



**NOTICE INVITING TENDER**  
**ODISHA POWER TRANSMISSION CORPORATION LTD.**  
**REGD. OFFICE: JANPATH, BHUBANESWAR - 751 022,**  
**ODISHA, INDIA.**

**TENDER NOTICE NO- 60/2014-15**

For and on behalf of the Odisha Power Transmission Corporation Limited, the undersigned invites bids from manufacturers under two-part bidding system in e-Tender mode only for supply of items as per the following details.

<i>Sl. No</i>	<i>Tender Specification No.</i>	<i>Description of equipments/materials</i>	<i>Qty in Nos:</i>	<i>Earnest Money Deposit (In lacs.)</i>	<i>Cost of Tender Spec. document (in Rs.)</i>	<i>Last date of receipt &amp; opening of tender</i>
1.	Sr.GM-CPC-Tender- SA-60/2014-15	LOT I- 400KV S. A LOT II- 220KV S. A LOT III-132KV S. A LOT IV- 33KV S. A	17 224 506 623	16,500/- 8,96,500/- 1.35,500/- 53,500/-	10,000/- + 5 % VAT (Rs.10,500/-	26.11.2014 (12.30 Hrs) & 26.11.2014 (15.00 Hrs)

The bidders can view the tender documents from Tender Portal free of cost.

The bidders who want to submit bids shall have to pay non-refundable amount of Rs. 10,500/- (Rupees Ten thousand five hundred) only including VAT @ 5%) towards the tender cost, in the form of Demand draft/Pay order/Cash only, drawn in favour of the D.D.O Head Qrs, OPTCL, Bhubaneswar.

The bidders shall have to submit non-refundable amount of Rs.5, 618/- (Rupees Five thousand six hundred eighteen) only including Service Tax @ 12.36%) towards the tender processing fee to K.S.E.D.C.Ltd, in e-payment mode. The e-payment of above amount is to be made to enable the bidder to down load the bid proposal sheets & bid document in electronic mode.

The demand draft/pay order for tender cost , processing fee are to be submitted along with the EMD at the office of the undersigned on or before the last date & time of submission of tender.

The bidder shall deposit the tender cost, tender processing fee & EMD BG prior to last date & time for submission of bid as notified in tender notice. Local micro & small enterprisers (MSEs) register with respective DICs, Khadi, Village, Cottage & Handicrafts Industries, OSIC and NSIC can participate without payment of the cost of tender specification. They have to submit

notarized hard copy of valid registration as local MSE as above on or before the date & time of opening of techno-commercial bid.

The prospective bidders are advised to register their user ID, Password, company ID from website [www.tenderwizard.com/OPTCL](http://www.tenderwizard.com/OPTCL) by clicking on hyper link "Register Me".

Any clarifications regarding the scope of work and technical features of the tender can be had from the undersigned during office hours.

***Minimum qualification criteria of bidders: AS STIPULATED IN SECTION-II, (G.T.C.C) OF THE TENDER SPECIFICATION.***

**SENIOR GENERAL MANAGER,  
CENTRAL PROCUREMENT CELL**



FAX NO.: 0674 - 2542964  
TELEPHONE NO.: 0674 - 2541801

**ODISHA POWER TRANSMISSION CORPORATION LTD.  
CENTRAL PROCUREMENT CELL**

**JANAPATH, BHUBANESWAR - 751022**

**TENDER SPECIFICATION NO. Sr.G.M.-CPC -TENDER-SA-60/2014-15**

**CONTAINING**

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- SECTION - I : INSTRUCTION TO TENDERERS**
- SECTION - II : GENERAL TERMS AND CONDITIONS OF CONTRACT (G.T.C.C.) (COMMERCIAL)**
- SECTION - III : LIST OF ANNEXURES (COMMERCIAL)**
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# COMMERCIAL SPECIFICATION

## PART - I

### SECTION - I

#### INSTRUCTIONS TO TENDERER

##### **1. Submission of Bids:-**

The bidder shall submit the bid in Electronic Mode only i.e [www.tenderwizard.com/OPTCL](http://www.tenderwizard.com/OPTCL). The bidder must ensure that the bids are received in the specified website of the OPTCL by the date and time indicated in the Tender notice. Bids submitted by telex/telegram will not be accepted. No request from any bidder to the OPTCL to collect the Bids in physical form will be entertained by the OPTCL.

The OPTCL reserves the right to reject any bid, which is not deposited according to the instruction, stipulated above. The participants to the tender should be registered under ODISHA Sales Tax, Act, VAT Act / Central sales Tax Act.

- (i) For all the users it is mandatory to procure the Digital Signatures.
- (ii) Contractors / Vendors / Bidders / Suppliers are requested to follow the below steps for **Registration**:
  - (a) Click "Register", fill the online registration form.
  - (b) Pay the amount of **Rs.5618/-** through DD in favour of KSEDCL Payable at Bangalore.
  - (c) Send the acknowledgment copy for verification.
  - (d) As soon as the verification is being done the e-tender user id will be enabled.
- (iii) After viewing Tender Notification, if bidder intends to participate in tender, he has to use his e-tendering User Id and Password which has been received after registration and acquisition of DSCs.
- (iv) If any Bidder wants to participate in the tender he will have to follow the instructions given below:
  - (a) Insert the PKI (which consist of your Digital Signature Certificate) in your System.  
(Note: Make sure that necessary software of PKI be installed in your system).
  - (b) Click / Double Click to open the Microsoft Internet Explorer (This icon will be located on the Desktop of the computer).
  - (c) Go to Start > Programs > Internet Explorer.

