separate sealed envelope. This should not contain any Technical and / or Commercial Terms and Conditions. The rates should be quoted both in figures and words.</p> <p>1.6 The Part-I and Part-II Bids are to be sealed in separate envelopes and marked</p>

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	<p>as “Techno-commercial Bid (Part-I)” and “Price Bid (Part-II)” respectively. Both the envelopes are to be kept in another common envelope and marked as “BID”. Each envelope should be sealed and super scribed with tender enquiry no., item / package name, project name and due date of opening. Bidder’s name and address shall also be mentioned on each envelope.</p> <p>1.7 For any technical clarification, please contact official mentioned in the tender enquiry / NIT.</p> <p>1.8 For any commercial clarification please contact official issuing tender enquiry / NIT.</p> <p>1.9 Price bid (Part-II) should not contain any additional information / description other than given in “Un-Priced Bid” submitted with “Techno-commercial Bid (Part-I)” except prices, otherwise bid is liable for rejection.</p> <p>1.10 Price Bid submitted along with the bid shall remain valid up to validity of offer. Any discount / revised offer submitted by the bidder on its own shall be accepted provided it is received before the due date and time of offer submission (i.e. Part-I Bid). The discount shall be applied on pro-rata basis to all items including optional items, if any, unless specified otherwise by the bidder. Discount offered shall be valid for full duration of validity of the offer including extension of validity, if any. Unsolicited Supplementary / Revised Price Bid submitted after the due date and time of offer submission (i.e. Part-I Bid), during validity period of offer, unless asked by BHEL, shall not be considered. Withdrawal of quotation by the bidder, at any stage after its opening, may entail suitable action against such bidder by BHEL.</p> <p>1.11 The consultants / firm (and any of its affiliates) shall not be eligible to participate against tender enquiry for the related goods or works or services for the same project, if they were engaged by BHEL-TBG for the consultancy services.</p> <p>1.12 In case any Foreign OEM / Foreign Principal insists on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer / supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer / supplier or the manufacturer / supplier could bid directly but not both. In case bids are received from the manufacturer / supplier and the agent, bid received from the agent shall be ignored.</p> <p>1.13 Non-conformities / errors / discrepancies in quoted prices in price bids shall be dealt as follows :-</p> <p>a) If, in the price structure quoted for the required goods / services / works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of BHEL there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.</p> <p>b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected.</p> <p>c) If there is a discrepancy between words and figures, the amount in</p>

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	<p>words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.</p> <p>d) If there is such discrepancy in an offer as mentioned in (a), (b) &amp; (c) above, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the BHEL, the bid is liable to be ignored.</p> <p>1.14 In case the scope of the successful bidder / supplier against this tender enquiry includes Erection, Testing and Commissioning (ETC) of the equipment / material at site in addition to Supply, Purchase Order shall be placed for Supply Portion and Contract shall be separately awarded for ETC at Site Portion. General Terms and Conditions for Tender Enquiry / Contract mentioned herein shall be applicable for both Supply &amp; ETC at Site. Additional Terms and Conditions for Tender Enquiry / Contract for Erection, Testing and Commissioning at Site "BHEL/TBG/GTC-ETC/2016 Rev. 01" shall be applicable for ETC at Site only which is to be read in conjunction with General Terms and Conditions for Tender Enquiry / Contract mentioned herein. However, any breach of either the Purchase Order or the Contract shall be deemed to be breach of the other.</p> <p>1.15 Taxes and Duties payable extra as per Clause No. 2.3 in NIT, if not specified/quoted clearly as extra shall be considered as included in Ex-works Price and therefore shall not be reimbursed. Taxes and duties not payable extra as per NIT shall be deemed to be included in Ex-works Price.</p> <p>1.16 If the rates for taxes and duties in respect of the quoted materials and / or services assumed by the Supplier are less than the tariff prevailing at the time of tendering, Supplier will be responsible for such under quotations. However if the rates assumed are higher than the correct rates prevailing at the time tendering, the difference will be to the credit of BHEL.</p> <p>Note : Representative / official deputed by the bidder to witness tender opening must produce authorization letter for the same.</p>
2.	<p><b>PRICES :</b></p> <p>2.1 Unless specifically indicated in the NIT, all prices shall be FIRM. No enhancement of rate for whatsoever reasons unless and until asked by BHEL shall be allowed.</p> <p>2.2 Unless specifically indicated in the NIT, the prices shall be on INR basis.</p> <p>2.3 Unless specifically indicated in the NIT, the prices are to be quoted on FOR (Site / Destination) basis excluding GST. The break-up of prices shall be as under :-</p> <p>a) <b>Ex-works Price:</b> Ex-works price including packing &amp; forwarding charges.</p> <p>b) <b>Freight:</b> Freight for door delivery up to destination / site / store are to be quoted separately.</p> <p>c) <b>Insurance:</b> Insurance for door delivery up to destination / site / store are to be quoted separately.</p>

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	<p>d) <b>Type Test Charges:</b> If asked in the technical specification, it is to be quoted separately for each test.</p> <p>e) <b>Charges for Supervision of Erection, Testing &amp; Commissioning (ETC) at Site:</b> To be quoted separately if specified in NIT/Price Schedule.</p> <p>f) <b>Charges for Testing &amp; Commissioning at Site:</b> To be quoted separately if specified in NIT/Price Schedule.</p> <p>g) <b>Charges for Erection, Testing &amp; Commissioning at Site:</b> To be quoted separately if specified in NIT/Price Schedule.</p> <p>h) Training Charges: To be quoted separately if specified in NIT/Price Schedule.</p> <p>2.4 <b>GST rates</b> along with HSN/SAC code as applicable on Sr No (a) to (h) above is to be mentioned separately in percentage in both un-priced bid and price bid.</p> <p>Note :</p> <p>i) Unless otherwise specified in the NIT, the purchase order shall be placed on Ex-works basis for Indian bidders.</p> <p>ii) Prices quoted by Indian bidders shall be in Indian Rupees only.</p> <p>iii) In case Supervision of Erection, Testing &amp; Commissioning (ETC) at Site or Testing &amp; Commissioning at Site or Erection, Testing &amp; Commissioning at Site is also in scope of the bidder along with supply, bidder has to ensure that prices quoted for such services also are in line with special terms &amp; conditions of the NIT, if any.</p> <p>iv) Unless otherwise specified in the NIT, Unloading at Site / Destination shall not be in the scope of the supplier.</p> <p>v) Prices in respect of Sr No (a) to Sr No (h) of Clause 2.3 above are to be quoted inclusive of all taxes &amp; Duties, charges. Levies, royalty etc. if any, excluding GST.</p>
3.	<p><b>TERMS OF PAYMENT :</b></p> <p><b>3.1 For Supply only in scope of the supplier</b></p> <p>100% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows :</p> <ul style="list-style-type: none"> <li>· LR / GR duly endorsed by BHEL Site Official.</li> <li>· Material Receipt Certificate issued by BHEL Site Official.</li> <li>· GST Compliant Tax Invoice</li> <li>· Packing List (Case-wise)</li> <li>· Copy of Transit Insurance Certificate from underwriters.</li> <li>· Material Inspection Clearance Certificate (MICC) issued by BHEL Quality Management</li> <li>· Guarantee Certificate</li> <li>· Copy of Performance Bank Guarantee (PBG)</li> <li>· Certificate of acceptance of Type Test Reports issued by BHEL Engineering Management wherever specifically mentioned in the Purchase Order.</li> </ul> <p><b>3.2 For Supply where Supervision of Erection, Testing &amp; Commissioning (ETC) at Site is in scope of the supplier or Supply where Testing &amp; Commissioning at Site is in scope of the supplier</b></p>

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	<p>a) 95% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows :</p> <ul style="list-style-type: none"> <li>· LR / GR duly endorsed by BHEL Site Official.</li> <li>· Material Receipt Certificate issued by BHEL Site Official.</li> <li>· GST Compliant Tax Invoice</li> <li>· Packing List (Case-wise)</li> <li>· Copy of Transit Insurance Certificate from underwriters.</li> <li>· Material Inspection Clearance Certificate (MICC) issued by BHEL Quality Management</li> <li>· Guarantee Certificate</li> <li>· Copy of Performance Bank Guarantee (PBG)</li> <li>· Certificate of acceptance of Type Test Reports issued by BHEL Engineering Management wherever specifically mentioned in the Purchase Order.</li> </ul> <p>b) 5% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows :</p> <ul style="list-style-type: none"> <li>· Certificate of successful completion of Supervision of Erection, Testing &amp; Commissioning at Site if it is in the scope of the supplier or Certificate of successful completion of Testing &amp; Commissioning at Site if it is in the scope of the supplier.</li> <li>· Certificate of completion of final documentation as per Purchase Order / Technical Specification issued by BHEL Engineering Management</li> </ul> <p><b>3.3 For Supply where Erection, Testing &amp; Commissioning (ETC) at Site is in scope of the supplier</b></p> <p>a) 90% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows :</p> <ul style="list-style-type: none"> <li>· LR / GR duly endorsed by BHEL Site Official.</li> <li>· Material Receipt Certificate issued by BHEL Site Official.</li> <li>· GST Compliant Tax Invoice</li> <li>· Packing List (Case-wise)</li> <li>· Copy of Transit Insurance Certificate from underwriters.</li> <li>· Material Inspection Clearance Certificate (MICC) issued by BHEL Quality Management</li> <li>· Guarantee Certificate</li> <li>· Copy of Performance Bank Guarantee (PBG)</li> <li>· Certificate of acceptance of Type Test Reports issued by BHEL Engineering Management wherever specifically mentioned in the Purchase Order</li> </ul> <p>b) 10% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows :</p> <ul style="list-style-type: none"> <li>· Certificate of successful completion of Erection, Testing &amp; Commissioning at Site issued by BHEL Site Official / Construction Management</li> <li>· Certificate of completion of final documentation as per Purchase Order / Technical Specification issued by BHEL Engineering Management</li> </ul> <p><b>3.4 For Type Test Charges</b></p> <p>100% payment along with applicable GST within 60 days from the date of receipt of complete GST compliant Tax invoice along with copy of Certificate of acceptance of Type Test Reports issued by BHEL Engineering Management in 3 sets (original + 2 copies) on completion of delivery (at site, if F&amp;I is in scope of</p>

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	<p>supplier) of main supplies (excluding spares) for which Type Tests are applicable. List of main supplies (excluding spares) for which Type Tests are applicable shall be certified by BHEL Engineering Management.</p> <p>3.5 For Charges for Supervision of Erection, Testing &amp; Commissioning at Site</p> <p>100% payment along with applicable GST within 60 days from the date of receipt of complete GST compliant Tax invoice along with certificate of successful completion of Supervision of Erection, Testing &amp; Commissioning at Site issued by BHEL Site Official / Construction Management in 3 sets (Original + 2 copies).</p> <p>3.6 For Charges for Testing &amp; Commissioning at Site</p> <p>100% payment along with applicable GST within 60 days from the date of receipt of complete GST compliant Tax invoice along with certificate of successful completion of Testing &amp; Commissioning at Site issued by BHEL Site Official / Construction Management in 3 sets (Original + 2 copies).</p> <p>3.7 For Training Charges</p> <p>100% payment along with applicable GST within 60 days from the date of receipt of complete GST compliant Tax invoice along with certificate of completion of training issued by BHEL Engineering Management in 3 sets (original + 2 copies).</p> <p>Note :</p> <ul style="list-style-type: none"> <li>i) Supplier has to submit invoice(s) as per PO or approved billing break-up of prices (if applicable as per NIT).</li> <li>ii) In case of supplies for overseas project, Material Receipt Certificate issued by BHEL Authorized Representative shall also be acceptable.</li> <li>iii) In case of Transit Insurance under Open Insurance Policy, Intimation / Declaration of Transit Insurance as per terms of the relevant Open Insurance Policy along with copy of Open Insurance Policy from underwriters shall also be acceptable.</li> <li>iv) Supplier has to ensure commencement of transit insurance from the date not later than LR / GR date.</li> <li>v) Supplier has to submit Tax Invoice(s). Supplier should ensure that Tax Invoice should comply all statutory requirements under GST Law to enable BHEL to avail input credit</li> <li>vi) MSMED Act, 2006 and the rules made thereunder as amended from time to time shall be applicable for release of payment to suppliers qualified &amp; registered as Micro &amp; Small Enterprises based on documents mentioned in the NIT for MSME.</li> <li>vii) Supplier has to submit PBG (as per BHEL format) &amp; Guarantee Certificate as per PO terms.</li> <li>viii) In case any shortages and / or damages in supplies, an amount calculated</li> </ul>

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	<p>based on comments against Material Receipt Certificate issued by the BHEL Site Official shall be withheld from the supply payment against 3.1(a) or 3.2(a) above to be deemed fit by BHEL subject to a minimum of 10% of the total ex-works value of the invoice corresponding to the LR / GR against which any shortages and / or damages are reported. The withheld amount shall be released after the shortages and / or damages in supplies are supplied / replenished against Certification by BHEL Site Official.</p> <p>ix) Payment of GST component shall be made only if vendor has deposited the Tax and credit for the same is reflected in GSTN (GST Network). In case credit of the same is not reflected in GSTN , vendor may alternatively furnish BG of GST Amount for a period valid for not less than 1 month .In case of disallowance of credit /non reflection of credit in GSTN , amount will be recovered from supplier along with applicable Interest , penalty etc from any of his dues.</p> <p>x) If GST is payable by BHEL on reverse Charge Mechanism basis, vendor should ensure the submission of GST compliant Tax invoice immediately on dispatch/ performance of service. In case of non-compliance any additional charges towards interest, penalty etc, will be to vendors account.</p> <p>xi) TDS under GST Act, if applicable, shall be deducted unless Exemption Certificate If applicable, from the appropriate authority is furnished to BHEL along with Invoice.</p>
4.	<p><b>INTEREST LIABILITY :</b></p> <p>In case of any delay in payment due to any reason, BHEL shall not pay any interest on delayed payment. Also, no interest shall be payable by BHEL on the bank guarantee / deposit amount or balance payment or any other money which may become due owing to difference or misunderstanding or any dispute before any quasi judicial authority between BHEL and the Supplier / Contractor.</p>
5.	<p><b>GUARANTEE :</b></p> <p>The equipment / material supplied and services rendered (if applicable) shall be guaranteed to be free from all defects and faults in design &amp; engineering, material, workmanship &amp; manufacture and in full conformity with the Purchase Order / Contract, Technical Specifications &amp; approved drawings / data sheets, if any, for 18 months from the date of last delivery or 12 months from the date of commissioning, whichever is earlier.</p> <p>Wherever Erection, Testing &amp; Commissioning at Site are also in the scope of the Supplier, the guarantee period shall be 18 months from the date of last delivery or 12 months from the date of commissioning, whichever is later.</p> <p>The defective equipment / material / component shall be replaced free of cost at site. Freight &amp; Insurance during transit shall also be in the scope of the supplier / contractor. Any expenditure for dismantling and re-erection of the replaced equipment / material / component shall be to supplier's / contractor's account. All replacements during the guarantee period shall be delivered at site promptly and satisfactorily within a period not more than 45 days from the date of reporting the defect / rejection etc.</p> <p>In the event of the supplier / contractor failing to replace the defective equipment / material / component within the time period mentioned above, BHEL may proceed to undertake the replacement of such defective equipment / material / component at the risk and cost of the supplier / contractor without prejudice to any other rights under the contract and recover the same from PBG / other dues of this Purchase</p>

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	<p>Order / Contract or any other Purchase Order / Contract executed by the supplier / contractor.</p> <p>Note :</p> <p>i) In case of Illumination System, items viz. Lamps, Tubes, Ballast, Starters, Capacitors &amp; Fuses will not be under Guarantee after commissioning.</p> <p>ii) In addition to the above guarantee period, Extended Guarantee / Warranty, if any, shall be as per NIT / Technical Specifications.</p> <p>iii) In case offer of agent of Foreign OEM / Foreign Principal is considered, as per Clause No. 1.12 above, Guarantee as mentioned above has to be provided by the Foreign OEM / Foreign Principal also.</p>
6.	<p><b>LATENT DEFECT :</b></p> <p>Liability for latent defects shall be for defects inherently lying within material or arising out of design deficiency which does not manifest itself during guarantee period but later and shall be limited to five years from the expiry of the guarantee period.</p>
7.	<p><b>PERFORMANCE BANK GUARANTEE (PBG) :</b></p> <p>Supplier shall arrange to submit Performance BG / Deposit on a non-judicial stamp paper of appropriate value along with first invoice or within 60 days from placement of Purchase Order (PO) whichever is earlier, in line with one of the applicable options as follows :-</p> <p><u>Option "A"</u></p> <p>A single rolling PBG for Rs. 50 Lakhs initially valid for 18 months with claim period of 3 months extra over and above 18 months for all the Purchase Orders being executed for Transmission Business Group, BHEL. However, validity of the PBG shall be extended till 18 months from the date of last delivery with 3 months claim period extra over and above 18 months.</p> <p>Single Rolling PBG option shall not be applicable in case Ex-works value of the PO at the time of placement of PO exceeds Rs. One Crore.</p> <p><u>Option "B"</u></p> <p>PBG for 10% of the total Ex-works PO value, valid for 18 months from the date of last delivery with claim period of 3 months extra over and above 18 months. Ex-works PO value at the time of placement of PO shall be considered for calculation of the PBG amount.</p> <p><u>Option "C"</u></p> <p>In case the total Ex-works PO value at the time of placement of PO does not exceed Rs. Ten Lakhs, interest free Deposit of 10% of the total Ex-works PO value at the time of placement of PO in form of Demand Draft favouring "Bharat Heavy Electricals Limited" and payable at New Delhi / Delhi / Noida shall also be acceptable to BHEL in lieu of PBG, which shall be released after expiry of 21 months from the date of last delivery after deduction, if any, within 60 days from receipt of invoice in 3 sets (original + 2 copies) to be submitted by the supplier.</p> <p>Note :</p> <p>i) The Bank Guarantee shall be from any bank as per Annexure for List of Banks (32 Nos.). The original PBG should be sent by issuing Bank directly to AGM (Finance), TBG, BHEL, Noida.</p> <p>ii) Extension of validity of the PBG in original, as per above clause, should be sent by issuing Bank directly to AGM (Finance), TBG, BHEL, Noida at least 45 days before expiry of validity of the PBG.</p> <p>iii) Unless otherwise specified in the NIT, deviation taken for non-submission of PBG / Deposit, as applicable, shall not be accepted.</p>

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	<ul style="list-style-type: none"> <li>iv) Supplier has to confirm one of the applicable options for submission of PBG / Deposit before placement of PO.</li> <li>v) In case of non submission PBG / Deposit, as applicable, BHEL reserve the right for Risk Purchase as per terms of the NIT and impose Suspension of Business Dealings with the Supplier / Contractor.</li> <li>vi) BHEL reserve the right to encash the Bank Guarantee and forfeit the amount in the event of any default, failure or neglect on part of the Supplier in fulfilment of performance of the Purchase Order.</li> <li>vii) Value of the Bank Guarantee (at the time of submission) shall remain unchanged for any subsequent variations in Purchase Order value up to <math>\pm 20\%</math>. Beyond this variation of <math>\pm 20\%</math>, the Supplier shall arrange to enhance or may reduce the value of the Bank Guarantee accordingly for the total variation promptly.</li> <li>viii) Vendor to ensure submission of Certificate of Final Documentation /Confirmation regarding Non applicability of Final Documentation, as the case may be, as referred in clause No 9 regarding Final Documentation. BG shall be released only after submission of the same to BHEL TBMM.</li> </ul>
8.	<p><b>SUBMISSION OF DRAWINGS / DOCUMENTS FOR APPROVAL :</b></p> <p>Supplier shall submit the master document list within 7 days from date of Purchase Order / Contract, unless otherwise specified in the NIT, with planned dates for submission which shall be in line with activity schedule as per Purchase Order / Contract and shall be finalized with BHEL Engineering Management. Date of first submission of drawings / documents shall be certified by BHEL Engineering Management after the receipt of applicable drawings / documents (e.g. project specific cover sheet, GTP, OGA drawings, schemes, type test reports etc.) by BHEL. During detailed engineering stage, necessary hard copies of the engineering drawings / documents shall also be submitted by the supplier as per the Purchase Order / Contract requirement. The supplier shall also submit the packing drawings as per technical specifications.</p> <p>In case item(s) offered require any interface details of other item (not in the scope of supplier &amp; required for operating the equipment), the supplier has to submit interfaces schedule along with submission of engineering drawings / documents. It shall be responsibility of the supplier to get the details of the interfaced item from BHEL before manufacturing to avoid any mismatch at site.</p>
9.	<p><b>FINAL DOCUMENTATION :</b></p> <p>Final documentation as called in the Technical /contract specification is to be submitted within 3 months from the date of first delivery of respective equipment, item/material. After submission of Final Documentation, BHEL Engineering Management (TBEM) will issue a Certificate of Completion of Final Documentation. Wherever Final Documentation is not applicable, BHEL Engineering Management (TBEM) will issue confirmation regarding the same, Vendor to submit the Certificate of Final Documentation /Confirmation regarding Non applicability of Final Documentation, as the case may be, to BHEL TBMM. In case of Non Submission of Certificate of Final Documentation /Confirmation regarding Non applicability of Final Documentation, BG will be liable for encashment.</p>
10.	<p><b>INSPECTION :</b></p> <p>BHEL / customer / third party shall inspect equipment / material before despatch. Stage inspection during manufacturing may also be carried out. Material to be despatched only after getting Material Despatch Clearance Certificate (MDCC) / MICC issued by BHEL.</p> <p>Supplier shall send inspection call on prescribed format / web site only, with an advance notice of 15 days.</p> <p>Supplier to ensure submission of all routine / acceptance test reports, inspection</p>

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	<p>reports and all other documents related to inspection, immediately to BHEL.</p> <p>BHEL representative is authorised to carry out audits along with Third Party Inspection Agency at vendor's / supplier's works before clearing the items for despatch.</p>
11.	<p><b>DESPATCH DOCUMENTS :</b> Despatch documents to be immediately sent to BHEL on despatch are as follows :-</p> <ul style="list-style-type: none"> <li>• Copy of Invoice</li> <li>• Copy of LR / GR in case of Indian suppliers or BL / AWB in case of foreign suppliers</li> <li>• Copy of Packing List (Case-wise)</li> <li>• Copy of Transit Insurance Certificate from underwriters</li> <li>• Copy of Guarantee Certificate</li> </ul>
12.	<p><b>DELIVERY PERIOD :</b> Delivery / Completion requirement shall be mentioned in the NIT. Bidder to specify best delivery / completion period possible in weeks from the date of LOI / PO as per activity schedule for consideration by BHEL. Time required for type test, if applicable, is to be separately indicated. Note :</p> <p>LR / GR date or invoice date (whichever is later) for indigenous supplies and BL / AWB date for FOB / CIF (if applicable) contracts shall be considered as delivery date.</p>
13.	<p><b>LIQUIDATED DAMAGES FOR DELAYED DELIVERY:</b> In case of delay in execution of Purchase Order beyond the contractual delivery time, an amount of 0.5% of the total Purchase Order value for supply (incl. taxes and duties, freight &amp; insurance as applicable) per week of delay or part thereof subject to a maximum of 10% of the total Purchase Order value for supply (incl. taxes and duties, freight &amp; insurance as applicable) shall be deducted as Liquidated Damages (LD) along with applicable GST (if any) on LD.</p> <p>However, in case of staggered (lot-wise) contractual delivery schedule, an amount of 0.5% of the total Purchase Order value for supply (incl. taxes, duties, freight &amp; insurance as applicable) of delayed lot per week of delay or part thereof subject to maximum of 10% of the total Purchase Order value. (Incl taxes, duties, Freight &amp; Insurance as applicable) shall be deducted as Liquidated Damages (LD) along with applicable GST (if any) on LD.</p> <p>Note :</p> <ol style="list-style-type: none"> <li>i) In case of any amendment / revision in PO /WO, the LD shall be linked to the amended / revised Purchase Order / Contract value and delivery / completion time / schedule, if applicable.</li> <li>ii) LR / GR date or invoice date (whichever is later) for indigenous supplies and BL / AWB date for FOB / CIF (if applicable) for imported supplies shall be treated as the date of dispatch for levying LD as above.</li> <li>iii) However, for indigenous supply, if time period between date of receipt of material at site / destination by Site Official &amp; the date of LR / GR or invoice (whichever is later) is more than 30 days, where distance from place of despatch as per LR / GR is upto 1000 Kms or if time period between date of receipt of material at site / destination by Site Official &amp; the date of LR / GR or invoice (whichever is later) is more than 45 days, where distance from place of despatch as per LR / GR is more than 1000 Kms, such excess period shall also be considered for LD purpose.</li> <li>iv) If, as per supplier, delay is not attributable to the supplier, delay analysis with documentary evidence may be submitted by the supplier at the earliest but not</li> </ol>

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	later than six months from the end of the financial year in which the payment is withheld. Based on the above details / documents submitted by the supplier, BHEL shall take final decision and if considered appropriate by BHEL, withheld amount (full or part as the case may be) shall be released, otherwise, full or balance withheld amount shall be treated as deduction of Liquidated Damages (LD) towards delayed delivery.
14.	<p><b>VALIDITY OF OFFER :</b> The offer shall be valid for 120 days from the due date of opening of tender (i.e. techno-commercial bid unless otherwise specified in the NIT). Prices of Spares, wherever they optional items, shall be valid till two years from the date of placement of PO.</p>
15.	<p><b>ACCEPTANCE / REJECTION OF TENDER :</b> BHEL reserve the right to reject in full or part, any or all tender without assigning any reason thereof. BHEL also reserve right to vary the quantities as mentioned in the NIT. Acceptance of offer is subject to vendor approval by customer before opening of price bid.</p> <p>BHEL shall not be bound by any power of attorney granted by tenderer or by changes in composition of the firm made subsequent to award of order / contract. BHEL may however recognize such power of attorney and changes after obtaining proper legal advice, cost of which will be chargeable to the seller / contractor concerned. If the tenderer deliberately gives wrong information, BHEL reserves the right to reject such an offer at any stage or cancel the order / contract, if awarded, and forfeit the security deposit and bank guarantee.</p>
16.	<p><b>DEVIATION :</b> The bids having deviation(s) w.r.t. tender are liable for rejection. However, BHEL, at its discretion, may load the prices for evaluation of offer with prior intimation to bidder.</p>
17.	<p><b>TENDER EVALUATION :</b> Comparative statement shall be prepared and evaluated on total cost basis at destination/site (as per terms of NIT) considering overall quantity indicated in NIT unless contrary to same is specifically mentioned in the tender enquiry / NIT. Total cost for this purpose shall include cost of scope of work as mentioned in NIT along with applicable taxes &amp; duties, and other services etc. (if applicable). GST input credit available to BHEL shall be reduced from prices while determining L1 status.</p> <p>In case all bidders are foreign &amp; Port of Import (destination port) is same for all the bidders, evaluation of offers shall be done on CIF (Port of Import) basis. Otherwise, evaluation of offers shall be done on the basis of delivered cost at site /destination to BHEL. Further, in case of foreign bidders, marine freight &amp; insurance are to be quoted separately &amp; the purchase order may be placed on FOB basis with an option for delivery on CIF / CFR basis, if required, later.</p> <p>In case of foreign bidders, Exchange Rate (TT selling rate of State Bank of India) as on date of tender opening (Part-I Bid in case of two part bid) shall be considered. If the relevant day happens to be a bank holiday, then the forex rate as on the previous bank (SBI) working day shall be taken for tender evaluation.</p>
18.	<p><b>LOADING CRITERIA :</b> List of permissible deviations &amp; loading criteria thereof are as follows :-</p> <p>a) Payment Terms Base rate of SBI (as applicable on the date of bid opening / techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidder(s) against terms of payment in the NIT.</p> <p>b) Liquidated Damages (LD) for Delayed Delivery</p>

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	<p>Loading on LD clause shall be to the extent to which it is not agreed to by the bidder (at offered value).</p> <p>c) In case of foreign bidders, if the quoted prices is on CIF basis only, it shall be loaded to arrive at total FOR (Site / Destination) price, as applicable, by factors as follows :-</p> <ul style="list-style-type: none"> <li>i) Port handling / clearing charges: @ 1% of CIF value to arrive at Customs Assessable Value.</li> <li>ii) Custom Duty (including CVD &amp; SAD) as per NIT prevailing on date of price bid opening.</li> <li>iii) Inland Freight &amp; Transit Insurance: @ 5% of CIF value where distance between site / destination and Port of Discharge is upto 1000 Kms or @ 7% of CIF value where distance between site / destination and Port of Discharge is more than 1000 Kms.</li> </ul> <p>Note : Additional deviations (if considered acceptable by BHEL) &amp; the loading criteria shall be communicated to all the qualified bidders before price bid opening.</p>
19.	<p><b>ARBITRATION :</b></p> <p>In the event of any dispute emanating from and relating to this contract, the matter shall be referred to the sole arbitration of the person appointed by the competent authority of BHEL. Subject to aforesaid, the provisions of "The Arbitration and Conciliation Act, 1996" and the rules made thereunder as amended from time to time in India shall apply to the arbitration proceedings. The venue of arbitration shall be in New Delhi.</p> <p>Further there shall be no claim for any pre-reference or pendente-lite interest on the claims and any claim for such interest made shall be void.</p> <p>However, in case of contract with Public Sector Enterprise / Undertaking (PSE/PSU) or Govt. Dept., the extant guidelines of Govt. of India shall be followed.</p>
20.	<p><b>LEGAL SETTLEMENT :</b></p> <p>Indian Courts at New Delhi / Delhi shall have exclusive jurisdiction to decide the dispute, if any, arising out of or in respect of the contract(s) to which these conditions are applicable. Contract, including all matters connected with contract, shall be governed by the Indian Law, both substantive and procedural, for the time being in force including modification thereto.</p>
21.	<p><b>SUB-CONTRACTING :</b></p> <p>In case further subcontracting of BHEL Purchase Order / Contract or part thereof is envisaged by supplier, the same can be done after written permission is obtained from BHEL. However it shall not absolve the Supplier / Contractor of the responsibility of fulfilling BHEL Purchase Order / Contract requirements. In case of subcontracting of Purchase Order / Contract awarded by BHEL or part thereof without such permission, BHEL reserve the right to cancel the Purchase Order / Contract and source such material / component / equipment / system from any other agency at the risk and cost of the Supplier / Contractor.</p> <p>If Supplier / Contractor is an individual or proprietary concern and the individual or the proprietor dies or the partnership is dissolved or substantially affected, then unless BHEL is satisfied that legal representative of individual Supplier / Contractor or proprietor of proprietary concern and surviving partners of partnership firm are capable of carrying out and completing the Purchase Order / Contract, BHEL shall be entitled to cancel the Purchase Order / Contract as to its incomplete portion and without being in any way liable to payment of any compensation to legal representative of Supplier / Contractor and / or to surviving partners of Supplier's / Contractor's firm on account of cancellation of the Purchase Order / Contract.</p> <p>Decision of BHEL that legal representatives of deceased Supplier / Contractor or</p>

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	<p>surviving partners of the Supplier's / Contractor's firm cannot carry out and complete the Purchase Order / Contract shall be final and binding on the parties hereto.</p> <p>Terms and Conditions shall not get affected in case of de-merger / amalgamation / taking-over / re-constitution etc.</p>
22.	<p><b>RISK PURCHASE :</b>  In case the Supplier / Contractor fails to supply or fails to comply with terms &amp; conditions of the Purchase Order / Contract or delivers equipment / material not of the contracted quality or fails to adhere to the contract specifications or fails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery / completion period to justify that supplies shall be inordinately delayed beyond contractual delivery / completion period, BHEL reserve the right to cancel the Purchase Order / Contract either in whole or in part thereof without compensation to Supplier / Contractor and if BHEL so desires, may procure such equipment / material / items not delivered or others of similar description where equipment / material / items exactly complying with particulars are not readily procurable in the opinion of BHEL which is final and in such manner as deemed appropriate, at the risk and cost of the Supplier / Contractor and the Supplier / Contractor shall be liable to BHEL for any excess cost to BHEL. However, the Supplier / Contractor shall continue execution of the Purchase Order / Contract to the extent not cancelled under the provisions of this clause.</p> <p>Recovery amount on account of purchases made by BHEL at the risk and cost of Supplier / Contractor shall be the difference of total value of new Purchase Order (PO) value and total value of old Purchase Order for applicable items, where the total value of new PO is more than total value of old PO for applicable items, plus additional 15% of the total ex-works value of new PO as overheads.</p> <p>The Supplier / Contractor shall on no account be entitled to any gain on such risk &amp; cost purchase. In case the purchase order (PO) value of the new PO is less than the PO value of the old PO, 15% of the total ex-works value of the new PO shall be recovered as overheads and the difference between the PO value of the old PO and the new PO shall not be considered for calculation of the recovery amount.</p>
23.	<p><b>ADJUSTMENT OF RECOVERY :</b>  Any amount payable by the Supplier / Contractor under any of the condition of this contract shall be liable to be adjusted against any amount payable to the Supplier / Contractor under any other Purchase Order / Contract awarded to him by any BHEL unit. This is without prejudice to any other action, as may be deemed fit, by BHEL.</p>
24.	<p><b>FORCE MAJEURE CONDITION :</b>  If by reason of war, civil commotion, act of god, Government restrictions, strike, lockout which are not in control of Supplier / Contractor the deliveries / services are delayed, Supplier / Contractor shall not be held responsible.</p> <p>If at any time during the continuance of the Purchase Order / Contract, the performance in whole or in part by either party of any obligations under the Purchase Order / Contract is prevented or delayed by reason of any war hostilities, acts of the public enemy, restrictions by Govt. of India, civil commotion, sabotage, fires, floods, explosion, epidemics, quarantine restrictions, strike, lock-outs or acts of God (hereinafter referred to as "event"), which are not in control of Supplier / Contractor or BHEL, then provided notice of the happening of such event is given by either party to the other within fifteen (15) days from the date of occurrence thereof, neither party shall by reason of such event be entitled to terminate the Purchase Order / Contract nor shall have any claim for damages against each other in respect of such non-performance and delay in performance. Performance under the Purchase Order / Contract shall be resumed immediately after such event has come to an end or</p>

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	<p>ceased to exist and decision of BHEL as to whether the deliveries have to be resumed or not shall be final, conclusive and binding on the parties hereto.</p> <p>In the event of the parties hereto not able to agree that a force majeure event has occurred, the parties shall submit the disputes for resolution pursuant to the provisions hereunder, provided that the burden of proof as to whether a force majeure event has occurred shall be upon the party claiming such an event.</p> <p>Notwithstanding above provisions, BHEL shall reserve the right to cancel the Purchase Order / Contract, wholly or partly, in order to meet the overall project schedule and make alternative arrangements for completion of delivery and other schedules.</p>
25.	<p><b>MANUFACTURING QUALITY PLAN (MQP) :</b> Supplier to submit approved MQP in line with requirement of BHEL/customer.</p>
26.	<p><b>SUPPLIER PERFORMANCE MONITORING AND RATING SYSTEM :</b> BHEL reserve the right for evaluation of Supplier Performance Rating as per Supplier Performance Monitoring and Rating System of BHEL for necessary action. Details are available at BHEL Website <a href="http://www.bhel.com">www.bhel.com</a> for reference.</p>
27.	<p><b>DEALING WITH BANNED SUPPLIERS / CONTRACTORS IN BHEL :</b> Offers of the bidders, who are on the banned list, as also the offers of the bidders who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL website <a href="http://www.bhel.com">www.bhel.com</a> for reference.</p>
28.	<p><b>ORDER OF PRECEDENCE :</b> The order of precedence shall be as follows :-</p> <ol style="list-style-type: none"> <li>Special Terms &amp; Conditions (STC) for Tender Enquiry / Contract, if any</li> <li>General Terms &amp; Conditions (GTC) for Tender Enquiry / Contract &amp; Additional General Terms &amp; Conditions (GTC) for Tender Enquiry / Contract for Erection Testing &amp; Commissioning (ETC) at Site, if applicable</li> </ol> <p>Provisions in (a) above shall prevail over (b). In case of conflict, between Technical Specifications and STC / GTC, bidder to seek necessary clarifications from BHEL concerned official as specified in NIT.</p>
29.	<p><b>PACKING :</b> Packing shall be in conformity with specifications and shall be such as to ensure prevention of damages, corrosion, deterioration, shortages, pilferage and loss in transit or storage.</p> <p>In case of shipment by sea or air, the packing shall be sea-worthy or air-worthy respectively and of international standards.</p> <p>Different types of spares i.e. start-up / commissioning spares and initial spares (mandatory spares and recommended O&amp;M spares) are to be packed separately.</p> <p>Packing List shall be submitted as per standard format along with advance set of documents for claiming payment which shall also indicate :-</p> <ol style="list-style-type: none"> <li>Case / Packing size (as applicable).</li> <li>Gross weight and net weight of each package.</li> <li>Detailed contents of the package with quantity of each item separately.</li> </ol> <p>Project, Item / Package Description, BHEL's PO No. with date &amp; Case / Packing Mark should also be clearly mentioned on the Case / Packing and Packing List for identification. Also, Packing List must be duly signed &amp; should include respective Invoice No. &amp; LR No.</p> <p>Note :</p> <p>Foreign suppliers to furnish details to arrange inland transportation by BHEL, if applicable, as follows :-</p> <ol style="list-style-type: none"> <li>No. of Packages</li> <li>Size with Weight (Gross &amp; Net) of each Package</li> <li>No. of Containers with type &amp; size required for inland transportation</li> </ol>

<b>Sr. No.</b>	
	iv) Type of Cargo (Break Bulk / LCL / FCL) v) Customs Tariff No.
<b>30.</b>	<p><b>COLOUR CODING :</b> Aluminium stickers are required to be attached to large components but plastic sheet tags should be tied with small components, giving details like purchase order, description of the component, quantity etc. Tags should be of the colour as follows :-</p> <ul style="list-style-type: none"> <li>a) Main equipment : Yellow or White tag</li> <li>b) Start-up / Commissioning spares : Blue tag</li> <li>c) Mandatory spares : Pink or Red tag</li> <li>d) Recommended / O&amp;M spares : Green tag</li> </ul>
<b>31.</b>	<p><b>MICRO, SMALL &amp; MEDIUM ENTERPRISES (MSME) :</b> MSMED Act 2006 as amended from time to time &amp; extant regulations of Govt. of India for MSME will be applicable. Micro &amp; Small Enterprises (MSE) can avail the intended benefits only if they submit along with the offer / bid, attested copies of either Acknowledgement of Entrepreneur Memorandum Part-II (EM-II certificate) having deemed validity (five years from the date of issue of acknowledgement in EM-II) or valid NSIC certificate or EM-II certificate along with attested copy of a CA certificate (As per BHEL format where deemed validity of EM-II certificate of five years have expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of opening (for Techno-commercial Bid : Part-I in case of two part bid). Non-submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or arrested (in original) by a Gazetted officer. Copy of Udyog Aadhaar Memorandum with Acknowledgement of Ministry of Micro, Small &amp; Medium Enterprises should also be furnished.</p>
<b>32.</b>	<p><b>BUSINESS ETHICS / SUSPENSION OF BUSINESS DEALINGS WITH SUPPLIERS / CONTRACTORS :</b> If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution, indulges in malpractices cheating, bribery, fraud or other misconduct or formation of cartel so as to influence the bidding process or influences the price or fails to perform or is in default without any reasonable cause etc or performs any act considered objectionable as per extant guidelines, action may be taken against such bidders/supplier/contractor as per extant "Guidelines for Suspension of Business Dealings with Suppliers/Contractors". Abridged version of same is available at BHEL website (<a href="http://www.bhel.com">www.bhel.com</a>) on "Supplier Registration" Page.</p>
<b>33.</b>	<p><b>REVERSE AUCTION :</b> BHEL reserve the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder or price bid submitted by the bidder through e-procurement system. This will be decided after techno-commercial evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA. In case BHEL decides to go for Reverse Auction, only those bidders who have given their unconditional acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit "online sealed bid" in the Reverse Auction. Non-submission of "online sealed bid" by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue. General Terms and Conditions of RA are available at Annexure. Business Rules for</p>