- (d) Type [www.tenderwizard.com/OPTCL](http://www.tenderwizard.com/OPTCL) in the address bar, to access the Login Screen.
- (e) Enter e-tender User Id and Password, click on “Go”.
- (f) Click on “Click here to login” for selecting the Digital Signature Certificate.
- (g) Select the Certificate and enter DSC Password.
- (h) Re-enter the e-Procurement User Id Password
- (v) To make an request for Tender Document Bidders will have to follow below mentioned steps.
- Click “Un Applied” to view / apply for new tenders.
  - Click on Request icon for online request.
- (vi) After making the request Bidders will receive the Tender Documents which can be checked and downloaded by following the below steps:
- Click to view the tender documents which are received by the user.
  - Tender document screen appears.
  - Click “Click here to download” to download the documents.
- (vii) After completing all the formalities Bidders will have to submit the tender and they must take care of following instructions.
- Prior to submission, verify whether all the required documents have been attached and uploaded to the particular tender or not.
  - Note down / take a print of bid control number once it displayed on the screen
- (viii) Tender Opening event can be viewed online.
- (ix) Competitors bid sheets are available in the website for all.
- (x) **For any e-tendering assistant contact help desk number mentioned below.**

- Bangalore – 080- 40482000.

The participants to the tender should be registered under ODISHA Sales Tax Act, VAT Act/Central sales Tax Act.

## **2. Division of Specification:**

The Specification is mainly divided into two parts viz. Part-I and Part-II.

### **Part- I Consists of**

- (i) Section-I : Instructions to Tenderers.
- (ii) Section-II: General conditions of supply (commercial)
- (iii) Section-III : Schedules and forms etc.
- (iv) Section-IV : Technical Specification.

### **Part-II Consists of**

Schedule of prices as per Annexure-V.



### **3. Tenders shall be in Two Parts**

The Tenderers are required to submit the tenders in two parts Part-I (techno- commercial) and Part-II (Price Bid).

### **4. Opening of Bids.**

(a) The part-I shall be opened on the date and time fixed by the OPTCL. Bids will be opened in Electronic mode in presence of the Tenderers or their authorized representatives [limited to one person only] on the due date of opening of tender. After scrutiny of the technical particulars and other commercial terms, clarifications, if required, shall be sought for from the bidders. The Tenderers shall be allowed 15 days time for such activity.

(b) On receipt of technical clarification the bids shall be reviewed/evaluated and those not in conformity with the technical Specification/qualifying experience, shall be rejected. If any of the technical proposals requires modification to make them comparable, discussion will be held with the participating bidders.

All the responsive bidders shall be given opportunity to submit the revised technical and revised price proposals as a follow up to the clarification on the technical proposals. The qualified bidders shall be given opportunity to submit revised price proposals within 15 days from the date of such discussion or within time frame mutually agreed, whichever is earlier.

(c) When the revised price proposals are received, Only the revised technical and price proposals will be considered for bid evaluation. The price bids [Part-II] of such of the Tenderers, whose tenders have been found to be technically and commercially acceptable, including those supplementary revised price bids, submitted subsequently, shall be opened in the presence of the bidder's representative on a date and time which will be intimated to all technically and commercially acceptable Tenderers.

(d) The bidders are required to furnish sufficient information to the Purchaser to establish their qualification/capability to manufacture and/or supply the materials/perform the work. Such information shall include details of bidder's experience, its financial, managerial and technical capabilities.

(e) The bidders are also required to furnish details of availability of appropriate technical staff and capability to perform after sales service where applicable. The above information shall be considered during the

first stage of scrutiny and evaluation of bids and any bid which does not satisfactorily meet these requirements, shall not be considered for price bid evaluation.

- (f) The price bids of the technically and otherwise acceptable bids, shall only be evaluated as per the norms applicable in terms of this Specification.

**5. Purchaser's Right Regarding Alteration of Quantities Tendered.**

The Purchaser may alter the quantities of materials/equipment at the time of placing orders. Initially the Purchaser may place order for lesser quantity with full freedom to place extension orders for further quantity under similar terms and conditions of the original orders. Order may also be split among more than one Tenderer for any particular item if considered necessary in the interest of the Purchaser.

**6. Procedure & Opening Time of Tenders:**

Tenders will be opened in the office of the Sr. General Manager (CPC) on the specified date and time in presence of such of the Tenderers or their authorized representatives (limited to one person only) in case of each bidder who may desire to be present, at the time of opening the bids.

**7. Bidder's Liberty to Deviate from Specification:**

The Tenderer may deviate from the Specification while quoting if in his opinion such deviation is in the line with the manufacturer's standard practice and conducive to a better and more economical offer. All such deviations should however be clearly indicated giving full justifications for such deviation. (Read with Clause-9, Section-II of the Specification).