Sr. No.	
	<p>RA shall be sent to the bidders before conducting RA.  Abridged Version of "Common Guidelines for Conducting Reverse Auction" may also be seen at BHEL website (<a href="http://www.bhel.com">www.bhel.com</a>) on "Supplier Registration" Page &amp; "Tender Notifications" Page.</p>
34.	<p><b>INTEGRITY PACT :</b>  Bidders shall have to enter into Integrity Pact with BHEL, duly signed with seal in original, if specified in NIT / RFQ failing which bidder's offer shall be liable for rejection.</p>
35.	<p><b>TERMINATION OF CONTRACT :</b>  BHEL shall have the right to cancel the Purchase Order / Contract without any financial implication to BHEL if vendor approval by end user / customer is withdrawn or in case of Suspension of Business Dealings with the Suppliers / Contractors by BHEL.</p> <p>BHEL shall have the right to cancel Purchase Order / Contract, wholly or in part, in case they are obliged to do so on account of any decline, diminution, curtailment or stoppage of their business and in that event, the Supplier's / Contractor' compensation claim shall be settled mutually.</p> <p>In case of cancellation of Purchase Order / Contract for main supply, all other associated Purchase Orders / Contracts like those for Mandatory Spares / Recommended Spares / Erection, Testing &amp; Commissioning (ETC) / Supervision of ETC, if any, would also get cancelled.</p>
36.	<p><b>SHELF LIFE :</b>  Supplier has to inform the list of the items / sub-items which have limited shelf life like consumables or those required for the first fill and shall indicate the corresponding shelf life period in the offer. Such items / sub-items shall be manufactured / despatched only after getting formal clearance from BHEL.</p>
37.	<p><b>LIMITATION OF LIABILITY :</b>  Notwithstanding any other provisions, except in cases of wilful misconduct and / or criminal negligence / acts,</p> <p>a) Neither the Supplier / Contractor nor BHEL shall be liable to the other, whether in Purchase Order / Contract, tort, or otherwise, for any consequential loss or damage, loss of use, loss of production or loss of profits or interest costs, provided however that this exclusion shall not apply to any obligation of the Supplier / Contractor to pay Liquidated Damages to the BHEL and</p> <p>b) Notwithstanding any other provisions incorporated elsewhere in the contract, the aggregate liability of the Contractor in respect of this contract, whether under the Contract, in tort or otherwise, shall not exceed total Contract Price, provided however that this limitation shall not apply to any obligation of the Vendor to indemnify BHEL with respect to Patent Infringement or Intellectual Property Rights.</p>
38.	<p><b>SHORTAGES / DAMAGES :</b></p> <p>a) Against Supply only or Supply where Supervision of Erection, Testing &amp; Commissioning (ETC) at Site or Supply where Testing &amp; Commissioning at Site is in scope of the supplier :</p> <p>Any shortages and / or damages in supplies shall be supplied / replenished free of cost by the supplier as early as possible but not later than 30 days from the date of intimation by BHEL to the supplier.</p> <p>b) Against Supply where Erection, Testing &amp; Commissioning (ETC) at Site is in scope of the supplier :</p>

Sr. No.	
	<p>Any shortages and / or damages in supplies and during handling / storage, erection, testing and commissioning at site shall be supplied / replenished free of cost by the Supplier / Contractor, as early as possible, to meet the contractual completion time / schedule.</p> <p>Note: There shall not be any extension in the contractual delivery time / schedule due to any shortages and / or damages in supplies.</p>
39.	<p><b>VARIATION OF CONTRACT VALUE / QUANTITY VARIATION :</b>  BHEL shall have the right to variation in quantities of items within <math>\pm 30\%</math> of the total Purchase Order / Contract value at the time of placement of PO or award of Contract on overall basis for all amendments together within two years from the date of original Purchase Order / Contract or completion of execution of the Purchase Order / Contract whichever is earlier but quantities of individual items may vary to any extent or may get deleted unless otherwise specified in the technical specifications. No compensation is payable due to variation in the quantities and the Supplier / Contractor shall be bound to accept the same the contracted prices / rates without any escalation. However, if the Purchase Order / Contract is on "Lumpsum" basis, no variation of Purchase Order / Contract value shall be admissible to the Supplier / Contractor within the scope of Purchase Order / Contract, as long as the inputs remain unchanged.</p>
40.	<p><b>STATUTORY VARIATION :</b>  GST rates prevailing at the time of dispatch of goods / completion of services shall be payable by BHEL. All other taxes, duties, charges, royalty, cess, other levies shall be deemed to be included in the Ex Works Prices / Charges quoted by bidders and no variations shall be payable in respect thereof. No other variations such as on customs duty, exchange rate, minimum wages, prices of controlled commodities, any other input etc. shall be payable by the BHEL.</p> <p>Notwithstanding anything above, where the actual completion of the supply / services occurs beyond the period stipulated in the Purchase Order / Contract or any extension thereof, variations referred to above, will be limited to the rates prevailing on the dates of such agreed completion periods only. For variations after the agreed completion periods, the Supplier / Contractor alone shall bear the impact for the upward revisions and for downward revisions BHEL shall be given the benefit of reduction in applicable taxes /GST. This will be without prejudice to the levy of liquidated damages for delay in delivery / completion.</p> <p>If new tax is introduced by Central/ State Govt / Municipality becomes directly applicable on items specified in Bill of Quantities/Purchase Order/Contract, full reimbursements shall be made provided it becomes applicable on items specified in Bill of Quantities.</p> <p>However, any additional tax implication due to delay in delivery, beyond the Contractual Delivery, attributable to supplier shall be borne by supplier.</p>
41.	<p><b>MODE OF PAYMENT :</b>  Payment shall be made directly to the Supplier / Contractor by BHEL through NEFT / RTGS.</p>
42.	<p><b>CONFIDENTIALITY :</b>  Supplier / Contractor shall, at all times, undertake to maintain complete confidentiality of all data, information, software, drawings &amp; documents etc. belonging to BHEL and also of systems, procedures, reports, input documents, manuals, results and any other BHEL documents discussed and / or finalized during the course of execution of Purchase Order / Contract.</p>
43.	<p><b>INDEMNIFICATION :</b>  The Supplier / Contractor shall indemnify and keep indemnified and hold harmless BHEL and its employees and officers from and against any and all claims, suits, actions or administrative proceedings, demands, losses, damages, costs and</p>

<b>Sr. No.</b>	
	expenses and any other claim of whatsoever nature in respect of the death or injury of any person or loss of or damage to any property arising during the course and out of the execution of the Purchase Order / Contract.
<b>44.</b>	<p><b>TITLE OF GOODS :</b></p> <p>a) Ownership of the equipment / material procured in India, shall be transferred to BHEL upon loading on to the mode of transport to be used for transportation of the said equipment / material from the works to the site / destination and upon endorsement of the dispatch documents in favour of BHEL.</p> <p>b) Ownership of the equipment / material to be imported into the country where the site is located, if not procured in India, shall be transferred to BHEL upon loading on the mode of transport to be used for transportation of the equipment / material from the country of origin to that country / destination and upon endorsement of despatch document in favour of BHEL.</p> <p>c) Notwithstanding the transfer of ownership of the equipment / material, the responsibility for care and safe custody thereof together with the risk of loss or damage thereto for whatsoever reason shall remain with the Supplier.</p>
<b>45.</b>	<p><b>COMPLIANCE OF STATUTORY REQUIREMENTS :</b></p> <p>The vendor shall comply with all State and Central Laws / Acts, Statutory Rules, Regulations etc., as may be enacted by the Government during the tenure of the Purchase Order / Contract and having in force and applicable to the Purchase Order / Contract and nothing shall be done by the Supplier / Contractor in contravention of any Law / Act and / or Rules / Regulations, thereunder or any amendment thereof.</p> <p>The Supplier / Contractor shall pay all taxes, fees, licence charges / deposits, duties, tolls, royalty, commissions or other charges which may be levied on account of any of his operations connected with the Purchase Order / Contract. In case BHEL is constrained to make any of such payments, BHEL shall recover the same from the Supplier / Contractor either from moneys due to him or otherwise as deemed fit.</p>
<b>46.</b>	<p><b>ACCEPTANCE OF ORDER :</b></p> <p>Supplier should acknowledge and accept the Letter of Award / Purchase Order issued by BHEL within 7 days of the issue of Letter of Award / Purchase Order.</p> <p>In case of any discrepancy / typographical error in issue of Purchase Order / Contract, the agreed terms &amp; conditions, scope of work, rates / prices for placement of PO / award of contract shall be applicable and BHEL reserves the right to issue amendment(s) to PO / Contract for correction of discrepancies / typographical errors in the PO / Contract at a later date.</p>
<b>47.</b>	<p><b>FRAUD PREVENTION POLICY :</b></p> <p>The Bidder along with its associate / collaborators / sub-contractors / sub-vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <a href="http://www.bhel.com">http://www.bhel.com</a> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.</p>

Signature of Bidder (Authorized Signatory) with Date & Seal

Enquiry No: 34Q2300048 dated 23.05.2022

Item: Supply of 96 kV Surge Arrester

Project: 110 kV Switchyard for (RMU) of TANGEDCO KODAYAR

### **Addendum to General Terms and Conditions (GTC-2016)**

1	Offer Submission/ Opening Time	Offer Submission Time: 11:00 Hrs IST Offer Opening Time: 16:00 Hrs IST
2	Instruction to Bidder(s):-  <b>Refer Special Terms &amp; Conditions</b>	<p>(a) For Supply where Supervision of Erection, Testing &amp; Commissioning (ETC) at Site is in the scope of the supplier or Supply where Testing &amp; Commissioning (T&amp;C) at Site is in scope of the supplier, minimum 10% of total ex-works value shall be quoted under supervision of ETC/T&amp;C. In case bidder quotes less than 10%, then 10% of Total PO value excluding GST and F&amp;I shall be allocated to the supervision of ETC/T&amp;C scope. Service charges shall be back calculated to keep 10% of total cost to BHEL (without GST). This price adjustment shall be done from supply Ex works prices only on prorata basis for all supply line items.</p> <p>(b) For Supply where Erection, Testing &amp; Commissioning (ETC) at Site is in the scope of the supplier, minimum 20% of total ex-works value shall be quoted under ETC. In case bidder quotes less than 20%, then 20% of Total PO value excluding GST and F&amp;I shall be allocated to the ETC scope. Service charges shall be back calculated to keep 20% of total cost to BHEL (without GST). This price adjustment shall be done from supply Ex works prices only on prorata basis for all supply line items.</p> <p>(c) Bidder's offer will be technically acceptable subject to final acceptance of vendor by ultimate customer as approved supplier. Price Bid will be opened only for those bidders in respect of which vendor approval is received from respective customer. Necessary credentials/documents to be submitted to customer for approval.</p>
3	Offer Submission Mode ( Refer Special Terms & Conditions)	<del>Clause No. 1.3 of GTC Tender is invited through e-Procurement System only. The bidder shall submit their bid through e-Procurement platform at <a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a>. Vendors participating through e-procurement portal for this tender should have Class III Digital Signature Certificate (DSC) for Signing &amp; Encryption of bids issued by any of the valid Certifying Authorities (approved by Controller of Certifying Authorities) in India.</del>
4	Validity of Purchase Order	Purchase order shall be valid for two years from date of Purchase Order.
5	Work Address	Bidder to mention their works address below from where material will be supplied  Works Address----- ----- -----
6	Pre- Qualification Requirement(PQR)	As per Annexure-I The bidder must ensure that they are meeting the PQR (Technical) and should submit all the requisite credentials as per PQR.
7	Deviation	<u>Technical Deviation:</u> No Technical Deviation is envisaged. <u>Commercial Deviation:</u> No Commercial Deviation envisaged except defined in GTC.
8	Delivery Plan	As per Activity Schedule-Annexure-II
9	Terms of Payment <b>Refer Special Terms &amp; Conditions</b>	As per clause 3.1 to 3.7 of GTC (as applicable). Supplier to submit bills alongwith billing checklist as per Annexure-III
10	Performance Bank Guarantee (PBG)	Clause No. 7 of GTC, If no option is specified by the bidder, by default option B for Bank Guarantee shall be considered.  BG for Main supply items and Spares shall be submitted separately alongwith first bill.  <b>Note:</b> BG should be submitted on non-judicial stamp paper of appropriate value by the supplier alongwith first submission of bill to BHEL.

## Addendum to General Terms and Conditions (GTC-2016)

11	Liquidated Damage	<p>Clause no. 13 of GTC - In case of delay in execution of Purchase Order beyond the contractual delivery time, an amount of 0.5% of delayed lot value (Ex Works and F&amp;I charges) for supply per week of delay or part thereof subject to a maximum of 10% of delayed lot value (Ex Works and F&amp;I charges) shall be deducted as Liquidated Damages (LD) along with applicable GST (if any) on LD.</p> <p>LD will calculated for lotwise and Manufacturing Clearance (MFC) date will be the last date of inputs for that particular lot</p> <p>Lot-1: items for which MFC is issued from 1-15 days of calendar month          Lot-2: items for which MFC is issued from 16-30/31 days of calendar month          Lot-3: items for which MFC is issued from 1-15 days of next calendar month,          Lot-4: items for which MFC is issued from 16-30/31 days of next calendar month and so on...</p>
12	Arbitration	As per Annexure-IV
13	Reverse Auction	<p>"BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among all the techno-commercially qualified bidders. Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking."</p> <p>Abridged Version of "Guidelines for Reverse Auction-2021" may also be seen at BHEL website (www.bhel.com) on "Supplier Registration" Page.</p>
14	Splitting of Contract	Splitting of Contract not applicable for this tender.
15	Make In India (PPP-MII)	<p>For this procurement, the local content to categorize a supplier as class-I local supplier / class-II local supplier / Non-Local supplier and purchase preference to class-I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020, issued by DPIIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT but before opening of part-II bids against this NIT.</p> <p>"Bidder to specify the percentage of local content as per the format of self-declaration for local content" as per Annexure-V."</p> <p>"This tender is not a global tender and only class-I suppliers as defined under the DPIIT order no. P-45021/2/2017-PP (BE-II) dated 04.06.2020 and subsequent to the PPP-MII order, order ref no.:- A-1/2021-FSC-Part (5) dated 16.11.2021 issued by Govt of India, Ministry of Power are eligible to bid in this tender. Bids received from Class-II &amp; Non-Local supplier shall be rejected."</p>
16	Compliance to GOI Order for restrictions under Rule 144 (xi) of General Financial Rules (GFRs), 2017	Refer Clause at Annexure-VI and Certification at Annexure-VII / Annexure-VIII (whichever is applicable) regarding restrictions under Rule 144 (xi) of General Financial Rules (GFRs), 2017. Bidder to comply the clause and submit the certification. Non-compliance/ Non-submission of certification will lead to rejection of Offer.
17	MOP Circular	<p>Bidder to comply the MOP circular dated 02-07-2020 (Annexure-IX) and its subsequent amendment, if any, in prescribed format (Annexure-X). Non-compliance/ Non-submission will lead to rejection of Offer [Not Applicable for cases where local content is 100%].</p> <p>Vendor to quote as per specified price format of NIT, otherwise their offer shall be liable to be rejected.</p> <p>Following confirmation to be provided by vendor:  <b>"We confirm that we have quoted as per specified price format provided along with this tender".</b></p>
18	Integrity Pact	As per Annexure-XI.
19	Risk and Cost	As per Annexure-XII.

## **Addendum to General Terms and Conditions (GTC-2016)**

20	Prevention for cartel formation	<p>The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.</p> <p>In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.</p>
21	Docuemts Required for Customer approval	<p>Bidders to submit below documents alongwith their offer but not limited to:</p> <ul style="list-style-type: none"> <li>(a) PAN, GST, Certificate of Incorporation</li> <li>(b) Factory Registration Certificate</li> <li>(c) Overall organization Chart with Manpower Details (Design/Manufacturing/Quality etc.)</li> <li>(d) List of Plant and Machinery</li> <li>(e) List of Testing and Measuring equipment</li> <li>(f) Third party approval, if any (viz. ISO, BIS)</li> <li>(g) Pollution clearance wherever applicable</li> <li>(h) Energy conservation &amp; Efficiency Report( Applicable to industries having contact load more than 100KVA)</li> <li>(i) Manufacturing Quality Plan (MQP)</li> <li>(j) List of past supplies references along with copy of major PO</li> <li>(k) Performance certificate from end user</li> <li>(l) Photographs of factory, plant and machinery &amp; testing facilities</li> </ul> <p>Offer of techno commercially acceptable vendors shall be considered for conducting Reverse Auction subject to their approval from Customer.</p>
22	BHEL Supplier Registration Portal	<p>The link for Online Supplier registration Portal is <a href="https://supplier.bhel.in/">https://supplier.bhel.in/</a></p> <p>The link for Online Supplier Registration Portal may also be seen at BHEL website (<a href="http://www.bhel.com">www.bhel.com</a>) on "Supplier Registration" Page.</p>

The Notice Inviting Tender (NIT)/ the tender requirement of BHEL will not be henceforth published in newspapers. All the concerned are hereby notified that tender enquiries of BHEL will be published on BHEL tender website ([www.bhel.com](http://www.bhel.com)) and Government's Central Public Procurement Portal (<https://eprocurebhel.co.in>).

**(Sign and seal of Bidder)**

### **TECHNICAL QUALIFYING REQUIREMENT**

Bidder should be manufacturer of the offered Surge Arrester. Bidder needs to meets the following technical requirements for 96KV Surge Arrester as stipulated here under:

The manufacturer(s) whose Surge Arrester (s) are offered, must have, manufactured, type tested (as per IEC/IS or equivalent standard) and supplied 96kV or higher voltage class Surge Arrester as on the original date of technical bid opening of this tender.

#### **GENERAL POINTS (NOTES)**

- Consideration of offer shall be subject to customer approval of bidders, as applicable.

# BHARAT HEAVY ELECTRICALS LIMITED

## TRANSMISSION PROJECTS ENGINEERING MANAGEMENT



DOCUMENT No.	TB-417-316-103	Rev. No.	0		Prepared	Checked	Approved
TYPE OF DOC.	TECHNICAL SPECIFICATION			NAME	Vyom	JK	VK
TITLE 96KV Surge Arrester	SIGN						
	DATE			17.05.2022	17.05.2022	17.05.2022	
	GROUP			TBEM	W.O. No		
CUSTOMER	TAMIL NADU GENERATION AND DISTRIBUTION CORPORATION (TANGEDCO)						
PROJECT	110KV Switchyard for Renovation, Modernization and Uprating (RMU) OF Kodayar Power House-I from 1X60MW TO 1X70MW.						

### CONTENTS

S/N	Description	No. of Sheets
1.	<b>SECTION-1: SCOPE, SPECIFIC TECHNICAL REQUIREMENTS &amp; QUANTITIES</b> Annexure_TQR	04 01
2.	<b>SECTION-2: STANDARD TECHNICAL SPECIFICATION</b>	08
3.	<b>SECTION-3: PROJECT DETAILS &amp; GENERAL SPECIFICATIONS</b>	31
4.	<b>SECTION-4:</b> Annexure-A (Compliance Certificate) Annexure-B (Schedule of Technical Deviations)	01 01

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Rev No.	Date	Altered	Checked	Approved	<b>REVISION DETAILS</b>		
Distribution				To	TBMM	OFFICE COPY	
				Copies	03	01	

### **TECHNICAL QUALIFYING REQUIREMENT**

Bidder should be manufacturer of the offered Surge Arrester. Bidder needs to meets the following technical requirements for 96KV Surge Arrester as stipulated here under:

The manufacturer(s) whose Surge Arrester (s) are offered, must have, manufactured, type tested (as per IEC/IS or equivalent standard) and supplied 96kV or higher voltage class Surge Arrester as on the original date of technical bid opening of this tender.

#### **GENERAL POINTS (NOTES)**

- Consideration of offer shall be subject to customer approval of bidders, as applicable.

## SECTION - 1

### 1.1 SCOPE

This technical specification covers the requirements of design, manufacture, testing at manufacturer's works, packing & dispatch of 96kV Gapless Lightning Arresters (Polymer/Porcelain Type) complete with fittings and accessories to site.

This section covers the scope, specific technical requirements and quantities of Lightning Arresters. This constitutes minimum technical parameters for the above item as specified by the customer (TANGEDCO). The offered equipment shall also comply with the General Technical Requirements for the project as detailed under section-3 of this specification.

In case of any discrepancies between the requirements mentioned under Section-1, Section-2 and those specified in Section-3, the order of preference shall be Section-1, then Section-2 followed by Section-3 and shall be treated as binding requirement.

The equipment is required for the following project:

Name of the Customer : Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO)

Name of the Project : 110KV Switchyard for Renovation, Modernization & Uprating (RMU) of Kodayar Power House-1 from 1 X 60MW to 1 X 70MW

The scope of supplies shall be as per commercial terms and conditions enclosed separately with the enquiry.

### 1.2 SPECIFIC TECHNICAL REQUIREMENTS

Equipments and system shall be designed to meet the specification brought out in Annexure-1 enclosed with this Section.

### 1.3 BILL OF QUANTITIES

S.No.	DESCRIPTION	UNIT	QUANTITY
1	SUPPLY- SURGE ARRESTOR : 10KA NOMINAL DISCHARGE, 25MM/KV CREEPAGE, 96KV SINGLE PHASE, GAPLESS (ZNO) SURGE ARRESTER COMPLETE WITH ALL ACCESSORIES ( SURGE COUNTER/ MONITOR, INSULATING BASE, LUGS, FIXING & EARTHING HARDWARE ETC) EXCEPT TERMINAL CONNECTOR AND INSULATED CONNECTING CABLE.	NO	9
2	SUPPLY- SURGE ARRESTOR : 96KV TERMINAL CONNECTOR SUITABLE FOR ACSR TWIN MOOSE	NO	9
3	SUPPLY- SURGE ARRESTOR : INSULATED COPPER CABLE CONNECTING SURGE ARRESTER TO SURGE COUNTER	Mtrs	27

NOTE:

- 1) Total Contract Value. may vary by  $\pm 30\%$ .