**8. Eligibility for Submission of Bids.**

Only those manufacturers who have deposited the cost of tender specification are eligible to participate in the tender. They should upload the scanned copy of the D.D/ money receipt as a proof of such payment. The local Micro & Small Enterprises (MSEs) register with respective DICs, Khadi, Village, Cottage & Handicraft Industries, OSIC and NSIC can participate without payment of the cost of tender specification.

**9. Purchaser's Right to Accept/Reject Bids.**

The purchaser reserves the right to reject any or all the tenders without assigning any reasons whatsoever if it is in the interest of OPTCL under the existing circumstances. (Read with Clause-10, Section-II of the Specification).

**10. Mode of Submission of Bids.**

(A)Tenders shall be submitted in electronic mode only.

(www.tenderwizard.com/OPTCL)

(B)Telegraphic or FAX tenders shall not be accepted under any circumstances.

**11. Earnest Money Deposit.**

(i) Earnest Money Deposit of value specified in the notice inviting tenders against each lot/bid is to be submitted on or before the last date and time of submission of tender. Tenders without the required E.M.D. or without documentary proof for exemption from furnishing E.M.D. as indicated at Annexure-VIII will be rejected outright. The local Micro & Small Enterprises (MSEs) register with respective DICs, Khadi, Village, Cottage & Handicraft Industries, OSIC and NSIC can participate by submitting EMD deposit 50 % of the amount indicated in the notice inviting tender.

The earnest money deposit shall be furnished in one of the following forms subject to the conditions mentioned below:

(a)Cash: Payable to Drawing & Disbursing Officer, OPTCL (Hrs. Office, Bhubaneswar-751022.

(b) Bank Draft: To be drawn in favour of the Drawing & Disbursing Officer, OPTCL (Hqrs. Office), Bhubaneswar-751022.

(c) Bank Guarantee from any nationalized/scheduled Bank strictly as per enclosed proforma vide Annexure-VI to be executed on non-judicial stamp paper of appropriate value to be accompanied by the confirmation letter of the issuing Bank.

**Note:**

(i) The validity of the E.M.D. Bank Guarantee shall be 240 days from the date of opening of tender, failing which the tender will be liable for rejection.

ii) No interest shall be paid on the Earnest Money Deposit. Up to Rs.25,000/- (Rupees twenty-five thousand) only the Earnest Money Deposit may be made either in cash or Bank Draft . Above Rs.25,000/- (Rupees Twenty Five Thousand only) the Earnest Money Deposit shall be furnished in shape of EMD Bank Guarantee, as per proforma attached.

- iii) No adjustment towards Earnest Money Deposit shall be permitted against any outstanding amount with the OPTCL.
- iv) The chart showing particulars of E.M.D. to be furnished by Tenderers of different categories is placed at Annexure-VIII.
- v) In the case of un-successful Tenderer the Earnest Money will be refunded immediately after the tender is decided. In the case of successful tenderer, EMD will be refunded only after furnishing of security money referred to at Clause-19 of section –II. Suits if any, arising out of this Clause shall be filed in a Court of law to which the jurisdiction of high court of Odisha extends.
- vi) Earnest Money will be forfeited if the Tenderer fails to accept the letter Of intent and /or purchase orders issued in his favour.
- vii) Tenders not accompanied by Earnest Money/documentary proof of Exemption of E.M.D. shall be summarily rejected.

**12. Validity of the Bids**

The tenders should be kept valid for a period of 180 days from the date of opening of the tender as notified in the tender notice failing which the tenders will be rejected.

**13. PRICE**

i) Tenderers are requested to quote-‘FIRM’ Price. No deviation from FIRM PRICE will be entertained irrespective of deviation clause No.7 of this part of the specification.

**14. Revision of Tender Price By Bidders**

a) After opening of tenders and within the validity period, no reduction or Enhancement in price will be entertained. If there is any change in price, the tender shall stand rejected and E.M.D. deposited shall be forfeited.

In case of bidders who are exempted from depositing E.M.D. and who revise their price within the validity period, the bids for similar items against subsequent tender call notice of OPTCL, may not be considered.

b) After opening of price bid if the validity period is not sufficient to place purchase order, the tenderers may be asked by the purchaser to extend the validity period of the bid under the same terms and condition as per the original tender.

However ,the tender are free to change any or all conditions including price except delivery period of their bids at their own risk, if they are

asked by the purchaser to extend the validity period of the bid prior to opening of price bid.

**15. Tenderers to be fully Conversant with the Clauses of the specification.**

Tenderers are expected to be fully conversant with the meaning of all the Clauses of the Specification before submitting their tenders. In case of doubt regarding the meaning of any Clause the Tenderer may seek clarification in writing from the Sr. General Manager (CPC) OPTCL. This however, does not entitle the Tenderer to ask for time beyond due date fixed for receipt of tender.

**16. Documents to Accompany Bids**

Tenderers are required to upload the Scanned/.pdf copy of the following document as vender generic document and also upload the .xls bid documents as mentioned below:-

**Part-I (vender generic document)**

Document Details	File Name
Declaration Form duly filled in and signed. (As per Annexure -I)	Attachment1.pdf
(a)Earnest Money(As per Annexure-VI) or Documents in support of exemption from Earnest Money Deposit if any (b)Tender cost (c)Tender Processing fee.	Attachment2.pdf
Technical Specification conforming to the Purchaser's Specification along with drawings and literature.	Attachment3.pdf
Photostat copies of latest type test certificate of materials/equipment offered. (Type tests should have been conducted within 5 years prior to the dated tender opening and not earlier).	Attachment4.pdf
List of orders executed for similar items during preceding four years indicating the customer's name & P.O. copies.	Attachment5.pdf
Data on past experience as per Clause-7 of Section -II of the Specification.	Attachment6.pdf
Sales Tax, Income Tax clearance certificates, for the previous year.	Attachment7.pdf
Audited Balance Sheet & Profit Loss Accounts for the previous two years.	Attachment8.pdf
Schedule of quantity and delivery in the prescribed proforma vide Annexure-III.	Attachment9.pdf

	Abstract of price components as per Annexure-VI	Attachment10.pdf
	Any other required document as per tender specification	Attachment11.pdf
	The notarized hard copy & soft copy of valid registration as local MSE (if any) on or before the date & time of opening of technical bid.	
	Any attachment having size more than 5Mb is to be divided into parts like Attachment1partI, Attachment1partII etc.	

**Part-I (Techno-commercial Bid Sheet).**

1	All the.xls sheets are to be down loaded and filled in completely and uploaded without any modification to the file name.	.xls sheet name /file name is not to be modified
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**17. Documents/Papers to Accompany Part –II Bid**

Part –II of the tender shall consist of the following.

**Part-II (Price Bid Sheet).**

1	All the .xls sheets are to be down loaded and filled in completely and uploaded without any modification to the file name.	.xls sheet name /file name is not to be modified
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**18. Conditional Offer**

Conditional offer shall not be accepted.

**19. General**

- (i) Over writing shall be avoided
- (ii) Erasures and other changes shall bear the dated initial of the person signing the tender.
- (iii) In the event of discrepancy or arithmetical error in the schedule of price, the decision of the Purchaser shall be final and binding on the Tenderer.
- (iv) For evaluation the price mentioned in words shall be taken if there is any difference in figure and words in the price bid.
- (v) Notice inviting tender shall form part of this Specification.
- (vi) The price bids of the technically and otherwise acceptable bids shall only be evaluated.

- (vii) It should be distinctly understood that the part-II of the bid shall contain only details/documents relating to price, as outlined in clause-17 mentioned herein above. Inclusion of any of the documents/information etc. shall render the bid liable for rejection.
- (viii) The tenderer must submit the EMD amount, cost of tender document (Form Fee) and Tender processing fee in a sealed cover envelope super-scribing the tender specification number, Tender Notice No & Date opening of tender clearly on the cover envelope. The said envelope is to be submitted in the office of the purchaser on or before the last date and time of submission of Bids.

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**Expenses in respect of OPTCL's representative for witnessing the inspection & testing of the offered equipment/materials at the inspection and testing site.**

The expenses under the following heads, in respect of OPTCL's representative for witnessing the inspection & testing of the offered equipment/materials at the inspection and testing site, shall be borne by the contractor / supplier.

**a) Hotel Accommodation:**

- I. Single room accommodation in 4 star hotel for the OPTCL inspecting officer of the rank of Assistant General Manager (Grade E-6) and above.
- II. Single room accommodation in 3 star hotel for the OPTCL inspecting officer of the rank below Assistant General Manager (Grade E-6).

**N.B.:** It is the responsibility of the contractor to arrange the hotel accommodation matching with their inspection and testing schedule, so that the inspecting officer can check-in the hotel one day prior to the date of inspection and check out after the completion of the inspection, subject to availability of the return travel ticket. In case of extended duration of inspection or non-availability of the return travel ticket, Contractor/supplier/manufacturer shall arrange for the extended stay of the inspecting officer in the Hotel accordingly. In case there is no hotel with prescribed standard in and around the place of inspection, the contractor/supplier/manufacturer shall suggest alternative suitable arrangement at the time of offer for inspection, which is subjected to acceptability of OPTCL inspecting officer.

**b) Journey of the inspecting officer:**

(i) To and fro travel expenditure from the Head Quarters of the inspecting officer to the place of inspection/testing shall be borne by the contractor/supplier/manufacturer. Journey from the Head Quarters of the inspecting officer to the nearest Air Port by train (Ist/IIInd A.C) & A/C Taxi then by Air to the place of inspection/testing or to the nearest place of inspection/testing and then by train (Ist/IIInd A.C) & A/C taxi to the place of inspection/testing shall be arranged by the contractor/supplier/manufacturer.

(ii) For train journey, inspecting officer of the rank Assistant General Manager and above shall be provided with 1st class AC ticket and inspecting officer below the rank of Assistant General Manager shall be provided with 2nd class AC ticket.

(iii) The Air-ticket / train-ticket booking/cancellation is the responsibility of the contractor / supplier.