**Accessories:**

Surge Arrester shall be complete with following accessories:

- Surge Arrester can be Porcelain or Polymer Type.
- Insulating base,
- Surge Monitor including discharge counter and leakage current meter. For surge counter no auxiliary supply or battery shall be required for operation of counter. Readings of millimeter and counter shall be visible through inspection glass panel.
- corona ring / grading ring (if applicable),
- Insulated stranded copper cable of length 3m (min) for 96kV LA between discharge counter and surge Arrester (Surge counter lead shall be supplied in one length for all LAs and suitable lugs shall be supplied as loose items).
- By-pass shunt with connection provision,
- Ground terminals,
- Terminal Connector suitable for
  - Twin/Single moose/Bersimis/ ACSR conductor for 96kV surge arresterSub-conductor spacing for 96kV shall be 225mm respectively.  
Terminal connector shall be universal type i.e. suitable for horizontal as well as vertical entry.
- hardware required for inter-unit connection within the Arrester connecting the Arrester to substation structure (substation structure in BHEL-scope)
- requirements as stated in this Specification
- Other standard accessories, which are not specifically mentioned but are usually provided with surge arrester of such type and rating for efficient and trouble-free operation

Each surge counter shall have terminals of robust construction for connection to Earthing lead and these shall be suitably arranged so as to enable the incoming and outgoing connections to be made with minimum bends.

## 1.4 TYPE TESTING

Bidder shall submit valid type test reports (as per relevant IEC/IS Standard) for approval. The type test reports submitted shall be of tests conducted within last 10 years prior to the date of technical bid opening. The bidder should have conducted type test on identical or similar equipment/ components to those offered. If these tests have been conducted more than 10 years prior from the date of technical bid opening or type test reports are found to be technically unacceptable to BHEL/TANGEDCO, the type test shall be conducted without cost and delivery implication to BHEL.

## 1.5 Routine tests

1.1 Measurement of reference voltage - As per IEC IEC 60099-4 & Approved data sheet

1.2 Residual voltage test -As per IEC IEC 60099-4 & Approved data sheet

1.3 Seal leak test (Visual) As per IEC IEC 60099-4 & Approved data sheet

1.4 Internal partial discharge test Electrical As per IEC IEC 60099-4 & Approved data sheet

**1.6 Acceptance test**

- 2.1 Measurement of reference voltage - As per IEC IEC 60099-4 & Approved data sheet
- 2.2 Lightning impulse residual voltage test As per IEC IEC 60099-4 & Approved data sheet
- 2.3 Internal partial discharge test As per IEC IEC 60099-4 & Approved data sheet

<b>TECHNICAL PARTICULARS OF 110KV LIGHTNING ARRESTER</b>			
S.No	PARAMETER	UNIT	VALUE
1	Maker's Name and place of manufacture		
2	Type of Construction		Heavy Duty, Station Class Metal Oxide Gapless Surge Arrestors
3	Type of Mounting		Pedestal Mounting
4	Model		
5	Rated Voltage KV (rms)	KVrms	96
6	Reference voltage KV (rms)	KVrms	Greater than rated arrester voltage at reference current
7	Maximum continuous Operating Voltage	KVrms	81
8	Nominal Discharge Current (8/20 micro second wave) KA	KA	10
9	Min. Discharge capability		Class III
10	Rated Frequency	Hz	50
11	IR at MCOV		<0.4
12	IC at MCOV		<1.5
13	Reference current, mA	mA	3
14	Reference volt at reference current		Greater than rated voltage


<b>Max. residual voltage in KV (Peak) 8/20 microsecond wave</b>			
15	At 5000 amps	kVpeak	251
16	At 10000 amps	kVpeak	272
17	At 20000 amps	kVpeak	307
18	Max. partial discharge (Pico coulombs)	pC	<10
19	Max. Switching Impulse Residual Voltage (KVp)	kVpeak	217
20	Max. Steep Current Impulse RDV (KVp)	kVpeak	298
21	Impulse High Current short duration discharge Amps. (4/10 microsecond wave)	kVpeak	100
<b>T.O.V. (KVP)</b>			
22	0.1 second	kVpeak	170
23	1.0 second	kVpeak	163
24	10.0 seconds	kVpeak	156
25	100.0 seconds	kVpeak	149
<b>Insulation withstand</b>			
26	Lightning IMP (Dry) (KVp)	kVpeak	550
27	Power frequency with stand Voltage KV (rms) Dry / Wet	KVrms	230
28	Switching Impulse Wet (KVp)		NA
29	Pressure Relief Class		A
30	PR Relief Class KA (RMS)		40
<b>Long Duration Current impulse Test</b>			
31	Current Peak Amps.	A	50-600
32	Virtual Duration Micro Sec.	µs	2400

33	Leakage current at normal voltage	A	<1.0
34	Leakage current at max. operating voltage.	A	<3.0
35	Arrester percentage rating		80%
<b>Dimensions of the arresters</b>			
36	Max. Dia of Porcelain	mm	250±20
37	Max. Height of Porcelain	mm	880 ±35 (60KV Bushing) 660 ±25 (42KV Bushing)
38	Material of valve		Metal Oxide ZnO Blocks
39	Details of sealing		Hermetically sealed with Neoprene Rubber Gasket
40	Description of Pressure Relief system		
41	No. of units per arrester		Two (60KV + 36KV)
42	Creepage distance	mm/kV	25
<b>Minimum clearance</b>			
43	Between phases mm	mm	1800
44	Between phase to earth mm	mm	1500
45	Size of grounding terminal		
46	Size of line terminal		Suitable for Moose ACSR/BERSIMIS/Panther
47	Diameter of the grading ring	mm	400
48	Min. space required for 3 phase installation		6600 x 3000 mm
49	Max. Cantilever Strength of the arrester KGM		1000
50	Overall weight of one single phase stack (Approx.) Kgs	kg	84 ±10%
51	Weight of complete arrester (Approx.) Kgs.	kg	84 ±10%
52	Nett weight of each arrester (Approx.) Kgs	kg	84 ±10%

### 1.7 TECHNICAL QUALIFYING REQUIREMENT

Please refer the following Annexure\_TQR

### 1.8 PROJECT TITLE BLOCK

<b>CUSTOMER</b>	TAMIL NADU TRANSMISSION CORPORATION LIMITED (TANGEDCO)		
<b>PROJECT</b>	110KV Switchyard for Renovation, Modernization & Uprating (RMU) of Kodayar Power House-1 from 1 X 60MW to 1 X 70MW		
<b>BHEL P.O. No.</b>		<b>PROJ. DOC. No.</b>	<b>REV. No.</b>
<b>CONTRACTOR</b>	BHARAT HEAVY ELECTRICALS LIMITED 		
<i>VENDOR'S STANDARD TITLE BLOCK</i>			

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# **Section 2**

## **SECTION - 6 SURGE ARRESTERS**

### **1.0 GENERAL:**

- 1.1 The surge arrester shall conform to IEC: 60099- 4 except to the extent modified in the specification.
- 1.2 Arresters shall be of hermetically sealed units, self supporting construction, suitable for mounting on tubular / Lattice support structures to be supplied by the contractor.
- 1.3 The surge Arrestors shall be designed for use in the geographic and metrological conditions.

## 2.0 DUTY REQUIREMENTS:

a) The surge arrestors shall be of heavy duty station class and gapless type without any series or shunt gaps.

b) The surge arresters shall be capable of discharging over voltages occurring during switching of unloaded transformers, reactors and long lines.

f) The surge arresters shall be suitable for withstanding short circuit forces.

g) The reference current of the arresters shall be high enough to eliminate the influence of grading and stray capacitance on the measured reference voltage.

h) The surge arresters are being provided to protect the following equipment whose insulation levels are indicated in the table given below:-

Equipment to be protected	Lightning impulse (kVp) for 145 kV system
Power transformer	±550
Instrument Transformer	±650
Reactor	-
CB/Isolator Phase to ground	±650

Across open contacts		±750
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### 3.0 CONSTRUCTIONAL FEATURES:

The features and constructional details of surge arresters shall be in accordance with requirement stipulated hereunder:

- a) The surge arresters shall be of station type, discharge class 3, heavy duty outdoor self supporting, construction for suitable for mounting tubular support structures single pole assembly, gapless, Zinc oxide type surge arrestors for '110 KV solidly grounded neutral system. Each equipment shall be supplied with grading ring, insulating base, pressure relieving arrangements at both ends of each stack, surge monitor, copper strip/ flat of suitable size from insulating base to monitor, earth clamp and line top terminal plate with [REDACTED] bolts and nuts. The suitable base channels for mounting on tubular lattice support structure for the arrestors to be supplied.
- b) All metallic parts shall be hot dip galvanized. The color of porcelain insulators shall be glazed brown.
- c) The surge monitor shall consist of a milli-ammeter with [REDACTED] danger zones for measuring the leakage current and a five digit surge counter to register the number of surges. The housing of the surge arrester shall conform to IP 67.
- d) The non-linear blocks shall be of sintered metal oxide material.
- e) These shall be provided in such a way as to obtain robust construction, with excellent mechanical and electrical properties even after repeated operations.
- f) The surge arresters shall be fitted with pressure relief devices suitable for preventing shattering of [REDACTED] housing and providing path for flow of rated fault currents in the event of arrester failure. Details shall be furnished in the bids along with quality checks.
- g) The arresters shall not fail due to arrester housing contamination.
- h) Seals shall be provided in such a way that these are always effectively maintained even when discharging rated lightning current.
- i) Outer insulator shall be [REDACTED] conforming to requirements. Terminal connectors shall conform to requirements stipulated in the specification.
- j) [REDACTED] housing shall be so co-ordinate that external flashover will not occur due to application of any impulse or switching surge voltage up to the maximum design value for arrester.
- k) The end fittings shall be made of corrosion proof material and preferably be nonmagnetic.

- l) The name plate shall conform to the requirement of IEC incorporating the year of manufacture.
- m) The heat treatment cycle details along with necessary quality checks used for individual blocks along with insulation layer formed across each block are to be furnished. Metalizing coating thickness for reduced resistance between adjacent discs is to be furnished with additional information schedule of bid proposal sheets along with procedure for checking the same. Details of thermal stability test for uniform distribution of current on individual disc is to be furnished.
- n) The manufacturer will submit data for rejection rate of ZnO blocks during manufacturing/operation for the past three years.
- o) The supplier of surge arrester must be a manufacturer of Zinc/ Metal oxide blocks to have control over quality and avoid spurious blocks. The type test on surge arresters is valid only if supplied surge arresters use same make of blocks on which type test is done. If blocks utilized differentially than used in type tested surge arresters then type test is not valid. The details of blocks in GTP should match what is used in Type testing.
- p) The sealing arrangement of the surge arrester steaks shall be done incorporating grooved flanges with the O-rings/elliptical cross section gaskets of Neoprene or Butyl rubber.

#### **4.0 FITTINGS AND ACCESSORIES:**

a) 110 KV Arresters shall be complete with insulating base having provision for bolting to flat surface of structure.

b) Self contained discharge counters, suitably enclosed for outdoor use and requiring no auxiliary or battery supply for operation shall be provided for each single pole unit along with necessary connection. Suitable leakage current meters should also be supplied within the same enclosure. The reading of milli-ammeter and counters shall be visible through an inspection glass panel. The terminals shall be robust and of adequate size and shall be so located that incoming and outgoing connections are made with minimum possible bends. The design of the surge monitor shall be such that it is possible to tilt the surge monitor downwards by an angle up to 45 deg from horizontal plane.

c) Surge monitor consisting of discharge counters and milliammeters should be suitable to be mounted on support structure of the arrester and should be tested for IP67 degree of protection. The standard supporting structure for surge arrester should be provided with a mounting pad, for fixing the surge monitor. The surge monitor should be suitable for mounting on this standard mounting pad. Also all nuts, bolts, washers etc., required for fixing the surge monitor shall have to be supplied by the contractor.

q) Grading/ Corona ring shall be provided on each complete arrester units as required. The contractor shall supply suitable terminal connectors. The arrangement for surge monitor enclosure fixing to the structure shall be at its rear/bottom. Connection between the surge arrester base and surge monitor shall be

through a 3 m long insulated stranded cable. The cable shall be terminated at rear/bottom side of the surge monitor. The gaskets of the surge monitors shall be of Neoprene, Butyl or equivalent material.

## **5.0 TESTS:**

5.1 The surge arresters should be type tested as per IEC/IS and shall be subjected to routine and acceptance tests in accordance with IEC document. In the switching surge operating duty test, the samples shall be pre-heated to 70 degree C, (instead of 60°C as given in IEC) prior to application of long duration surges for contamination test procedures obtained in ANSI: 062-11-1987 may be followed until IEC brings out alternate procedure for the same.

The test reports of the type test and the following additional type tests shall be furnished.

- i) Radio interference voltage test.
- ii) Seismic withstand test.
- iii) Contamination test.
- iv) Temporary over voltage withstands test procedure to be mutually agreed. Each metal oxide block surge arrester shall be tested for the guaranteed specific energy capability in addition to the routine/acceptance test as per IEC: 60099-4.

## **5.2 (a) Acceptance Tests:**

1. Measurement of power frequency reference voltage of the arrester units.
2. Lightning Impulse Residual voltage on arrester units.
3. Internal Ionization or partial Discharge test.

## **(b) Special Acceptance Test:**

1. Thermal stability test on three sections.
2. Aging & emerging Capability test on block (procedure to be mutually agreed).
3. Wattloss tests.

## **(c) Routine Tests:**

1. Sealing test
2. Water dip test at 1.5 m depth from top of surge arrester for 30 minutes shall be performed during assembly of surge arrester stacks (followed by

other routine tests, i/e/ P.D Measurement, Reference Voltage, Residual Voltage & IR measurement).

3. Measurement of reference Voltage.
4. Residual voltage test of arrester unit.
5. Internal Ionization test or partial discharge test.
6. Vertically check on completely assembled surge arrester as a sample test on each lot.
7. XXXXXXXXXX

**(d) Test on surge Monitors:**

The surge monitors shall also be connected in series with the test specimens during residual voltage and current impulse with stand tests to verify efficacy of the same. Additional routine/functional tests with one 100A and 10 kA current impulse, (8/20 micro sec.) shall also be performed on the surge monitor.

Surge monitors shall be routinely tested for water dip test at 1.5 m for 30 minutes. No water vapors shall be visible on the monitor glass.

**(e) Test on Insulators:**

All routine tests shall be conducted on the hollow column insulators as per IEC – 233. The following additional tests shall be carried out on insulators:

- i) Ultrasonic test as a routine test.
- ii) Pressure test as a routine test.
- iii) Bending load test in 4 directions at 50% specified bending load as a routine test.
- iv) Bending load test in 4 directions at 100% specified bending load as a sample test on each lot.
- v) Burst Pressure test as a sample test on each lot.

**6.0 TECHNICAL PARAMETERS:**



**7.0. TESTS AND TEST CERTIFICATES :**

- 7.1. Manufacturers test certificates in respect of all materials as specified in IEC 99-4 and IS 3070 Part I to III of latest issue and other tests as mentioned elsewhere in the specification shall be supplied in triplicate.
- 7.2 In addition to the above tests, the purchaser reserves the right of carrying out at site such tests as he may decide upon. Such additional tests shall be carried out at the purchasers expense.
- 7.3 The entire equipment shall after erection be run for one year under normal operating conditions. Any defects discovered during this period shall be

rectified free of all charge. The equipments should be set properly and demonstrated to function correctly.

- 7.4 Test certificates furnishing the results of Routine tests as per appropriate Indian Standard Specification should be forwarded for, the equipment, before despatching the materials. The equipments will be rejected, if the test results are not satisfactory.
- 7.5 The Corporation reserves the right to have the Acceptance tests as specified in relevant IS/IEC of latest issue, carried out on the arresters to be supplied against this contract.

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## **SECTION 3**

### **PROJECT INFORMATION AND GENERAL TECHNICAL REQUIREMENTS**

The provisions under this section are intended to supplement general requirements for the materials, equipment's and services covered under other sections.

#### **[1] PROJECT INFORMATION**

**1.1 Project Title:** Renovation, Modernization & Uprating of Kodayar Power Power House - I from 1x60MW to 1x70MW in Tirunveli Generation Circle in the Kanyakumari District, Tamil Nadu, India .

**Owner:** TAMIL NADU GENERATION AND DISTRIBUTION CORPORATION  
(TANGEDCO)

**Transport facilities :** Road/Rail

#### **1.2 Meteorological Data**

- (i) Maximum ambient temperature : 50°C
- (ii) Minimum ambient temperature : 20°C
- (iii) Maximum daily average ambient air temperature : 45° C
- (iv) Maximum yearly average ambient air temperature : 32° C
- (v) Maximum Humidity (%) : 100%
- (vi) Average thunder storm days per annum : 50
- (vii) Average rainy days per annum : 90
- (viii) Average annual rainfall (mm) : 1000 mm
- (ix) Maximum wind pressure : 150 Kgf/Sqmm
- (x) Altitude above MSL : Below 1000M

However for design purpose, ambient temperature should be considered as 50°C and relative humidity as 100%.

**[2] ELECTRICAL DATA**

**2.1 MAIN ELECTRICAL PARAMETERS/ CLEARANCES :**

Sl.	Technical Parameter	Unit	-
1	Type of Switchyard		AIS
2	Nominal voltage class, rms	kV	110
3	Maximum System voltage, rms	kV	123
4	Current Rating	A	1250A
5	Number of phases	Nos	03
6	Symmetrical Short time withstand current	kA/Sec	40 kA for 3 sec.
7	One minute power frequency withstand voltage	kV	230
8	Peak impulse test withstand voltage	kV	550
9	Creepage distance	mm/kV	25
9.1	Phase to Phase	mm	1100
9.2	Phase to Earth	mm	1100
9.3	Phase To Phase Spacing	mm	2800
9.4	Minimum Section Clearances	mm	4000
10	Design ambient Temperature	°C	50

**2.2 STANDARD VOLTAGE LEVELS:**

S.No.	Description	Voltage level
1.	Evacuation and Transmission 110 kV	3 phase, 3 wire 50 Hz, effectively earthed
2.	Station supply	415 V, 3 phase, 4 wire, 50 Hz, effectively earthed.
3.	A.C. Drive motors	415 V, 3 phase, 4 wire effectively earthed

**General Technical Requirement**

**SECTION 3, REV 00**

S.No.	Description	Voltage level
4.	Metering 110 V	110 V, AC PT. voltage
5	Control & protection gear	AC 2 wire from UPS
6.	Panel lighting and space heaters	230V, 1 phase, 2 wires, 50 Hz, A.C. with point earthed.

**2.3 BASIC INSULATION LEVELS**

SI.No	Nominal voltage kV	BIL kV (peak)
1.	110 kV	550
2.	11 kV	75
3.	400 V	1.1

**[3] GENERAL REQUIREMENT**

**3.1 ALL THE EQUIPMENTS / MATERIALS TO BE SUPPLIED SHOULD BE INACCORDANCE WITH RELEVANT LATEST / AMENDED IS/IEC, WHETHER IT HASBEEN SPECIFICALLY MENTIONED IN THE SPECIFICATION OR NOT.**

**3.2** Life of the Electro-mechanical generating equipment i.e., turbine, generator, transformers, auxiliaries etc. shall not be less than thirty five (35) years.

**3.3** All EQUIPMENTS and type of clamps, fittings hardware, insulators, bus bar. These designs/ drawing shall be got approved by the purchaser before commencing the manufacture/ construction/ erection and are to be as per latest IS/ IEC.

**3.4 GENERAL:**

The bidder shall be fully responsible for providing all equipment, materials system and services specified or otherwise which are required to complete

the construction and successful commissioning of the substation in all respects.

Any other items not specifically mentioned in the specification but which are required for erection of materials/equipment under the scope of work, testing and commissioning are deemed to be included in the scope of the specification unless specifically excluded.

All items shall be supplied as per schedule and as specified in the relevant Indian standard of latest revision. The Technical specification of the main materials/equipment is furnished. The Technical specification contained herein for the materials are for the guidance of the tenderer.

The bidders are requested to procure the equipment's/materials/component only from reputed /qualified manufacturer as per Technical requirement stipulated in Section-1 of Technical specifications. Approval of make of item shall be taken up by vendor from M/s TANGEDCO himself.

### **3.5 COMPLETENESS**

Bidders may note that this is a contract inclusive of the scope as indicated elsewhere in the specification. Each of the plant shall be engineered and designed in accordance with the specification requirement. All engineering and associated services are required to ensure that a completely engineered plant is provided.

All equipment furnished by the Bidder shall be complete in every respect, with all mountings, fittings, fixtures and standard accessories normally provided with such equipment and/or those needed for erection, completion and safe operation & maintenance of the equipment and for the safety of the operating personnel, as required by applicable codes, though they may not have been specifically detailed in the respective specifications, unless included in the list of exclusions.

All similar standard components/ parts of similar standard equipment provided, shall be interchangeable with one another.