(iv) Moreover, if during the journey there is an unavoidable necessity for intermediate travel by road/ waterway/sea-route, the contractor/supplier shall provide suitable conveyance to the inspecting officer for travel this stretch of journey or bear the cost towards this. Any such possibilities shall be duly intimated to OPTCL at the time of their offer for inspection.

**c) Local Conveyance:**

At the place of the inspection/testing, for local journey of the inspecting officer between Hotel and inspection/testing site and or any other places, Air-conditioned four wheeler vehicle in good condition shall be provided by the contractor/supplier/manufacturer.

**d) Following points are also to be considered:**

(i) All the above expenses shall be deemed to be included in the bidder's quoted price for that supply item. Bidder shall not be eligible to raise any extra claim in this regard.

(ii) Contractor/supplier/manufacturer may assume that only in 40% of the inspection and testing offer cases, OPTCL inspecting officer, not below the rank of Assistant General Manager will witness the inspection and testing.

(ii) In case of inspection and testing of some critical equipment/materials like Power transformers, OPTCL may depute more than one inspecting officer.

(iii) Contractor/supplier/manufacturer shall judiciously plan the inspection/testing schedule and place of inspection/testing, so that optimum number of inspection/testing and minimum time



shall be required to cover all the equipment/materials of the relevant contract package.

- (iv) It shall be the responsibility of the Contractor/Supplier to organize the above tour related matters of OPTCL inspecting officer including the matters related to overseas inspection/testing, if any.

**PART-I**  
**SECTION-II**

**GENERAL TERMS AND CONDITIONS OF CONTRACT [G.T.C.C.]**

1. **Scope of the contract:**

The scope of the contract shall be to design, manufacture, supply of equipments as per the specification at the consignee's site, and rendering services in accordance with the enclosed technical specification and bill of quantity.

2.0 **Definition of terms:**

For the purpose of this specification and General Terms and Conditions of contract [GTCC], the following words shall have the meanings hereby indicated, except where otherwise described or defined.

2.1 "The Purchaser" shall mean the Senior General Manager[Central Procurement Cell] for and on behalf of ODISHA POWER TRANSMISSION CORPORATION LTD., Bhubaneswar.

2.2 "The Engineer" shall mean the Engineer appointed by the Purchaser for the Purpose of this contract.

2.3 "Purchaser's Representative" shall mean any person or persons or consulting firm appointed and remunerated by the Purchaser to supervise, inspect, test and examine workmanship and materials of the equipment to be supplied.

2.4 "The supplier" shall mean the bidder whose bid has been accepted by the purchaser and shall include the bidder's executives, administrators, successors and permitted assignees.

2.5 "Equipment" shall mean and include all machinery, apparatus, materials, and articles to be provided under the contract by the suppliers.

2.6 "Contract Price" shall mean the sum named in or calculated the bid.

2.7 "General Condition" shall mean these General Terms and Conditions of Contract.

2.8 "The Specification" shall mean both the technical as well as commercial parts of the specification annexed to or issued with GTCC and shall include the schedules and drawings, attached thereto as well as all samples and pattern, if any.

2.9 "Month" shall mean "Calendar month".

- 2.10 Writing” shall include any manuscript, type written, printed or other statement reproduction in any visible form and whether under seal or under hand.
- 2.11 “FOR Destination costs ”shall mean the cost of equipment and material at the consignee’s store/site. The cost is inclusive of Excise duty, Sales tax and other local taxes, packing, forwarding and insurance and freight charges.
- 2.12 The term “Contract document” shall mean and include GTCC, specifications, schedules, drawings, form of tender, Notice Inviting Tender, covering letter, schedule of prices or the final General Conditions, any special conditions, applicable to the particular contract.
- 2.13 Terms and conditions not herein defined shall have the same meaning as are assigned to them in the Indian Contract Act, failing that in the Odisha General Clauses Act.

**3. Manner of execution:**

All equipments supplied under the contract shall be manufactured in the manner, set out in the Specification or where not set out, to the reasonable satisfaction of the Purchaser’s representative.

**4. Inspection and Testing:**

- [i] The purchaser’s representative shall be entitled at all reasonable times during manufacture to inspect, examine and test at the supplier’s premises, the materials and workmanship of all equipments/materials to be supplied under this contract and if part of the said equipment/material is being manufactured in other premises, the supplier shall obtain for the purchaser’s representative permission to inspect, examine and test as if the equipment/material were being manufactured in the contractor’s premises. Such inspection, examination and testing shall not relieve the supplier from his obligations under the contract.
- [ii] The Supplier shall give to the purchaser adequate time/notice (at least clear 15 days for inside the state suppliers and 20 days for outside the state suppliers) in writing for inspection of materials indicating the place at which the equipment/material is ready for testing and inspection and shall also furnish the shop Routine Test Certificate, Calibration certificates of Testing instruments, calibrated in Govt. approved

laboratory with authenticity letter of that laboratory along with the offer for inspection. A packing list along with the offer, indicating the quantity which can be delivered in full truck load/Mini truck load to facilitate issue of dispatch instruction shall also be furnished.

- [iii] Where the contract provides for test at the Premises of the supplier or any of his sub-vendors, the supplier shall provide such assistance, labour, materials, electricity, fuel and instruments, as may be required or as may be reasonably demanded by the Purchaser's representative to carry out such tests efficiently. The supplier is required to produce shop routine test Certificate, calibration certificates of Testing Instruments before offering their materials/equipment for inspection & testing. The test house/laboratory where tests are to be carried out must be approved by the Govt. A letter pertaining to Govt. approved laboratory must be furnished to the purchaser along with the offer for inspection.
- [iv] After completion of the tests, the Purchaser's representative shall forward the test results to the Purchaser. If the test results conform to the specific standard and specification, the Purchaser shall approve the test results and communicate the same to the supplier in writing. The supplier shall provide at least five copies of the test certificates to the Purchaser.
- [v] The Purchaser has the right to have the tests carried out at his own cost by an independent agency whenever there is dispute regarding the quality of supply.
- [vi] If the firm fails to present the offered items for inspection/testing as per their inspection call due to any reason(s) during the visit of inspecting officer at the testing site, the firm shall have to bear all expenses towards repetition of inspection and testing of the total offered quantity or part thereof.
- [vii] For PHASE-II delivery inspection call is to be offered by the bidder after 01.04.2015

5. **Training facilities.**

The supplier shall provide all possible facilities for training of Purchaser's Technical personnel, when deputed by the Purchaser for acquiring firsthand knowledge in assembly of the equipment, its erection, commissioning and for its proper operation and maintenance in service, wherein it is thought necessary by the purchaser.

6. **Rejection of Materials**

In the event any of the equipments/material supplied by the manufacturer is found defective due to faulty design, bad workmanship, bad materials used or otherwise not in conformity with the requirements of the Specification, the Purchaser shall either reject the equipment/material or ask the supplier in writing to rectify or replace the defective equipment/material free of cost to the purchaser. The Supplier on receipt of such notification shall either rectify or replace the defective equipment/material free of cost to the purchaser within 15 days from the date of issue of such notification by the purchaser. If the supplier fails to do so, the Purchaser may:-

- [a] At its option replace or rectify such defective equipments/materials and recover the extra costs so involved from the supplier plus fifteen percent and/or.
- [b] Terminate the contract for balance work/supplies, with enforcement of penalty Clause as per contract for the un-delivered goods and with forfeiture of Performance Guarantee/ Composite Bank guarantee.
- [c] Acquire the defective equipment/materials at reduced price, considered equitable under the circumstances.

7. **Experience of Bidders:**

The bidders should furnish information regarding experience particularly on the following points:

- [i] Name of the manufacturer:
- [ii] Standing of the firm and experience in manufacture of equipment/material quoted:
- [iii] Description of equipment/material similar to that quoted, supplied and installed during the last two years with the name(s) of the Organizations to whom supplies were made wherein, at least one (1) certificate shall be from a state/central P.S.U.
- [iv] Details as to where installed etc.
- [v] Testing facilities at manufacturer's works.
- [vi] If the manufacturer is having collaboration with another firm [s], details regarding the same.
- [vii] A list of purchase orders of identical material/equipments offered as per technical specification executed during the last two years along with

users certificate. User's certificate shall be legible and must indicate, user's name, address, designation, place of use, and satisfactory performance of the equipment/materials for at least two years from the date of commissioning. Wherein at least one (1) certificate shall be from a State/Central or P.S.U. Bids will not be considered if the past manufacturing experience is found to be un-satisfactory or is of less than 2 (two) years on the date of opening of the bid and bids not accompanying user's certificate will be rejected.

8. **Language and measures:**

All documents pertaining to the contract including specifications, schedule, notices, correspondence, operating and maintenance instructions., drawings or any other writing shall be written in English language. The metric system of measurement shall be used exclusively in this contract.

9. **Deviation from specification:**

It is in the interest of the tenderers to study the specification, specified in the tender schedule thoroughly before tendering so that, if any deviations are made by the Tenderers,(both commercial and Technical), the same are prominently brought out on a separate sheet under heading "Deviations Commercial" and "Deviations Technical".

A list of deviations shall be enclosed with the tender. Unless deviations in scope, technical and commercial stipulations are specifically mentioned in the list of deviations, it shall be presumed that the tenderer has accepted all the conditions, stipulated in the tender specification, not withstanding any exemptions mentioned therein.

10. **Right to reject/accept any tender:**

The purchaser reserves the right either to reject or to accept any or all tenders if the situation so warrants in the interest of the purchaser. Orders may also be split up between different Tenderers on individual merits of the Tenderer. The purchaser has exclusive right to alter the quantities of materials/ equipment at the time of placing final purchase order. After placing of the order, the purchaser may defer the delivery of the materials. It may be clearly understood by the Tenderer that the purchaser need not assign any reason for any of the above action [s]

11. **Supplier to inform himself fully:**

The supplier shall examine the instructions to tenderers, general conditions of contract, specification and the schedules of quantity and delivery to satisfy himself as to all terms and conditions and circumstances affecting the contract price. He shall quote price [s] according to his own views on these matters and understand that no additional allowances except as otherwise provided there in will be admissible. The purchaser shall not be responsible for any misunderstanding or incorrect information, obtained by the supplier other than the information given to the supplier in writing by the purchaser.