- 3.6** All the equipment, technological structures, pipes, valves, fittings, etc shall be subjected to inspection and testing as per accepted national or international standards and practices. All the components shall be subjected to inspection and testing as per standard practices of the manufacturer prior to offering them for inspection by the Purchaser /his authorized representative.
- 3.7** Suitable working platforms, walkways, ladders lifting tackles and tools required for the above shall be provided.
- 3.8** The fabrication and assembly areas shall be kept clean and free from contamination. During assembly of major components, a polythene covering shall be maintained in position to prevent ingress of dirt, grease, etc from overhead cranes or other equipment.
- 3.9** All equipment shall be visually inspected in the presence of an inspector immediately before closure. A system of physical identification and accountability shall be used to account for all tools, test equipment, shipping blanks and other items used during assembly to obviate the possibility of their being left inside vessels or equipment.

**3.10 CODES & STANDARDS**

In addition to the codes and standards specifically mentioned in the relevant technical specifications for the equipment / plant / system, all equipment parts, systems and works covered under this specification shall comply with all currently applicable statutory regulations and safety codes of the Republic of India as well as of the locality where they will be installed, including the following:

1. Bureau of Indian Standards (BIS)
2. Indian electricity act
3. Indian electricity rules

**General Technical Requirement**

**SECTION 3, REV 00**

4. Indian Explosives Act
5. Indian Factories Act and State Factories Act
6. Indian Boiler Regulations (IBR)
7. Regulations of the Central Pollution Control Board, India
8. Regulations of the Ministry of Environment & Forest (MoEF), Government of India
9. Pollution Control Regulations of Department of Environment, Government of India
10. State Pollution Control Board.
11. Rules for Electrical installation by Tariff Advisory Committee (TAC).
12. Any other statutory codes / standards / regulations, as may be applicable.

Unless covered otherwise by Indian codes & standards and in case nothing to the contrary is specifically mentioned elsewhere in the specifications, the latest editions (as applicable as on date of bid opening), of the codes and standards given below shall also apply:

1. Japanese Industrial Standards (JIS)
2. American National Standards Institute (ANSI)
3. American Society of Testing and Materials (ASTM)
4. American Society of Mechanical Engineers (ASME)
5. American Petroleum Institute (API)
6. Standards of the Hydraulic Institute, U.S.A.
7. International Organization for Standardization (ISO)
8. Tubular Exchanger Manufacturer's Association (TEMA)
9. American Welding Society (AWS)
10. National Electrical Manufacturers Association (NEMA)
11. National Fire Protection Association (NFPA)
12. International Electro-Technical Commission (IEC)
13. Expansion Joint Manufacturers Association (EJMA)
14. Heat Exchange Institute (HEI)

Other International/ National standards such as DIN, VDI, BS, etc. shall also be accepted for only material codes and manufacturing standards, subject to the Owner's approval, for which the Bidder shall furnish, along with the offer, adequate information to justify that these standards are equivalent or superior to the standards mentioned above. In all such cases the Bidder shall furnish specifically the variations and deviations from the standards mentioned elsewhere in the specification together with the complete word to word translation of the standard that is normally not published in English.

In case of any change in codes, standards & regulations between the date of bid opening and the date when vendors proceed with fabrication, the Owner shall have the option to incorporate the changed requirements or to retain the original standard. It shall be the responsibility of the Bidder to bring to the notice of the Owner such changes and advise Owner of the resulting effect.

### **3.11 LANGUAGE**

- a. The tender shall be submitted in English language only.
- b. In all the technical correspondences English shall be used. Warning & safety notice around the plant shall be in English and Tamil.
- c. Plant labels & rating plates and all permanent & temporary notices around the plant shall be in English.
- d. Instruction manuals & training programme shall be in English. The visual display unit outputs given by the computer driven data acquisition system shall be in English only.
- e. If the offer and all documents are not submitted in English, the tender is liable for rejection. Further, in case the tenderer submits documents in any language other than English along with the translation of the same, such translated documents in English shall be submitted duly authenticating that the translation is true and correct to their knowledge and belief in all such pages by the bidder/ all the consortium partners duly affixing their signatures and seals. In case of foreign bidders, this shall be in addition to the attestation by the Consulate of India

functioning in the respective countries. In case such proper authentication for translated documents is not observed, the tender is liable for rejection.

- f. All documents, instructions, catalogues, brochures pamphlets, design data, norms and calculations, drawings, operation, maintenance and safety manuals, reports, labels, on deliveries and any other data shall be in English Language.
- g. All correspondence between TANGEDCO and the Contractor shall be in English language.
- h. However, all signboards required to indicate "Danger" and/or security at site and otherwise statutory required shall be in English, Tamil & Hindi languages.

### **3.12 TECHNICAL AND ENGINEERING SERVICES**

Technical Services to be provided by the Contractor shall generally include the following amongst others:

- a) Material testing, if necessary.
- b) Basic design/drawings and layout engineering
- c) Detail design/drawings and engineering
- d) Drawings/data for carrying out Plant Engineering and detail design including design modification & model testing/ CFD analysis/drawings of civil, structural and services, wherever necessary.
- e) Technical services relating to planning, procurement, manufacturing inspection, expediting, packing, shipping, storing, etc.
- f) Project management services and complete feedback data and information to TANGEDCO/Purchaser for the same, for the Contractor's scope of supply and services.
- g) Training of TANGEDCO/Purchaser's personnel.
- h) Consultancy services, if any, obtained by the Contractor from elsewhere
- i) Technical consultation/liaison/guidance relating to detail design a plant engineering by his Sub-Contractors.
- j) Supplier's co-ordination relating to site work and other engineering work.
- k) Total supervision of dismantling, repair, civil engineering work & erection including specialised erection services.

- l) Start-up trial runs, and- commissioning services.
- m) Demonstration of performance guarantee tests with the commissioning engineers/specialists.
- n) Quality control and adherence to the time schedule control of site work and other Indian works. Time bound project co-ordination relating to customs clearance, transportation, insurance, claim settlement, inspection, construction planning and scheduling dismantling repair & erection planning field construction engineering, cold tests, start up, trial run, commissioning and performance guarantee tests. The contractor shall bring and associate his own and /or his sub-contractor's specialists for the performance of the above mentioned functions.
- o) Clearance of installations from the statutory and other concerned authorities on behalf of TANGEDCO/Purchaser, The Contractor shall also assist in preparing application forms, providing necessary drawings, documents test certificates etc including necessary co-ordination with statutory and other concerned authorities.

The Contractor shall be responsible for supply of all the drawings and technical documents & information in respect of the plant & equipment, commissioning spares and also for recommended spares for operation and maintenance. The Contractor shall deliver the drawings, technical documents and information to TANGEDCO and his authorised agency.

### **3.13 APPROVAL BY TANGEDCO**

- a. Drawings and documents as per this contract shall be subject to the review and reference of TANGEDCO. Documents and drawings as mentioned in this contract shall be subject to the approval of TANGEDCO.
- b. All changes from the approved drawings/documents shall be subject to the prior approval of TANGEDCO.
- c. All Sub-Contractors and sub-suppliers for raw materials testing, design and engineering, manufacture, supplies, construction and erection work and any other work/services covered under the Contract shall be subject to the written approval of TANGEDCO.

- d. While the Contractor shall make/execute/perform supplies, work and services in terms of the Contract, TANGEDCO shall have the right to check and approve design, type, quality, quantity, materials and workmanship of any or all items of supplies, work and services where considered necessary by TANGEDCO to ensure that supplies, work and services made/executed/ performed by the Contractor are in accordance with the provisions of this Contract.
- e. The Chief Project Manager of Contractor who shall be in overall charge of the Project and Site Manager at site shall be appointed in consultation with TANGEDCO.
- f. Detailed assignment schedules of foreign Experts/ Specialist for rendering technical services shall be submitted by the Contractor for the approval of TANGEDCO within six months from the effective date off contract. The biodata of key personnel shall be submitted within two months of the effective date of contract and for others six months before their deputation.
- g. To enable TANGEDCO to accord approval and to review documents and drawings, the Contractor shall submit back-up data/drawings/basic calculations/assumptions as may be required by TANGEDCO.
- h. Where approval of TANGEDCO is required or implied but is not specifically provided for elsewhere in this Contract, such approval shall also come within the purview of this schedule.
- i. Approval by TANGEDCO in terms of this schedule shall not relieve the Contractor of any of his obligations under the Contract. TANGEDCO shall approve or refuse approval within 30 (thirty) days from the date of receipt of request with supporting documents.
- j. The approval requested by the Contractor shall not be withheld unreasonably by TANGEDCO. All requests for approval shall be accompanied by fully supporting documents, otherwise it shall not be considered as a request.

#### **[4] INSPECTION AND TESTING**

##### **4.1 INSPECTION**

#### **4.1.1 GENERAL**

- a) Manufacturing progress review, inspection & testing of equipment covered under the technical specification shall be carried out by the Purchaser at the manufacturers' works/premises prior to dispatch to ensure that their quality & workmanship are in conformity with the contract specifications and approved drawings.
- b) These instructions are in addition to provisions laid down in other tender documents of the Purchaser.

#### **4.1.2 INSPECTION & TESTING STAGES AND FINALISATION OF QUALITY ASSURANCE PLAN (QAP)**

- a) Within 12 weeks of the award of contract the Contractor shall furnish the quality assurance plan as per proforma given to successful tenderer for electrical equipment. separately with suggestive stages and hold points for undertaking inspection and testing by the Purchaser/TANGEDCO. Total list of plant & equipment of the order shall be submitted to the Purchaser/TANGEDCO prior to submission of QAP
- b) After receipt, scrutiny and rendering into acceptable mode of above documents, a mutually agreed programme of inspection & testing of equipment shall be finalized with the Contractor by the Purchaser/ TANGEDCO.
- c) Inspection & testing of plant & equipment shall be undertaken by the Purchaser / TANGEDCO after finalization & approval of QAP.

#### **4.1.3 RESPONSIBILITY FOR INSPECTION**

- a) Any inspection by the Purchaser does not replace the responsibility of quality assurance and quality control functions, as expected of the Contractor to be performed by him for supply of plant & equipment as part of the contractual obligations. As such, any approval which the Inspecting Engineer of the Purchaser may have given in respect of plant and equipment and other particulars and the work or workmanship involved in the contract (whether with or without test carried out) shall not bind the Purchaser to accept the plant and

equipment, should it on further test at site be found not to comply with the requirements of the contract.

b) The Contractor is to meet the inspection & testing requirements for the equipment coming under statutory regulations e.g. weights & measures, safety, IE rules, etc. and submit certificates and documents from appropriate authority to Inspecting Engineer for the same.

#### **4.1.3 EXTENT OF INSPECTION**

a) The extent of inspection by the Purchaser shall vary from equipment to equipment as per design requirements.

b) However, indicative extent of inspection for electrical equipment is furnished below.

c) Extent of inspection to be carried out shall be finalized with the Contractor after award of the contract on the basis of scope of supply, technical specification and approved GA drawings. However, in case of similar bulk manufactured items, methods of sampling for inspection of different lots shall be governed by relevant Indian or international standards.

d) In case of critical components, the Purchaser reserves the right to undertake 100% inspection.

e) .Categories of Equipment :

1. Bought out items.&

2. Final Inspection & testing

f) Extent of Inspection : (as applicable from equipment to equipment)

i) BOUGHT-OUT ITEMS

Following standard bought-out items shall be accepted on the basis of manufacturers' test certificates:

- LV current transformers

- Standard AC motors

- AC /DC DBs

- Push button station in manufacturer's' standard enclosure

- LT power, control & instrumentation cables and cable termination / jointing kits

- Starters in manufacturer's standard enclosure
- Light fittings
- Field instruments
- Conduits
- Cable trays
- ii) FINAL INSPECTION & TESTING:
  - Verification of test certificates
  - Visual & Workmanship
  - Dimensional
  - Witnessing of routine tests as per relevant standards. Manufacturers' test certificates for type test to be submitted for verification.
  - Witnessing of proto-type tests, as applicable.

#### **4.1.5 TESTS, TEST CERTIFICATES AND DOCUMENTS**

- a) For each of the items being manufactured, following test certificates and documents (as applicable for each of the equipment) in requisite copies shall be prepared and submitted to the Inspecting Engineer for scrutiny & records.
- i) Materials identification & physical and chemical test certificates for all materials except IS:2062 -1992 and FG 150 IS:210-1978 materials used in manufacture of the equipment.
  - ii) Welding procedures and welder's qualification test certificates, wherever applicable.
  - iii) Routine/type/calibration/acceptance/special test certificates for electrical items.
  - iv) Surface preparation and painting certificates.
  - v) Certificates from competent authority for the items coming under statutory regulations.
- b) The Contractor shall be required to produce the specimen and test pieces on which tests were carried-out by his sub-contractors and if called for, samples and specimen shall become the Purchaser's property.
- c) Where facilities for testing do not exist in the Contractor/sub-contractor's laboratories or in case of any dispute, samples and test pieces shall be drawn by the contractor/sub-contractor in presence of Inspecting Engineer and sealed

samples shall be sent to any approved laboratories for necessary tests at Contractor/sub-contractor's cost.

d) The Purchaser/TANGEDCO shall have the right to be present and witness all tests being carried out by the Contractor/sub-contractor at their own laboratory or approved laboratories. Also, the Purchaser/TANGEDCO shall reserve the right to call for confirmatory test on samples, at his discretion.

e) Should the result of tests not come within the margin specified, the tests shall, if required, be repeated at Contractor's cost without any liability to the Purchaser

#### **4.1.6 METHOD OF GIVING INSPECTION CALLS**

Inspection calls shall be given by the Contractor. All calls shall accompany four sets of relevant test certificates and inspection report of the Contractor/ sub-contractor after satisfactory completion of internal inspection and tests by them as per approved QAP.

## **4.2 TESTING**

### **4.2.1 GENERAL**

a) Test of all equipment shall be conducted as per latest IS. Tests shall also confirm to International Standards IEC/VDE/DIN/BS.

b) All routine tests shall be carried out at manufacturer's works in presence of purchaser or his representative.

c) The tenderer shall submit type test certificates for similar equipment supplied by him elsewhere. In case type test certificates for similar equipment is not available, the same shall be conducted in presence of purchaser or his representative if purchaser so desires, without any financial implications to purchaser. Heat run test based on type test certificate of similar transformer is acceptable.

d) The site tests and acceptance tests to be performed by contractor are detailed below.

e) The contractor shall be responsible for satisfactorily working of complete integrated system and guaranteed performance.

#### **4.2.2 SITE TESTS AND CHECKS**

- a) All the equipments shall be tested at site to know their condition and to prove suitability for required performance.
- b) The test indicated in following pages shall be conducted after installation. All tools, accessories and required instruments shall have to be arranged by contractor. Any other test which is considered necessary by the manufacturer of the equipment, contractor or mentioned in commissioning manual has to be conducted at site.
- c) In addition to tests on individual equipment some tests/ checks are to be conducted / observed from overall system point of view. Such checks are highlighted under 'Miscellaneous tests' but these shall not be limited to as indicated and shall be finalized in consultation with TANGEDCO before charging of the system.
- d) The contractor shall be responsible for satisfactory working of complete integrated system and guaranteed performance.
- e) All checks and tests shall be conducted in the presence of TANGEDCO's representative and test results shall be submitted in six copies to TANGEDCO and one copy to Electrical Inspector. Test results shall be filled in proper proforma.
- f) After clearance from Electrical Inspector system/ equipment shall be charged in step by step method.
- g) Based on the test results clear cut observation shall be indicated by testing engineer with regard to suitability for charging of the equipment or reasons for not charging, are to be brought by the contractor.

#### **4.2.3 SITE TESTS**

The tests to be carried out on the equipment at pre-commissioning stage shall include following but not limited to the following:

##### **a) TRANSFORMER**

- 1. IR test on each winding to ground and between windings.
- 2. Turns ratio test on each tap.

3. Polarity and vector group test.
4. Measurement of winding resistance.
5. IR, wiring and operational tests on all control devices in control cabinet, oil level indicator, winding and oil temp. indicators, cooling fan etc.
6. Checking of Earthing with respect to transformer tank (flexible from top cover to tank) other parts, neutrals and tank to electrodes of LAs (for LAs located near to transformer).
7. Testing of buchholz relay for alarm and trip conditions.
8. For bushing CTs, tests applicable shall be as for current transformers.
9. Setting of oil/winding temperature indicators, level gauge and checking of alarm/trip circuits.
10. Check insulators for cracks.
11. Checking for oil leakage and arresting of leakages (if there)
12. Checking of operation of all valves.
13. Checking for open position of all the valves (except drain and filter valves).
14. Filtration of oil by using line filter, vacuum pump, and heater set.
15. BDV test on oil samples from top and bottom.
16. Checking of oil for acidity, water content, tan delta etc. as per IS 335.
17. Measurement of magnetizing current and no load loss.
18. Measurement of PI value.
19. Checking of silica gel breather.
20. Checking of noise level at no load and at full load.
21. Checking of air circulation conditions for indoor transformers.
22. Conducting magnetic balance test
23. Checking of other points given in manufacturer's commissioning manual.
24. Back charging of the transformer and checking of voltages at different tap positions.
25. Tan delta Test and SFRA test at site

**b) CURRENT TRANSFORMER**

1. IR test on each winding, winding to earth and between windings.
2. Checking of winding ratios by primary injection set.
3. Polarity check on each winding.

4. Continuity check for all windings.
5. Check for connections to correct taps.
6. Measurement of knee point voltage and secondary winding resistance for the CTs used for differential protection.
7. Checking of continuity and IR values for cables from CT to Marshalling box.
8. Checking tightness of Earthing connections.
9. Check output after loading of the main circuit.
10. Tan Delta Test.

**c) POTENTIAL TRANSFORMER**

1. IR test of primary winding by HV megger between windings and earth
2. IR test of secondary winding by LV megger between windings and winding to Earth.
3. Checking of voltage ratio.
4. Verification of terminal markings and polarity.
5. Checking of continuity and IR values for cables from PT to Marshalling Box.
6. Checking tightness of Earthing connections.
7. Checking of insulator for cracks.
8. Check output on charging of the system with connected meters/relays.
9. Tan Delta Test.

**d) ISOLATOR / DISCONNECTING SWITCHES**

1. IR test by HV Meggar on main poles.
2. IR test on control circuits.
3. Measurement of Contact resistance for all three phases.
4. Functional checking for electrical and manual operation.
5. Checking of interlocking with earth switch and as per write up and checking of earth switch operation.
6. Checking of operation of earth switch.
7. Setting and checking of auto trip operation of motor on complete close / open position of isolator.
8. Testing of overload relay of motor.

9. Checking for remote operation.
10. Checking of operation on minimum and maximum specified voltages (local as well as remote).
11. Checking tightness of Earthing connections.
12. Checking of insulators for cracks.

**e) LIGHTNING ARRESTOR**

1. Continuity check (for metal oxide type only).
2. Check for connection to ground.
3. Check insulators for cracks.
4. Check reading of leakage current.
5. HT and IR test of each element.

**f) INSULATORS**

1. Checking of tightness of connection.
2. Check for minor damage / cracks after cleaning.
3. Verification of number of disks as per drawing.
4. Check for Creepage distance on one type of each set.
5. Check heating at termination point during shutdown.

**g) NGT**

1. Measurement of resistance
2. IR test by HV megger between terminal and earth.
3. Checking of earth connection for terminal and for body
4. Check for isolator operation and continuity of aux. contacts (if applicable)
5. Check for temp. rise of enclosure and current flow in the resistances.

**h) LT SWITCHGEAR**

1. IR test
2. HV test with 1.1 kV Meggar
3. Functional test for all feeders
4. Testing of all meters
5. Checking and calibration of overload relays and protective relays as per supplier's commissioning manuals.

6. Check operation of contactors from local and remote points
7. Checking of interlocking between incomers/bus coupler and other feeders.
8. Test to prove interchangeability of similar parts

**i) PDB/DCDB**

1. IR test before and after HT test
2. HV test by 1.1 kV megger
3. Checking for functions of components for each module
4. Checking for interchangeability of similar components
5. Checking of tightness of earth connection.
6. Testing and calibration of all indicating meters
7. Check output of each feeder after energization.

**j) AC MOTORS**

1. IR test of stator and rotor windings.
2. Check tightness of cable connection
3. Winding resistance measurement of stator and rotor.
4. Check tightness of earth connections.
5. Check space heaters and carryout heating of winding (if required)
6. Check direction of rotation in decoupled condition during kick start
7. Measure no load current for all phases.
8. Measurement of temperature of body during no load and load conditions.
9. Check for tripping of motor from local/remote switches and from electrical/ technological protection including differential protection.
10. Checking of vibration.
11. Checking of noise level.
12. During load running, measurement of stator and bearing temperatures (if applicable) for every half an hour interval till saturation comes.
13. Checking tightness of foundation bolts.
14. Check continuity of temp. detectors.
15. For actuator drives following shall be checked/tested :
  - Visual and dimensional.
  - IR and operation of limit switches.
  - Winding resistance.