12. **Patent rights Etc.**

The supplier shall indemnify the Purchaser against all claims, actions, suits and proceedings for the infringement of any patent design or copy right protected either in the country of origin or in India by the use of any equipment supplied by the manufacturer. Such indemnity shall also cover any use of the equipment, other than for the purpose indicated by or reasonably to be inferred from the specification.

13. **Delivery:-**

[a] Time being the essence of the contract; the equipment shall be supplied within the delivery period, specified in the contract. The Purchaser, however, reserves the right to reschedule the delivery and change the destination if required. The delivery period shall be reckoned from the date of placing the Letter of Intent/Purchase order, as may be specified in LOI/Purchase order.

[b] The desired delivery period shall be as indicated at Appendix-II (Quantity & Delivery Schedule) of Section-IV (Technical Specification). .

14. **Dispatch instructions.**

I] The equipment/ materials should be securely packed and dispatched directly to the specified site at the supplier's risk by Road Transport only.

II] **Loading & unloading of Ordered Materials.**

It will be the sole responsibility of the supplier for loading and unloading of materials both at the factory site and at the destination site/store.

The Purchaser shall have no responsibility on this account.

15. **Supplier's Default Liability.**

- [i] The Purchaser may, upon written notice of default to the supplier, terminate the contract in circumstances detailed hereunder.
- [a] If in the judgment of the Purchaser, the supplier fails to make delivery of equipment/material within the time specified in the contract or within the period for which if extension has been granted by the Purchaser in writing in response to written request of the supplier.
- [b] If in the judgment of the Purchaser, the supplier fails to comply with any of the provisions of this contract.
- [ii] In the event, Purchaser terminates the contract in whole or in part as provided in Clause-15 (I) of this section, the Purchaser reserves the right to purchase upon such terms and in such a manner as he may deem appropriate in relation to the equipment/material similar to that terminated and the supplier will be liable to the Purchaser for any additional costs for such similar equipment/material and/or for penalty for delay as defined in clause-22 of this section until such reasonable time as may be required for the final supply of equipment.
- [iii] In the event the Purchaser does not terminate the contract as provided in clause 15(I) of this Section, supplier shall be liable to the Purchaser for penalty for delay as set out in Clause-22 of this section until the equipment is accepted. This shall be based only on written request of the supplier and written willingness of the Purchaser.

16 **Force Majeure:**

The supplier shall not be liable for any penalty for delay or for failure to perform the contract for reasons of force majeure such as acts of god, acts of the public enemy, acts of Govt., Fires, floods, epidemics, Quarantine restrictions, strikes, Freight Embargo and provided that the supplier shall within Ten (10)days from the beginning of delay on such account notify the purchaser in writing of the cause of delay. The purchaser shall verify the facts and grant such extension, if facts justify

17 **Extension of time:-**

If the delivery of equipment/material is delayed due to reasons beyond the control of the supplier, the supplier shall without delay give notice to the purchaser in writing of his claim for an extension of time. The purchaser on receipt of such notice may or may not agree to extend the



contract delivery date as may be reasonable but without prejudice to other terms and conditions of the contract.

18. **Guarantee period: -**

- [i] The stores covered by this specification should be guaranteed for satisfactory operation and against defects in design, materials and workmanship for a period of at least 18 [eighteen] months from the last date of delivery or 12 [twelve] months from the date of commissioning whichever is earlier. The above guarantee certificate shall be furnished in triplicate to the purchaser for his approval. Any defect noticed during this period should be rectified by the supplier free of cost to the purchaser provided such defects are due to faulty design, bad workmanship or bad materials used, within one month upon written notice from the purchaser failing which provision of clause 22 (ii) shall apply.
- [ii] Equipment/material failed or found defective during the guarantee period shall have to be guaranteed after repair/replacement for a further period of 12 months from the date of commissioning or 18 months from the date of receipt at the store/site after such repair/replacement whichever is earlier. The Bank Guarantee is to be extended accordingly. Date of delivery as used in this clause shall mean the date on which the materials are received in OPTCL'S stores/site in full & good condition which are released for Despatch by the purchaser after due inspection

19. **B.G. towards security deposit, 100% payment and performance guarantee:**

- [i] For manufacturers situated Inside & out side the state of Odisha.  
A Composite Bank Guarantee as per the Proforma enclosed at Annexure-VII of the specification for 10% [ten percent] of the total FORD cost of the purchase order, shall be furnished from any nationalized/scheduled bank having a place of business at Bhubaneswar, to the office of Sr. General Manager [Central Procurement Cell] OPTCL within 15 days from the date of issue of the purchase order. In case of successful bidder who is a local Micro and Small Enterprise (MSEs) registered with respective DICs, Khadi, Village, Cottage & Handicrafts Industries, OSIC and NSIC 5% (five percent)), shall be furnished from any nationalized/scheduled bank having a place of business at Bhubaneswar, to the office of

Sr.General Manager [Central Procurement Cell] OPTCL within 15 days from the date of issue of the purchase order,. The BG shall be executed on non-judicial stamp paper worth of Rs.29.00 [Rupees twenty nine] only or as per the prevalent rules, valid for a period of 20 months from the last date of stipulated delivery period, for scrutiny and acceptance, failing which the supply order will be liable for cancellation without any further written notices. The BG should be accompanied by a confirmation letter from the concerned bank and should have provision for encashment at Bhubaneswar, before the Bank Guarantee is accepted and all concerned intimated. The B.G should be revalidated as and when intimated to you to cover the entire guarantee period.