**k) UNINTERRUPTED POWER SUPPLY**

1. Visual check.
2. IR value by megger.
3. Current limit test.
4. Ripple test.
5. Supply variation.
6. Functional test.
7. Capacity test with respect to time.

**l) CABLES & CABLES SUPPORTING STRUCTURES**

1. Checking of continuity/phasing and IR values for all the cables before and after HV test.
2. HV test and measurement of leakage current after termination of cable kits (for HT cables).
3. Checking of earth continuity for armor and fourth core (if applicable).
4. Check for mechanical protection of cables.
5. Check for identification (tag number system) distance placement of cable marker, cable joint etc. as per the cable layout drawing.
6. Check Earthing of cable structures.
7. Check clearances from ventilation duct and light fittings for cable structures.
8. Check proper fixing of cable structures.

**m) INDOOR LIGHTING**

1. Check dressing of cable.
2. Measurement of lux level at various places.
3. Check accessibility for replacement of lamps.
4. Checking for black spots or poor visibility near operating and indicating equipments.
5. Check for mechanical protection of cables.
6. Checking for adequacy of emergency DC light.
7. Checking for starting system of periphery lighting.
8. Check for auto switching of battery supply on failure of AC.
9. Checking of Earthing of light panel, socket boards, light fittings.

10. Checking of type of fittings with respect to specification at various locations.
11. Check adequacy of support of fittings.
12. Check water tightness of outdoor located panels.

**n) EARTHING**

1. Check tightness of all earth connections
2. Check earthing of all metallic equipments, cable trays, Busbar supporting structures, yard fencing steel structures of yard, rails, gates, building column (if steel) all elect. equipments, gas/oil/water pipe lines etc. as per the drawing / specification
3. Measurement of earth resistance for each electrode.
4. Measurement of total earth resistance.
5. Measurement of earth loop resistance for E/F path of biggest LT drive.

**o) CONTROL, RELAY & METERING PANELS**

1. IR value test by megger
2. Checking of control cable connection.
3. Operational test of all components mounted on control panel.
4. Testing and calibration of indicating meters
5. Testing of all relays including auxiliary relays for their pick up- drop values, operation at all taps (current, voltage and time) etc. as per the manufacturer's commissioning manuals with the help of relay testing kits.
6. Setting of relays as per approved setting table and checking its operation for one below and one upper settings, in the scheme.
7. Measurement of current and voltage in relay operating coils by secondary injection in CT and PT circuit at switchboard.
8. Measurement of current and voltage in relay and meter circuits during loading of the primary circuit/system
9. Testing of all schemes for their functions as per approved drawings
10. Checking stability of differential protection schemes
11. Checking inter changeability of similar equipments
12. Verification of accessibility of all operating points including resetting knob of relays

13. Check operation of each annunciation facias, operation of bell/hooter etc. and sequence of the system
14. Check operation of relays at minimum/maximum control voltage as per the specification
15. Integrated testing of protective relays for operation of master trip relays and tripping of breakers from Operation of master trip relay
16. Check dressing of cables, sealing of openings in gland plate and for provision of double compression glands
17. Check earthing connection of panels, fixing of panels and openings from side and bottom.
18. Checking and adjustment in tri-vector meters as per the manufacturer's instructions.

**p) MISCELLANEOUS**

1. Checking of continuity of the system
2. Checking of phase sequence from overhead line to consumer end
3. Checking safe accessibility of all operating points
4. Check availability of emergency lighting
5. Check availability of control/aux. supply
6. Ensure availability of first aid box, firefighting equipments, earth discharge rods, rubber mats, rubber glove
7. Check working of ventilation system for battery room - transformer room etc.
8. Check proper covering of cable channels.
9. Placement of shock treatment chart, danger boards, provision of boards indicating 'Man on Work, Do not switch ON', 'Do not switch OFF', 'Earthed', etc.
10. Check proper dressing of cables, mechanical protection of cables, placement of cable markers
11. Check sealing of all cable openings including conduit opening with fire resistance material
12. Check sealing of all openings at bottom of elect. panels.

## **[5] PAINTING**

### **5.1 GENERAL**

- a) The primers & finishing paints will conform to latest Indian Standard or equivalent international standards. There shall be of approved quality and shade.
- b) General precautions for painting such as preparation of surfaces, application of paints, inspection and testing etc. will be as per relevant clause of IS:1477 (Part I & II) and shall be followed, wherever possible.
- c) General compatibility between primer and finishing paints recommended by the paint manufacturer, supplying these paints shall be followed.
- d) General compatibility between successive coats must be ensured.
- e) Unless otherwise specified, the general color scheme for finishing coats for different types of equipment and pipelines as per requirement of the Purchaser are to be followed. The color schemes, however, may be changed, if necessary, by the Purchaser at any stage before the start of the painting of the equipment.

### **5.2 PAINTING INSTRUCTIONS**

- a) In general, unless otherwise specified, all plant and equipment & pipelines will be given one coat of antirust primer, lacquers, etc. at the supplier's works after completing surface preparation to remove grease, rust, scales and other foreign materials. The second coat of antirust primer will be applied immediately after erection after completing requisite surface preparation) followed by two coats of finishing paint of approved quality & shade.
- b) Technological structures, crane girders & other structures shall be given one coat of primer during manufacturer & one coat of primer after erection followed by two coats of finishing paint.
- c) For equipment where original colour as per supplier's practice is desired, both primer & finishing coats will be applied at supplier's works before dispatch of equipment.

- d) Structures embedded in concrete shall have no shop painting applied. The portion of the column that is to be embedded in concrete shall be given a coat of Portland cement slurry after thoroughly cleaning the surfaces from mill scale, grease & oil immediately after fabrication.
- e) The portion of the structures embedded underground shall be given two coats of red leadg raphite primer at shop and finished with two coats of bituminous black paint of approved quality.
- f) Machined/plained surfaces shall be coated with while lead and tallow before dispatch or before being put into open air & covered with gunny cloth.
- g) Surfaces to be site welded shall have no shop paint applied within 100mm of welding zone. After site welding normal painting application will be followed.
- h) Areas which become in-accessible after assembly shall be painted before assembly.
- i) Cables & other electrical accessories shall have adequate antirust protection.
- j) Chequered plates shall be given primer coats only.
- k) The phosphate coated surface shall have one coat of baking based and two coats of finished paint of amino alkyd resin stone enamel.
- l) External surface of pipe fittings shall be thoroughly cleaned by wire brushing and given two coats of red oxide zinc chromate primer at supplier's works & two coats of final synthetic enamel paint after erection.
- m) The equipment which are to be dispatched in knocked down condition and require assembling at site, shall be given two coats of rust and corrosion preventive primer and one coat of synthetic enamel paint of approved quality and shade. After assembly at site, such equipment shall be given one final coat of synthetic enamel paint.
- n) The equipment which can be sent as a single block unit duly shop assembled, shall be given full application of paint i.e. two primer coats of rust and corrosion preventive primer and two finish coats of paint of approved quality and shade as per relevant Indian Standards/equivalent international standards.

- o) All painting shall be carried out by brushing or roller application with prior permission of the Purchaser.
- p) All metal parts not accessible for painting shall be made of rust and corrosion resisting materials. Interiors of equipment will be suitably coated with anti-rust compounds.
- q) The fasteners shall not be painted. These will be dispatched with application of anti-rust compound.
- r) Any special painting requirement indicated on the Contractor's drawings by the Purchaser during approval stage shall be binding.

## **5.2 SURFACE PREPARATION AND ENVIRONMENTAL CONDITIONS**

- a) All surfaces to be painted shall be thoroughly cleaned of dirt, grease, rust & mill scale.  
Removal of rust & scale shall be by hand brushing, power driven wire brushes or by sand blasting, as the surface condition/service condition warrants.
- b) The paint shall be applied on the metallic cleaned surface after it is perfectly dry but not later than 3 hours after cleaning of the surfaces. Reasonable time gap should be allowed between any two consecutive coats of primer or finishing coats.
- c) Surfaces coming in contact with acid & acidic fumes alkalis, soda, detergents etc shall be cleaned thoroughly to get complete metallic surface as per IS; 1477 Part I & II or BS 4232-1967. After sand blasting the surface shall be cleaned with cotton rags, soaked in benzene, to remove fine rust, grease, etc. No sand blasted surface shall be exposed to weather for more than 3 hours.
- d) The choice of primer & finishing paint will depend on the environmental condition to which the plant & equipment & pipelines are exposed to.
- e) Paints are to be applied on dry surface only under agreeable weather conditions. Painting in damp & foggy weather conditions will not be permitted.
- f) For a selected primer the method of surface treatment best suited for that primer & suggestion of paint manufacturer shall be obtained and followed.

- g) Zinc rich primer paints which have been exposed for a long time before the finishing coat is applied shall be washed down thoroughly to remove soluble zinc salt deposit.
- h) The recommendation of paint manufacturer shall be forwarded to the Purchaser for approval.

## **5.2 PRIMER PAINT**

- a) In general, two coats of primer paints conforming to relevant Indian Standard or equivalent international standards shall be applied on all unmachined surfaces, except noted otherwise.
- b) Where equipment is to be finish painted for dispatch, both coats will be applied before finishing coats at supplier's works.
- c) Where equipment warrants finishing coat after erection, one coat will be applied just after manufacture at supplier's works and the second coat just after erection at site after surface cleaning.
- d) Equipment on which primer coat has been damaged due to prolonged exposition at site, final erection or transport, shall be given two coats of primer at site before applying finishing coats. Before applying paint the surface will be thoroughly cleaned by sand paper.
- e) The primer applied should be compatible in quality and colour schemes with the subsequent finishing coats.
- f) Unless stated otherwise, the following primer paints shall be used depending upon the exposition and environmental condition to which the plant & equipment, structures & pipelines are exposed to :
  - Aluminium zinc oxide - conforming to IS;2931
  - Red oxide zinc chromate - conforming to IS;2074
  - Heat resistant aluminum - conforming to IS:161 primer paint
  - Air drying chemical resistant paint
  - Epoxy resin paint (cold cured) -
  - Poly urethane paint
  - Chlorinated rubber based conforming to DEF-1402, Ministry of Defense

## **5.3 PRIMER PAINT**

- a) Two coats of finishing paint compatible with the primer and conforming to relevant Indian Standard or equivalent international standards shall be applied on all unmachined surfaces unless mentioned otherwise.
- b) Unless noted otherwise, the following finishing paints will be applied on plant & equipment, structure & pipelines depending upon the exposition and environmental conditions to which the plant & equipment, structures & pipelines are subjected to:
- Synthetic enamel conforming to IS; 2932 exterior type
  - Epoxy based finishing paint -
  - Heat resistant silicon based Aluminium paint IS: 161
- c) The finishing paint shall be of approved colour. The undercoat shall have different tinge to distinguish from the finishing paint.
- d) The surfaces of the equipment on which finishing coats of paint has been damaged due to prolonged exposition at Contractor's work, erection site, during transport, storage or final erection shall be thoroughly cleaned & touched up with the same paint as applied previously.

### **5.3 THICKNESS OF COAT OF PAINT**

- a) A single coat of paint when dry should have a thickness of 25 to 30 microns (0.025 to 0.030 mm) or 1 mil to 1.25 mils.
- b) Total thickness of 4 coats (2 primer coats + 2 finishing coats) should have thickness of 100 to 125 microns (0.100 to 0.125 mm) or 4 to 5 mils.
- c) In case of bituminous aluminum gilsonite based paint 3 coats are to be applied. The total thickness of 3 coats will be not less than 100 microns (0.100 mm) or 4 mils.
- d) Immediately following the award of the Contract, the Contractor shall submit the names of the proposed paint supplier and applicator together with a quality assurance program for approval. All paints for one section shall be provided by one manufacturer and preferably shall be manufactured in one country to ensure compatibility.

## [6] GENERAL REQUIREMENT

### 6.1 GENERAL

- a) Name of coordinators with address, telephone/FAX numbers for all sub-contractors, pertaining to electrical job.
- b) List of equipment/tools and manpower proposed to be arranged for installation erection and site handling of the equipment.
- c) Name of site in-charge with office/ organization and date of opening of site office.
- d) Quality control manuals
- e) Detailed list of drawings and documents containing information on current state of the project.
- f) Monthly progress report furnishing status of
  - Planning
  - Manufacture
  - Transport
  - Erection
  - Testing & commissioning

### 6.2 FOR APPROVAL

#### A. CALCULATIONS

1. Relay settings with calculations and graph for justification of all relay settings (current, voltage and time).
2. Calculation to justify generator CT/PT parameters like VA burden, knee point voltage etc. for all cores.
3. Calculations for Required battery capacities of the UPS system.
4. Calculations for voltage drop and short time rating of cables to prove adequacy of sizes.
5. Calculation for Neutral grounding transformer and secondary resistance.
6. Calculation of lux levels of Control Room, Machine hall and other floors
7. Calculations for short time withstand of transformers.

8. Calculations for design of supporting structures for outdoor switchyard regarding wind pressure, short circuit forces etc.

**B. OTHERS**

1. Single line diagram indicating transformers, breaker, CT/PT, all relays, meters, LA, cable sizes, details of CT/PT ratio, VA burden, V<sub>k</sub> value, type and make of all relays, their range, nominal and short time ratings of bus bars, etc. for all equipment.
2. Front view and GA diagrams for all panels.
3. Control and schematics drawings for local/remote control/protection for each equipment and drives.
4. Drive list.
5. Synchronization schemes.
6. Auto change over arrangement.
7. Logic diagrams for start/stop of various mechanism/drives.
8. Lighting layout for Control Room and other areas. Type of fittings, wiring arrangement, switching of fittings and single line diagram from board to fittings.
9. Details of protection logic (class A,B&C tripping) indicating list of electrical and mechanical protection leading to tripping of turbine generator, field breaker, etc.
10. Equipment Earthing layout drawing
11. Electrical equipment layout for all electrical premises.
12. Cable structure layouts with size of structures for gallery and cable channels of different places
13. Sequence of inspection plan and despatch of materials to site.
14. List of drawings, numbering system, size, proposed date of submission (To be submitted just after LOI).
15. Installation drawings of all equipment with
  - Layout of equipment
  - Layout of Cabling
  - Illumination drawings
  - Earthing Layout.

### 6.3 FOR INFORMATION

1. Details of painting for all equipment
2. Bus wire arrangement for control/signal/annunciation and heater supplies of control panels and switch boards.
3. Cable schedule indicating type of cables, from to via. route, total length, size of each cable and a final summary sheet indicating total requirement of all types of cables (for control and power both).
4. Core wise control cable termination details indicating ferrule no./terminal block no. for each cable/each equipment.
- 5 Internal wiring diagrams for all panels.
6. VI characteristics and RCT values of CTs used in differential protection.
7. Cable layout drawings.
8. Technical particulars of all LT motors and recommended protection.
9. Catalogues for each type of equipment, relays, meters etc.
10. Installation and commissioning manuals for each equipment, relay etc.
11. Operation and maintenance manuals indicating trouble shooting procedure for all equipment.
12. Type test certificates for all the major equipment.
13. Details of test results conducted at works for all equipment in bound Volume
14. Details of test results conducted at site for all equipment in bound Volume
15. Spare part list number and ordering procedure for all recommended spares.
16. Details of transport arrangement and maximum size of transportable section (weight and overall dimensions).
17. Details of agency proposed to be fixed for doing erection commissioning job.
18. Panel wise bill of material indicating type make and brief technical particulars of all items/ accessories mounted on the panels.
19. Overall GA of all the panels/equipment
20. Fixing details of all the panels/equipment, supporting structures, etc.
21. Heat loss for each equipment.

22. Static and dynamic loading of each equipment
- 23 Floor cutouts and wall opening details for cables bus duct, air conditioning ducts, light conduits, exhaust fans etc.
24. Details and location of various inserts base plates, bolts etc. required to be provided for support of cable structure, bus duct electrical panel, etc.
25. Conduit layout drawing indicating type, size, length and locations of conduits required to be placed in RCC wall/floor, brick wall.
26. Technical data sheet for each type of motors and characteristic curves for protection settings.
27. As built drawings incorporating site changes along with soft copies in CD.

**ANNEXURE-A**

**COMPLIANCE CERTIFICATE OF TECHNICAL SPECIFICATION**

The bidder shall confirm compliance to the following by signing/ stamping this compliance certificate and furnishing same with the offer.

1. The scope of supply, technical details, construction features, design parameters etc. shall be as per technical specification & there are no exclusion/ deviation with regard to same.
2. There are no deviation(s) with respect to specification other than those furnished in the 'schedule of deviations'.
3. Only those technical submittals which are specifically asked for in NIT to be submitted at tender stage shall be considered as part of offer. Any other submission, even if made, shall not be considered as part of offer.
4. Any comments/ clarifications on technical/ inspection requirements furnished as part of bidder's covering letter shall not be considered by BHEL, and bidder's offer shall be construed to be in conformance with the specification.
5. Any changes made by the bidder in the price schedule with respect to the description/ quantities from those given in 'BOQ' of the specification shall not be considered (i.e., technical description & quantities as per the specification shall prevail).

Date:

Bidder's Stamp & Signature

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ANNEXURE B

SCHEDULE O TECHNICAL DEVIATIONS

Bidder shall list below all technical deviation clause wise w.r.t. tender specifications:

<u>S.No.</u>	<u>Section/ Page No.</u>	<u>Clause No.</u>	<u>Deviation</u>	<u>Reason / Justification</u>
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**Any deviation not specifically brought out in this section shall not be admissible for any commercial implication at later stage. Except to the technical deviations listed in this schedule, bidder's offer shall be considered in full compliance to the tender specifications irrespective of any such deviation indicated / taken elsewhere in the submitted offer.**

Date:

Tenderer's Stamp    Signature

### 96 KV LIGHTNING ARRESTERS

Sl. No.	Description	96 KV LIGHTNING ARRESTERS
01	Maker's Name and place of manufacture	
02	a)Type of Construction b)Type of Mounting c)Model	
03	a)Rated Voltage KV (rms) b)Reference voltage KV (rms)	
04	Maximum continuous Operating Voltage KV (rms)	
05	Nominal Discharge Current (8/20 microsecond wave) KA	
06	Min. Discharge capability	
07	Rated Frequency	
08	a) IR at MCOV b) IC at MCOV	
09	a) Reference current, mA b) Reference volt at reference current	
10	Max. residual voltage in KV (Peak) 8/20 microsecond wave a) at 5000 amps. b) at 10000 amps. c) at 20000 amps. d) Max. partial discharge (Pico coulombs)	
11	Max.Switching Impulse Residual Voltage (KVp)	
12	Max. Steep Current Impulse RDV (KVp)	
13	Impulse High Current short duration discharge Amps. (4/10 microsecond wave) KA	
14	T.O.V. (KVP) a) 0.1 second b) 1.0 second c) 10.0 second d) 100.0 second	

<b>Sl. No.</b>	<b>Description</b>	<b>'96 KV LIGHTNING ARRESTERS</b>
15	Insulation withstand a) Lightning IMP (Dry) (KVp) b) Power frequency with stand Voltage KV (rms) Dry/Wet c) Switching Impulse Wet (KVp)	
16	Pressure Relief Class	
17	PR Relief Class KA (RMS)	
18	Long Duration Current impulse Test a) Current Peak Amps. b) Virtual Duration Micro Sec.	
19	a) Leakage current at normal voltage b) Leakage current at max. operating voltage.	
20	Arrester percentage rating	
21	Dimensions of the arresters a) Max. Dia of Porcelain b) Max. Height of Porcelain	
22	a) Material of valve b) Details of sealing c) Description of Pressure Relief system d) No. of units per arrester	
23	Creepage distance mm	
24	Minimum clearance a) Between phases mm b) Between phase to earth	
25	Size of grounding terminal	
26	Size of the line terminal	
27	Diameter of the grading ring	
28	Min. space required for 3 phase installation	
29	Max. Cantilever Strength of the arrester KGM.	
30	Overall weight of one single phase stack (Approx.) Kgs.	
31	Weight of complete arrester (Approx.) Kgs.	
32	Nett weight of each arrester (Approx.) Kgs.	

# Unpriced BOQ :- Bidder has mark "Quoted" herewith

[Validate](#)
[Print](#)
[Help](#)
[See BoQ](#)

Tender Inviting Authority: BHEL/ TBG

Name of Item:- Supply of 96 kV Surge arrester for 110 kV Switchyard for (RMU) of TANGEDCO KODAYAR as per the tender document

Enquiry/NIT No: 34Q2300048 dated 23.05.2022

<b>PRICE SCHEDULE</b> (This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)														
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Unit RATE in Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) in Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) in Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
1	SUPPLY- SURGE ARRESTOR : 10KA NOMINAL DISCHARGE, 25MM/KV CREEPAGE, 96KV SINGLE PHASE, GAPLESS (ZNO) SURGE ARRESTER COMPLETE WITH ALL ACCESSORIES ( SURGE COUNTER/MONITOR, INSULATING BASE, LUGS, FIXING & EARTHING HARDWARE ETC) EXCEPT TERMINAL CONNECTOR AND INSULATED CONNECTING CABLE.	item1	9.00	NOS			0.00			0.00		0.000	0.000	INR Zero Only
2	SUPPLY- SURGE ARRESTOR : 96KV TERMINAL CONNECTOR SUITABLE FOR ACSR TWIN MOOSE	item2	9.00	NOS			0.00			0.00		0.000	0.000	INR Zero Only
3	SUPPLY- SURGE ARRESTOR : INSULATED COPPER CABLE CONNECTING SURGE ARRESTER TO SURGE COUNTER	item3	27.00	Meter			0.00			0.00		0.000	0.000	INR Zero Only
<b>Total in Figures</b>												0.000	0.000	Zero Only
<b>Quoted Rate in Words</b>												<b>INR Zero Only</b>		

Sl.	Name of the bank	
1	State Bank of India	
2	Canara Bank	
3	Axis Bank	
4	Bank of Baroda	
5	Central Bank	
6	Citi Bank N.A.	
7	Deutsche Bank **	
8	Exim Bank	
9	Federal Bank Limited	
10	HDFC Bank Limited	
11	Hongkong and Shanghai Banking Corporation Ltd	
12	Indian Bank	
13	ICICI Bank Limited	
14	IDBI Bank Limited	
15	IndusInd Bank Limited	
16	Indian Overseas Bank	
17	Kotak Mahindra Bank Limited	
18	Punjab National Bank	
19	RBL Bank Ltd.	
20	Standard Chartered Bank	
21	Union Bank of India	
22	Yes Bank Limited	
	TOTAL	

### **TECHNICAL QUALIFYING REQUIREMENT**

Bidder should be manufacturer of the offered Surge Arrester. Bidder needs to meets the following technical requirements for 96KV Surge Arrester as stipulated here under:

The manufacturer(s) whose Surge Arrester (s) are offered, must have, manufactured, type tested (as per IEC/IS or equivalent standard) and supplied 96kV or higher voltage class Surge Arrester as on the original date of technical bid opening of this tender.

#### **GENERAL POINTS (NOTES)**

- Consideration of offer shall be subject to customer approval of bidders, as applicable.

**Enquiry No: 34Q2300048 dated 23.05.2022**  
**Item: Supply of 96 kV Surge Arrester**  
**Project: 110 kV Switchyard for (RMU) of TANGEDCO KODAYAR**

**ACTIVITY SCHEDULE [ANNEXURE II]**

**IMMEDIATE** Delivery after approval of drawing and documents, however Break up of delivery period taken (Delay analysis for cases of delivery extension if required, shall be governed as per below schedule)

SL. NO.	ACTIVITY	ACTIVITY TIME IN WEEKS	CUMULATIVE TIME IN WEEKS FROM LOI/PO DATE	REMARKS IF ANY
1.	Submission of P.O Acceptance	01	01	
2.	Submission of documents necessary for getting manufacturing clearance like Drawings, data sheet etc.	02	03	
3.	Review and Approval of documents and issue of manufacturing clearance	03	06	
4.	Manufacturing Time	12	18	
5.	Inspection	02	20	
6.	Issue of MICC / MDCC	02	22	
7.	Dispatch	02	24	

Note :

- 1) Supplier must ensure the completeness and correctness of the requisite documents before submission for approval. Delay in approval on account of incomplete / inadequate information shall be the responsibility of supplier.
- 2) Inspection call should be given in the prescribed format only. Inspection calls not in the prescribed format shall not be entertained.
- 3) Qty to be offered for inspection should be in accordance within Delivery-schedule – lot. BHEL reserves the right not to entertain multiple inspection calls for a Delivery – lot and delay on this account shall be the responsibility of Supplier.
- 4) Supplier to ensure every revised submission incorporating comments within 1 week from the date of comments. In case there are delays in submission /resubmission of drawing /documents as per above schedule, that much days would be reduced from delivery period.
- 5) Supplier to furnish the advance information (at least 02 weeks) for inspection of the material after ensuring the readiness.

Signature & Seal of

Supplier

Date:

### Check List for Supply bills (ANNEXURE III)

Name Of the Project							
Package Description							
Invoice No. & Date							
PO No. & date							
Sr. No	Documents Required	Copies	Check Points	Page no.	Vendor Remarks (Y/N/NA)	Verification by MM (Y/N/NA)	Verification by Fin (Y/N/NA)
1	Original for Buyer Invoice - GST compliant invoice	1 Original+2 Copy	1. Please ensure GST complaint invoice in original 2. Consignee address : BHEL C/o followed by site address 3. Item description and unit of quantity are matched with PO 4. Buyer address and GSTN No as required ( TBG Noida or Nodal 5. PO No and date, LR No and date, Vehicle No and Project name are 6. Invoiced quantity are not more than th PO quantity and MICC 7. Ex works unit rate , Taxes and F&I rates are same as per PO 8. Signed and stamped by vendor				
2	Received LR (signed & stamped)/ confirmation from site regarding receipt of packages/ Boxes	1Original+2 Copy	1. Consignee address : BHEL C/o followed by Site address 2. In case of material purchased from sub vendor , Consignee address Vendor's name C/o BHEL C/o Site address 3. Vendor's Invoice no and Vehicle No are mentioned 4. No of boxes/No of packages are same as per Packing list 5. In case of and adverse remark on LR (Like shortages/damages/broken etc) , clarification from site/TBMM/TBCM is needed 6. LR is readable 7. In case of photo copy, LR is verified by TBMM 8. LR date is after the date of MICC/(MDCC if issued) or same date				
3	Packing List - showing number of packages, and gross weight/net Weight (if applicable)	1Original+2 Copy	1. PO No and date, LR No and date, Invoice No and date, Site Name and address, Consignor and consignee address are mentioned 2. Item description and quantity are matched with Invoice and PO 3. Signed and stamped by vendor 4. No of packages/ Item descriptions are matched with MRC and LR				
4	MICC from BHEL	1Original+2C opy	1. BHEL MICC has been issued prior to the date of dispatch or on same date 2. In case where MICC date is after the date of dispatch then MDCC date is same or prior to the date of dispatch 3. Project Name, PO, Po Date, Vendor's name and address is correct 4. Item description, Quantity and unit of quantity are same as per PO 5. All hold point in MICC , if any, have been resolved before submission of bill 6. Signed and stamped by BHEL Executive 7. MICC and MDCC quantity are not less than Invoice quantity and cover all invoiced items.				
5	Guarantee Certificate	1 Original+2 Copy	1. Project Name, PO No., Invoice No , LR No and date are mentioned 2. Guarantee Certificate is strictly matched with PO T&C 3. Signed and stamped by vendor				
6	Bank Guarantee	1 Copy	1. Ensure submission of BG directly from Bank before supply of material so that BG confirmation may be arranged before processing 2. Bill can be processed only after receipt of BG confirmation directly from bank 3. It should be in the name of BHEL , TBG Noida with registered office address Siri Fort, New Delhi 4. It should be in prescribed format. 5. BG value and validity plus claim period should be minimum as specified in PO / RC. Please check before supply , If BG extension is required please arrange the same 6. Vendor's name address should be same as per PO 7. Po No / RC No and date should be correct				
7	Insurance Certificate	1 Original+2 Copy	1. Invoice No and date, Vendor's Name,Place from Consignor to Consignee are mentioned 2. It has not been issued later than the LR date 3. Insured value is not less than the Invoice value 4. Signed and stamped by Insurance Company 5. In case of Open Insurance Policy, declaration has been submitted to Insurance Company as per declaration clause of Open policy and 6. In case of any discrepancy , consent of TBCM is required for processing the bill and amount will be deducted for invalid Insurance				
8	PVC (If applicable) Invoice is submitted along with the Despatch Invoice	1Original+2C opy	PVC (If applicable) Invoice is submitted along with the Despatch Invoice 1. PVC invoice is atatched along with supply Invoice 2. Calculation sheet and applicable PVC indices are also enclosed 3. If delay in delivery, then PVC indices are as per PO conditions.				
9	Material receipt Certificate		1. LR No and date, Invoice No and date, Vehicle No and date , Site Name an address are mentioned 2. Date of receipt of material 3. Item description and quantity are same as per Invoice / Packing List 4. It is signed and stamped by Site executive 5. In case of any shortages / damages / adverse remark , clarification is needed				
10	Other Documents		To be seen as per specific requirement of PO.				

**(A) CONCILIATION (MODEL CONCILIATION CLAUSE FOR CONDUCTING CONCILIATION PROCEEDINGS UNDER THE BHEL CONCILIATION SCHEME, 2018)**

The Parties agree that if at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with construction, meaning, operation, effect, interpretation or breach of the agreement, contract or the Memorandum of Understanding (whichever is inapplicable), which the Parties are unable to settle mutually), arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators.

**Notes:**

1. No serving or a retired employee of BHEL/Administrative Ministry of BHEL shall be included in the BHEL Panel of Conciliators.
2. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators.

The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in **Annexure-A to this GCC (Enclosed)**.

The Annexure-A together with its appendices will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in these GCC.”

**(B) ARBITRATION (WITH SOLE ARBITRATOR)**

- 1.1. Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the Parties, in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, then, either Party may, by a notice in writing to the other Party refer such dispute or difference to the Sole Arbitrator and such Arbitrator appointed by Head of the BHEL Unit/Region/Division issuing the Contract.
- 1.2. The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the Parties.
- 1.3. Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) and amended in 2015 and further amendment passed in 2019 or statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall

be New Delhi. The language of arbitration shall be English and the documents shall be submitted in English.

- 1.4. The cost of arbitration shall initially be borne equally by the Parties subject to the final apportionment of the cost of the arbitration in the award of the Arbitrator.
- 1.5. Notwithstanding the existence or any dispute or differences and/or reference for the arbitration, the Contractor shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional manner except where the Contract has been terminated by either Party in terms of this Contract.

1.6. **SETTLEMENT OF COMMERCIAL DISPUTES BETWEEN CPSES INTER SE AND CPSE(S) AND GOVERNMENT DEPARTMENT(S)/ ORGANISATION(S) – ADMINISTRATIVE MECHANISM FOR RESOLUTION OF CPSES DISPUTES (AMRCD) – REGARDING**

Vide Dept. of Public Enterprises OM No. F. No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22.05.2018 it has been conveyed that *"To make the mechanism more effective and binding on the disputing parties, a new mechanism namely Administrative Mechanism for resolution of CPSEs Disputes (AMRCD) having two level (tier) structure has been evolved in consultation with various stakeholders to replace the existing PMA mechanism which stands wound up from the date of issue of this OM."* Accordingly, the existing Permanent Machinery of Arbitration (PMA) stands wound up with effect from 22.05.2018 and cases relating to disputes or differences relating to the interpretation and application of the provisions of commercial contract(s) between CPSEs / Port Trust / Central or State Government Department / Organisations (excluding disputes concerning Railways, Income Tax, Customs and Excise Departments) shall be taken up by either party for its resolution through Administrative Mechanism for Resolution of CPSEs Disputes (AMRCD).

**(C) JURISDICTION AND GOVERNING LAWS**

The Courts at New Delhi shall have exclusive jurisdiction over any matter arising out of or in connection with this Contract. This Contract shall be construed as per and be governed by the Laws of India.

**ANNEXURE TO MODEL CONCILIATION CLAUSE FOR CONDUCT OF CONCILIATION UNDER THE BHEL CONCILIATION SCHEME, 2018**

**BRIEF PROCEDURE FOR CONDUCT OF CONCILIATION PROCEEDINGS**

1. The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided herein:
2. The party desirous of resorting to Conciliation shall send an invitation/notice in writing to the other party to conciliate specifying all points of Disputes with details of the amount claimed. The party concerned shall not raise any new issue thereafter. Parties shall also not claim any interest on claims/counter-claims from the date of notice invoking Conciliation till the conclusion of the Conciliation proceedings.
3. The party receiving the invitation/notice for Conciliation shall within 30 days of receipt of the notice of Conciliation intimate its consent for Conciliation along with its counter-claims, if any.
4. The Conciliation in a matter involving claim or counter-claim (whichever is higher) up to Rs 5 crores shall be carried out by sole Conciliator nominated by BHEL while in a matter involving claim or counter-claim (whichever is higher) of more than Rs 5 crores Conciliation shall be carried out by 3 Conciliators nominated by BHEL.
5. The Parties shall be represented by only their duly authorized in-house executives/officers and neither Party shall be represented by a Lawyer.
6. The first meeting of the IEC shall be convened by the IEC by sending appropriate communication/notice to both the parties as soon as possible but not later than 30 days from the date of his/their appointment. The hearings in the Conciliation proceeding shall ordinarily be concluded within two (2) months and, in exceptional cases where parties have expressed willingness to settle the matter or there exists possibility of settlement in the matter, the proceedings may be extended by the IEC by a maximum of further 2 months with the consent of the Parties subject to cogent reasons being recorded in writing.
7. The IEC shall thereafter formulate recommendations for settlement of the Disputes supported by reasons at the earliest but in any case within

15 days from the date of conclusion of the last hearing. The recommendations so formulated along with the reasons shall be furnished by the IEC to both the Parties at the earliest but in any case within 1 month from the date of conclusion of the last hearing.

8. Response/modifications/suggestions of the Parties on the recommendations of the IEC are to be submitted to the IEC within time limit stipulated by the IEC but not more than 15 days from the date of receipt of the recommendations from the IEC.
9. In the event, upon consideration, further review of the recommendations is considered necessary, whether by BHEL or by the other Party, then, the matter can be remitted back to the IEC with request to reconsider the same in light of the issues projected by either/both the Parties and to submit its recommendations thereon within the following 15 days from the date of remitting of the case by either of the Parties.
10. Upon the recommendations by the Parties, with or without modifications, as considered necessary, the IEC shall be called upon to draw up the Draft Settlement Agreement in terms of the recommendations.
11. When a consensus can be arrived at between the parties only in regard to any one or some of the issues referred for Conciliation the draft Settlement Agreement shall be accordingly formulated in regard to the said Issue(s), and the said Settlement Agreement, if signed, by the parties, shall be valid only for the said issues. As regards the balance issues not settled, the parties may seek to resolve them further as per terms and conditions provided in the contract.
12. In case no settlement can be reached between the parties, the IEC shall by a written declaration, pronounce that the Conciliation between the parties has failed and is accordingly terminated.
13. Unless the Conciliation proceedings are terminated in terms of para 22 (b), (c) & (d) herein below, the IEC shall forward his/its recommendations as to possible terms of settlement within one (1) month from the date of last hearing. The date of first hearing of Conciliation shall be the starting date for calculating the period of 2 months.

14. In case of 3 members IEC, 2 members of IEC present will constitute a valid quorum for IEC and meeting can take place to proceed in the matter after seeking consent from the member who is not available. If necessary, videoconferencing may be arranged for facilitating participation of the members. However, the IEC recommendations will be signed by all members. Where there is more than one (1) Conciliator, as a general rule they shall act jointly. In the event of differences between the Members of IEC, the decision/recommendations of the majority of the Members of IEC shall prevail and be construed as the recommendation of the IEC.
15. The Draft Settlement Agreement prepared by the IEC in terms of the consensus arrived at during the Conciliation proceedings between the Parties shall be given by the IEC to both the parties for putting up for approval of their respective Competent Authority.
16. Before submitting the draft settlement agreement to BHEL's Competent Authority viz. the Board Level Committee on Alternative Dispute Resolution (BLCADR) for approval, concurrence of the other party's Competent Authority to the draft settlement agreement shall be obtained by the other party and informed to BHEL within 15 days of receipt of the final draft settlement agreement by it. Upon approval by the Competent Authority, the Settlement Agreement would thereafter be signed by the authorized representatives of both the Parties and authenticated by the members of the IEC.
17. In case the Draft Settlement Agreement is rejected by the Competent Authority of BHEL or the other Party, the Conciliation proceedings would stand terminated.
18. A Settlement Agreement shall contain a statement to the effect that each of the person(s) signing thereto (i) is fully authorized by the respective Party(ies) he/she represents, (ii) has fully understood the contents of the same and (iii) is signing on the same out of complete freewill and consent, without any pressure, undue influence.
19. The Settlement Agreement shall thereafter have the same legal status and effect as an arbitration award on agreed terms on the substance of the dispute rendered by an arbitral tribunal passed under section 30 of the Arbitration and Conciliation Act, 1996.
20. Acceptance of the Draft Settlement Agreement/recommendations of the Conciliator and/or signing of the Settlement Agreement by BHEL shall

however, be subject to withdrawal/closure of any arbitral and/or judicial proceedings initiated by the concerned Party in regard to such settled issues.

21. Unless otherwise provided for in the agreement, contract or the Memorandum of Understanding, as the case may be, in the event of likelihood of prolonged absence of the Conciliator or any member of IEC, for any reason/incapacity, the Competent Authority/Head of Unit/Division/Region/Business Group of BHEL may substitute the Conciliator or such member at any stage of the proceedings. Upon appointment of the substitute Conciliator(s), such reconstituted IEC may, with the consent of the Parties, proceed with further Conciliation into the matter either de-novo or from the stage already reached by the previous IEC before the substitution.

22. The proceedings of Conciliation under this Scheme may be terminated as follows:

- a. On the date of signing of the Settlement agreement by the Parties; or,
- b. By a written declaration of the IEC, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified, on the date of the declaration; or,
- c. By a written declaration of the Parties addressed to the IEC to the effect that the Conciliation proceedings are terminated, on the date of the declaration; or,
- d. By a written declaration of a Party to the other Party and the IEC, if appointed, to the effect that the Conciliation proceedings are terminated, on the date of the declaration.
- e. On rejection of the Draft Settlement Agreement by the Competent Authority of BHEL or the other Party.

23. The Conciliator(s) shall be entitled to following fees and facilities:

<b>Sl No</b>	<b>Particulars</b>	<b>Amount</b>
1	Sitting fees	Each Member shall be paid a Lump Sum fee of Rs 75,000/- for the whole case payable in terms of paragraph No. 27 herein below.
2	Towards drafting of settlement agreement	In cases involving claim and/or counter-claim of up to Rs 5crores. Rs 50,000/- (Sole Conciliator)

Sl No	Particulars	Amount
		<p>In cases involving claim and/or counter-claim of exceeding Rs 5 crores but less than Rs 10 crores. Rs 75,000 (per Conciliator)</p> <p>In cases involving claim and/or counter-claim of more than Rs 10 crores. Rs 1,00,000/- (per Conciliator)</p> <p>Note: The aforesaid fees for the drafting of the Settlement Agreement shall be paid on Signing of the Settlement Agreement after approval of the Competent Authority or Rejection of the proposed Settlement Agreement by the Competent Authority of BHEL.</p>
3	Secretarial expenses	<p>Rs 10,000/- (one time) for the whole case for Conciliation by a Sole Member IEC.</p> <p>Where Conciliation is by multi member Conciliators –Rs 30,000/- (one time)- to be paid to the IEC</p>
4	<p>Travel and transportation and stay at outstation</p> <p>i) Retired Senior Officials of other Public Sector Undertakings (pay scale wise equivalent to or more than E-8 level of BHEL)</p>	<p>As per entitlement of the equivalent officer (pay scale wise) in BHEL.</p>
	Others	<p>As per the extant entitlement of whole time Functional Directors in BHEL.</p>

Sl No	Particulars	Amount
		Ordinarily, the IEC Member(s) would be entitled to travel by air Economy Class.
5	Venue for meeting	Unless otherwise agreed in the agreement, contract or the Memorandum of Understanding, as the case may be, the venue/seat of proceedings shall be the location of the concerned Unit / Division / Region / Business Group of BHEL. Without prejudice to the seat/venue of the Conciliation being at the location of concerned BHEL Unit / Division / Region / Business Group, the IEC after consulting the Parties may decide to hold the proceedings at any other place/venue to facilitate the proceedings. Unless, Parties agree to conduct Conciliation at BHEL premises, the venue is to be arranged by either Party alternately.

24. The parties will bear their own costs including cost of presenting their cases/evidence/witness(es)/expert(s) on their behalf. The parties agree to rely upon documentary evidence in support of their claims and not to bring any oral evidence in IEC proceedings.
25. If any witness(es) or expert(s) is/are, with the consent of the parties, called upon to appear at the instance of the IEC in connection with the matter, then, the costs towards such witness(es)/expert(s) shall be determined by the IEC with the consent of the Parties and the cost so determined shall be borne equally by the Parties.
26. The other expenditures/costs in connection with the Conciliation proceedings as well as the IEC's fees and expenses shall be shared by the Parties equally.
27. Out of the lump sum fees of Rs 75,000/- for Sitting Fees, 50% shall be payable after the first meeting of the IEC and the remaining 50% of the Sitting Fees shall be payable only after termination of the conciliation proceedings in terms of para 22 hereinabove.

28. The travelling, transportation and stay at outstation shall be arranged by concerned Unit as per entitlements as per Serial No. 3 of the Table at para 23 above, and in case such arrangements are not made by the BHEL Unit, the same shall be reimbursed to the IEC on actuals limited to their entitlement as per Serial No. 4 of the Table at Para 23 above against supporting documents. The IEC Member(s) shall submit necessary invoice for claiming the fees/reimbursements.
29. The Parties shall keep confidential all matters relating to the conciliation proceedings. Confidentiality shall extend also to the settlement agreement, except where its disclosure is necessary for purposes of its implementation and enforcement or as required by or under a law or as per directions of a Court/Governmental authority/regulatory body, as the case may be.
30. The Parties shall not rely upon or introduce as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the Disputes that is the subject of the Conciliation proceedings:
  - a. Views expressed or suggestions made by the other party in respect of a possible settlement of the Disputes;
  - b. admissions made by the other party in the course of the Conciliator proceedings;
  - c. proposals made by the Conciliator;
  - d. The fact that the other Party had indicated his willingness to accept a proposal for settlement made by the Conciliator.
31. The Parties shall not present the Conciliator(s) as witness in any Alternative Dispute Resolution or Judicial proceedings in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
32. None of the Conciliators shall act as an arbitrator or as a representative or counsel of a Party in any arbitral or judicial proceeding in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
33. The Parties shall not initiate, during the Conciliation proceedings, any arbitral or judicial proceedings in respect of a Disputes that is the subject matter of the Conciliation proceedings except that a Party may initiate arbitral or judicial proceedings where, in his opinion, such proceedings are necessary for preserving his rights including for preventing expiry of period of limitation. Unless terminated as per the provisions of this Scheme, the Conciliation proceedings shall continue

notwithstanding the commencement of the arbitral or judicial proceedings and the arbitral or judicial proceedings shall be primarily for the purpose of preserving rights including preventing expiry of period of limitation.

34. The official language of Conciliation proceedings under this Scheme shall be English unless the Parties agree to some other language.

**Format 2 to BHEL Conciliation Scheme, 2018**

**FORMAT FOR SEEKING CONSENT FOR REFERRING THE DISPUTES TO  
CONCILIATION THROUGH IEC**

To,

M/s. (Stakeholder's name)

**Sub: Resolution of the Disputes through conciliation by Independent  
Expert Committee (IEC).**

Ref: Contract No/MoU/Agreement/LOI/LOA& date \_\_\_\_\_.

Sir,

With reference to above referred Contract/MoU/Agreement/LOI/LOA, you have raised certain Disputes/claims. Vide your letter dated\_\_\_\_\_ you have requested BHEL to refer the Disputes/claims to IEC for Conciliation.

We are enclosing herewith Format (3) for giving consent and the terms and conditions of BHEL Conciliation Scheme, 2018 governing conciliation through IEC. You are requested to give your unconditional consent to the said terms and conditions of the Scheme by returning the same duly sealed and signed on each page. On receipt of your consent, matter will be put to the Competent Authority for consideration and decision.

Please note that BHEL has also certain claims against you (if applicable). BHEL reserves its right to agree or not to agree conciliation of the said disputes through BHEL and this letter is being issued without prejudice to BHEL's rights and contentions available under the contract and law.

Yours faithfully,

**Representative of BHEL**

**Format 3 to BHEL Conciliation Scheme, 2018**  
**FORMAT FOR GIVING CONSENT BY**  
**CONTRACTOR/VENDOR/CUSTOMER/COLLABORATOR/CONSORTIUM PARTNERS FOR REFERRING THE DISPUTES TO CONCILIATION THROUGH IEC**

To,

BHEL

.....

**Sub: Resolution of Disputes through Conciliation by Independent Expert Committee (IEC).**

Ref: Contract/MoU/Agreement/LOI/LOA No & date\_\_\_\_

With reference to above referred contract, our following bills/invoices/claims submitted to BHEL are still unpaid giving rise to Disputes:

SL. no.	Claim Description	Bill submitted to BHEL (no. and date)	Amount of the bill/claim	Amount received from BHEL	Outstanding Amount

Accordingly we request you to kindly refer the Disputes in respect of above claims to IEC for Conciliation.

We hereby agree and give our unconditional consent to the terms and conditions of BHEL Conciliation Scheme, 2018 governing conciliation through IEC. We have signed the same on each page and enclosed it for your consideration.

Yours faithfully,

**(Signature with stamp)**

**Authorized Representative of Contractor**

**Name, with designation**

**Date**

**Format 5 to BHEL Conciliation Scheme, 2018**  
**STATEMENT OF CLAIMS/COUNTER CLAIMS TO BE SUBMITTED TO**  
**THE IEC BY BOTH THE PARTIES**

1. Chronology of the Disputes
2. Brief of the Contract/MoU/Agreement/LOI/LOA
3. Brief history of the Disputes:
4. Issues:
5. Details of Clam(s)/Counter Claim(s):

<b>SI. No.</b>	<b>Description of claim(s)/Counter Claim</b>	<b>Amount (in INR)Or currency applicable in the contract</b>	<b>Relevant contract clause</b>

6. Basis/Ground of claim(s)/counter claim(s) (along with relevant clause of contract)

**Note**– *The Statement of Claims/Counter Claims may ideally be restricted to maximum limit of 20 pages. Relevant documents may be compiled and submitted along with the statement of Claims/Counter Claims. The statement of Claims/Counter Claims is to be submitted to all IEC members and to the other party by post as well as by email.*

**Annexure-V**

Item/Package Name :	96 kV Surge Arrester
Enquiry No.:	34Q2300048 dated 23.05.2022
Project:	Renovation, Modernisation and Uprating (RMU) of Kodayar Power House-I from 1x60MW to 1x70MW.
Type of project	110 kV Switchyard for (RMU) of TANGEDCO KODAYAR
Percentage of Local Content	<b>(Bidder to enter the applicable % of local content)</b>

**Self-certification to be submitted in INR 100/- non judicial stamp paper**

Format of Self certification regarding Local Content in line with PPP-MII order, order ref no.:- A-1/2021-FSC-Part (5) dated 16.11.2021 issued by Govt of India, Ministry of Power)

Date:    /    /

I \_\_\_\_\_ S/o, D/o, W/o, \_\_\_\_\_ Resident of \_\_\_\_\_ hereby solemnly affirm and declare as under:

That I will agree to abide by the terms and conditions of the Public Procurement (Preference to Make in India) Order, 2017 (*hereinafter PPP-MII order*) of Government of India issued vide Notification No: P-45021/2/2017-BE-II dated 15/06/2017, its revision dated 04/06/2020 and any subsequent modifications/Amendments, if any.

That the information furnished hereinafter is correct to the best of my knowledge and belief and I undertake to produce relevant records before the procuring entity/**BHEL** or any other Government authority for the purpose of assessing the local content of goods/services/works supplied by me for ..... **(Enter the name of the Equipment/Item for Project)**.

That the local content for all inputs which constitute the said goods/services/works has been verified by me and I am responsible for the correctness of the claims made therein.

That the goods/services/works supplied by me for ..... **(Enter the name of the Equipment/Item for Project)** **contains.....%** **(mention the Local content in %age)** Local Content.

That the value addition for the purpose of meeting the 'Minimum Local Content' has been made by me at ..... **(Enter the details of the location(s) at which value addition is made)**.

That in the event of the local content of the goods/services/works mentioned herein is found to be incorrect and not meeting the prescribed supplier class categorization criteria as per said order, based on the assessment of procuring agency (ies)/**BHEL**/Government Authorities for the purpose of assessing the local content, action shall be taken against me in line with the PPP-MII order and provisions of the Integrity pact/ Bidding Documents.

I agree to maintain the following information in the Company's record for a period of 8 years and shall make this available for verification to any statutory authority.

- i Name and details of the Local Supplier  
(Registered Office, Manufacturing unit location, nature of legal entity)

**Annexure-V**

Item/Package Name :	96 kV Surge Arrester
Enquiry No.:	34Q2300048 dated 23.05.2022
Project:	Renovation, Modernisation and Uprating (RMU) of Kodayar Power House-I from 1x60MW to 1x70MW.
Type of project	110 kV Switchyard for (RMU) of TANGEDCO KODAYAR
Percentage of Local Content	<b>(Bidder to enter the applicable % of local content)</b>

**Self-certification to be submitted in INR 100/- non judicial stamp paper**

- ii. Date on which this certificate is issued
  
- iii. Goods/ services/ works for which the certificate is produced
- iv. Procuring entity to whom the certificate is furnished
- v. Percentage of local content claimed and whether it meets the Minimum Local Content prescribed
- vi. Name and contact details of the unit of the Local Supplier (s)
- vii. Sale Price of the product
- viii Ex-Factory Price of the product
- ix. Freight, insurance and handling
- x. Total Bill of Material
- xi List and total cost value of input used to manufacture the Goods/ to provide services/ in construction of works
- xii. List and total cost of input which are domestically sourced. Value addition certificates from suppliers, if the input is not in-house to be attached
- xiii. List and cost of inputs which are imported, directly or indirectly

For and on behalf of..... (Name of firm/entity)

**Authorized signatory (To be duly authorized by the Board of Directors)**

<Insert Name, Designation and Contact No.>

**Clause regarding regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017 as per Government of India order OM No.6/18/2019-PPD dated 23.07.2020**

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not failing in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Order means:
  - a. An entity Incorporated, established or registered in such a country; or
  - b. A subsidiary of an entity Incorporated, established or registered in such a country; or
  - c. An entity substantially controlled through entitles incorporated, established or registered in such a country; or
  - d. An entity whose *beneficial owner* is situated in such a country, or
  - e. An Indian (or other) agent of such an entity; or
  - f. A natural person who is a citizen of such a country; or
  - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The *beneficial owner* for the purpose of (iii) above will be as under:
  1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.  
Explanation-
    - a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company;
    - b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholder's agreements or voting agreements;
  2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
  3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of Individuals;
  4. Where no natural person is Identified under (1) or (2) or (3) above the beneficial owner is the relevant natural person who holds the position of senior managing official;
  5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- V. An Agent is a person employed to do any act for another or to represent another in dealings with third person.

**Clause regarding regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017 as per Government of India order OM No.6/18/2019-PPD dated 23.07.2020**

VI. The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

*\* The above clause is not applicable to the bidders from those countries (even if sharing a land border with India) to which the GoI has extended lines of credit or in which the GoI is engaged in development projects.*

\* List of countries to which lines of credit have been extended or in which development projects are undertaken are available on the Ministry of External affairs website (<https://www.mea.gov.in/>)

**Compliance to be submitted in INR 100/- non judicial stamp paper**

**Sub: Compliance to Government of India order OM No.6/18/2019-PPD dated 23.07.2020 regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017**

<b>Sl No.</b>	<b>Description</b>	<b>Bidder's confirmation</b>
1	<i>We, M/s _____ have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; We hereby certify that we are not from such a country.</i>	<i>Agreed</i>

(Note: Non-compliance of above said GoI Order and its subsequent amendment, (if any), by any bidder(s) shall lead for commercial rejection of their bids by BHEL)

**Bidder's authorized signatory with stamp & seal**

**Compliance to be submitted in INR 100/- non judicial stamp paper**

**Sub: Compliance to Government of India order OM No.6/18/2019-PPD dated 23.07.2020 regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017**

SI No.	Description	Bidder's confirmation
1	<p><i>We, M/s_____ have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. We are from such a country which shares a land border with India &amp; have been registered with the Competent Authority as specified in above said order. We hereby certify that we fulfil all requirements in this regard and are eligible to be considered.</i></p> <p><b><i>Evidence of valid registration by the Competent Authority is attached.</i></b></p>	<p align="center"><i>Agreed</i></p>

(Note: Non-compliance of above said GoI Order and its subsequent amendment, (if any), by any bidder(s) shall lead for commercial rejection of their bids by BHEL)

**Bidder's authorized signatory with stamp & seal**

No.25-111612018-PG  
Government of India  
Ministry of Power  
Shram Shakti Bhawan, Rafi Marg, New Delhi • — 110001  
Tele Fax: 011-23730264

Dated 02/07/2020

ORDER

Power Supply System is a sensitive and critical infrastructure that supports not only our national defence, vital emergency services including health, disaster response, critical national infrastructure including classified data & communication services, defence installations and manufacturing establishments, logistics services but also the entire economy and the day-to-day life of the citizens of the country. Any danger or threat to Power Supply System can have catastrophic effects and has the potential to cripple the entire country. Therefore, the Power Sector is a strategic and critical sector.

The vulnerabilities in the Power Supply System & Network mainly arise out of the possibilities of cyber attacks through malware / Trojans etc. embedded in imported equipment. Hence, to protect the security, integrity and reliability of the strategically important and critical Power Supply System & Network in the country, the following directions are hereby issued:-

1. All equipment, components, and parts imported for use in the Power Supply System and Network shall be tested in the country to check for any kind of embedded malware/trojans/cyber threat and for adherence to Indian Standards.
2. All such testings shall be done in certified laboratories that will be designated by the Ministry of Power (MOP).
3. Any import of equipment/components/parts from "prior reference" countries as specified or by persons owned by, controlled by, or subject to the jurisdiction or the directions of these "prior reference" countries will require prior permission of the Government of India
4. Where the equipment/components/parts are imported from "prior reference" countries, with special permission, the protocol for testing in certified and designated laboratories shall be approved by the Ministry of Power (MOP).

This order shall apply to any item imported for end use or to be used as a component, or as a part in manufacturing, assembling of any equipment or to be used in power supply system or any activity directly or indirectly related to power supply system.

This issues with the approval of Hon'ble Minister of State for Power and New & Renewable Energy (Independent Charge).



(Goutam Ghosh)

Director Tel: 011-23716674 To:

1. All Ministries/Departments of Government of India (As per list)
2. Secretary (Coordination), Cabinet Secretariat
3. Vice Chairman, NITI Aayog

सेवा भवन, आर. के. पुरम-I, नई दिल्ली-110066 टेली: 011-26732257 ईमेल: ce-rndcea@nic.in वेबसाइट:  
[www.cea.nic.in](http://www.cea.nic.in)

Sewa Bhawan, R.K Puram-I, New Delhi-110066 Tele: 011-26732257 Email: ce-rndcea@nic.in Website: [www.cea.nic.in](http://www.cea.nic.in)

**Vendor Compliance format in bidder letter head**

In view of order No. 25-111612018-PG, Dated 02.07.2020 of Ministry of Power, GOI

**Enquiry No/ PO No & Date** : 34Q2300048 dated 23.05.2022  
**Project** : TANGEDCO Kodayar  
**Name of items/Package** : 96 kV Surge Arrester

This is to certify that all equipment, components, and parts imported for use in the Power Supply System and Network are in strict compliance to directions issued by Ministry of Power, Govt. of India vide order No. 25-111612018-PG dated 02.07.2020. The imported component(s), part or assembly item(s) does not carry any malware/Trojan etc.

**Note: Non-compliance of MoP Order and its subsequent amendment(s), (if any), by vendor shall lead to rejection of their offer or cancellation of contract, which is awarded by BHEL.**

**Bidder's authorized signatory  
with stamp & seal**

**RISK PURCHASE**

- 1.1.** In case the Supplier / Contractor fails to supply or fails to comply with terms & conditions of the Purchase Order / Contract or delivers equipment / material not of the contracted quality or fails to adhere to the contract specifications or fails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery / completion period to justify that supplies shall be inordinately delayed beyond contractual delivery / completion period, BHEL reserve the right to cancel the Purchase Order / Contract either in whole or in part thereof without compensation to Supplier / Contractor and if BHEL so desires, may procure such equipment / material / items not delivered or others of similar description where equipment / material / items exactly complying with particulars are not readily procurable in the opinion of BHEL which is final and in such manner as deemed appropriate, at the risk and cost of the Supplier / Contractor and the Supplier / Contractor shall be liable to BHEL for any excess cost to BHEL. However, the Supplier / Contractor shall continue execution of the Purchase Order / Contract to the extent not cancelled under the provisions of this clause.
- 1.2.** Risk & Cost Clause, in line with Conditions of Contract may be invoked in any of the following cases:
- i) Contractor/ supplier's poor progress of the work vis-à-vis execution timeline as stipulated in the Contract, backlog attributable to contractor/ supplier including unexecuted portion of work/ supply does not appear to be executable within balance available period considering its performance of execution.
  - ii) Withdrawal from or abandonment of the work by contractor/supplier before completion as per contract.
  - iii) Non completion of work/ Non-supply by the Contractor/ supplier within scheduled completion/delivery period as per Contract or as extended from time to time, for the reasons attributable to the contractor/ supplier.
  - iv) Termination of Contract on account of any other reason(s) attributable to Contractor/ Supplier.
  - v) Assignment, transfer, subletting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
  - vi) Non-compliance to any contractual condition or any other default attributable to Contractor/ Supplier.
- 1.3. Risk and Cost amount against Balance Work:**  
In case Risk & Cost is invoked, the amount of Risk & Cost against balance work shall be calculated as under:

$$\text{Risk \& Cost Amount (A-B) (A x H/100)}$$

Where,

**A=** Value of Balance scope of Work/ Supply (\*) as per rates of new contract

**B=** Value of Balance scope of Works/ Supply (\*) as per rates of old contract being paid to the contractor/ supplier at the time of termination of contract i.e. inclusive of PVC & ORC, if any.

**H =** Overhead Factor to be taken as 5 (five)

**In case (A-B) is less than 0 ( ero), value of (A-B) shall be taken as 0 ( ero).**

**(Balance scope of work/ supply)**

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work / Supply for calculating risk & cost amount.

Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.

Substitute/ extra items whose rates have already been approved would form part of contract quantities for this purpose. Substitute/ extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions.

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

**NOTE: Incase portion of work is being withdrawn, contract quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work/supply' for calculating Risk & Cost amount.**

#### 1.4. LD against delay in executed work/supply in case of Termination of Contract

LD against delay in executed Work /Supply shall be calculated in line with LD clause of the contract for the delay attributable to contractor/ supplier. For this purpose, contract value shall be taken as Executed Value of work/supply for the purpose of limiting maximum LD value.

Method for calculation of “LD against delay in executed Work/ supply” is given below:

- i) Let the time period from scheduled date of start of work till termination of contract excluding the period of Hold (if any) not attributable to contractor/ supplier= T1
- ii) Let the value of executed work/ supply till the time of termination of contract= X
- iii) Let the Total Executable Value of work/ supply for which inputs/fronts were made available to contractor/ supplier and were planned for execution till termination of contract = Y
- iv) Delay in executed work/ supply attributable to contractor/supplier i.e.  $T2 = (1 - \frac{X}{Y}) \times T1$
- v) LD shall be calculated in line with LD clause of the Contract for the delay attributable to contractor/ supplier taking “X” as Contract Value and “T2” as delay attributable to contractor/ supplier.

**Note: In case portion of service/ supply is withdrawn, no LD shall be applicable for portion of service/ supply withdrawn.**

#### 1.5. Recovery from Supplier

Recoveries from contractor/ supplier on whom risk & cost has been invoked shall be as per Clause No. 23 of GTC.

## SCHEDULE OF TECHNICAL DEVIATION

TENDER ENQUIRY NO. 34Q2300048 dated 23.05.2022

Item Name: - 96 kV Surge Arrester

Project Name: - 110 kV Switchyard for (RMU) of TANGEDCO KODAYAR

The following are the deviations/ variations exception from the Technical Specifications:

SL.NO.	CLAUSE NO. OF GENERAL TERMS AND CONDITIONS	STATEMENT OF DEVIATION

In case, this schedule is not submitted, it will be presumed that the equipment /material to be supplied under this contract is deemed to be in compliance with the Technical Specifications,

If there is NIL deviation,even then the format to be filled as NIL DEVIATION.

**Note :** Continuation Sheets of like size and format may be used as per the Bidder's Requirement and shall be annexed to this schedule.

**All deviations must be mentioned in this format only. Deviation(s) to terms mentioned else where will not be considered.**

Place:

Date :

Signature of the authorised representative of

Bidder's name :

Designation:

Company Seal:

## SCHEDULE OF COMMERCIAL DEVIATION

TENDER ENQUIRY NO. 34Q2300048 dated 23.05.2022

Item Name: - 96 kV Surge Arrester

Project Name: - 110 kV Switchyard for (RMU) of TANGEDCO KODAYAR

The following are the deviations/ variations exception from the General Terms and Conditions:

SL.NO.	CLAUSE NO. OF GENERAL TERMS AND CONDITIONS	STATEMENT OF DEVIATION

In case, this schedule is not submitted, it will be presumed that the equipment /material to be supplied under this contract is deemed to be in compliance with the General Terms and Conditions.

If there is NIL deviation,even then the format to be filled as NIL DEVIATION.

**Note :** Continuation Sheets of like size and format may be used as per the Bidder's Requirement and shall be annexed to this schedule.

**All deviations must be mentioned in this format only. Deviation(s) to terms mentioned else where will not be considered.**

Place:

Date :

Signature of the authorised representative of

Bidder's name :

Designation:

Company Seal:

..