- [ii] No interest is payable on any kind of Bank Guarantee.
- [iii] In case of non-fulfillment of contractual obligation, as required in the detailed purchase order/Specification, the composite Bank guarantee shall be forfeited.
- [iv] B.G is to be furnished on the total quantity for both PHASE-I & PHASE-II delivery.

**20. Import License**

In case imported materials are offered, no assistance will be given for release of Foreign Exchange. The firm should arrange to import materials from their own quota. Equipment of indigenous origin will be preferred.

**21. (A) Terms of Payment.**

- (i) 100% value of each consignment with 100% Excise duty, Entry Tax, if any, and sales tax in full as applicable along with freight & Insurance charges will be paid on receipt of materials in good condition at stores/desired site and verification thereof, subject to furnishing and approval of Composite Bank Guarantee at the rate of 10% (Ten percent) of the cost of supplied materials, as stipulated under clause-19 of this specification & on prior approval of guarantee certificate & Test certificate by the Purchaser.
- (ii) **Payment of Freight & Insurance charges and Entry Tax.**  
Freight & Insurance Charges & Entry Tax if any, incorporated in the Purchase contract shall be paid after receipt of materials at

stores/desired site in good condition and on production of authenticated documentary evidence, otherwise no Freight, Insurance charges & entry taxes shall be payable.

**[B]** The supplier shall furnish Composite Bank Guarantee of appropriate amount to OPTCL covering 10% of F.O.R. Destination cost of the purchase order well in advance (within 15 days from the date of issue of the purchase order) before despatch of materials.

**22. Penalty for Delay in Completion of Contract**

- I) If the Supplier fails to deliver the materials/equipments within the delivery schedule, specified in the contract including delivery time extension, if any, granted thereto, the Purchaser shall recover from the Supplier, penalty for a sum of half percent (0.5 percent) of the Ex-works price of the un-delivered equipment for each calendar week of delay or part thereof. For this purpose, the date of receipted challan shall be reckoned as the date of delivery. The total amount of penalty shall not exceed five percent (5%) of the ex-works price of the unit or units so delayed. Equipment will be deemed to have been delivered only when all its components and accessories as per technical Specification are also delivered. If certain components & accessories are not delivered in time, the equipment will be considered delayed until such time as the missing parts are delivered.
- II) If the Supplier fails to rectify /replace the equipment/material within 30 days from the date of intimation of the defect, so noticed by the purchaser within the guarantee period then the penalty for sum of one half of the one percent (0.5%) of the total Purchase order amount for each calendar week of delay shall be recovered by the purchaser within the guarantee period. For this purpose, penalty date will start from the 30<sup>th</sup> Day from the date of issue of letter on defectiveness of equipment/material, so supplied, by the purchaser. The total amount of penalty in this case shall not exceed 10% (TEN PERCENT) of the purchase order amount. The purchase order amount shall mean ex-works price + freight & insurance and all taxes & duties. If the defects so intimated will not be rectified by the supplier within the guarantee period, then whole of the B.G. will be forfeited by the purchaser, without any intimation to the Supplier.

**23. Insurance**

The Supplier shall undertake insurance of stores covered by this Specification unless otherwise stated. The responsibility of delivery of the stores at destination in good condition rests with the Supplier. Any claim with the Insurance Company or transport agency arising due to loss or damage in transit has to be settled by the supplier. The Supplier shall undertake free replacement of materials damaged or lost, which will be reported by the consignee within 30 days of receipt of the materials at destination without waiting for the settlement of their claims with the carriers and underwriters.

**24. Payment Due from the Supplier.** All costs and damages, for which the supplier is liable to the purchaser, will be deducted by the purchaser from any money, due to the supplier, under any of the contract (s), executed with OPTCL.

**25. Sales Tax clearance certificate and Balance sheet and profit & Loss Account:**

- i. Sales Tax clearance certificate for the previous year shall be enclosed with the tender.
- ii. Audited Balance Sheet and Profit & Loss Account of the bidder for the previous three years shall be enclosed to assess the financial soundness of the bidder(s).

**26. Certificate of Exemption from Excise Duty/Sales tax.**

Offers with exemption from Excise duty including sales tax shall be accompanied with authenticated proof of such exemption. Authenticated proof for this clause shall mean attested Photostat copy of exemption certificate. Any claim towards Excise duty/ Sales Tax shall be paid on actual basis subject to production of authenticated documentary evidence.

**27. Supplier's Responsibility.**

Notwithstanding anything mentioned in the Specification or subsequent approval or acceptance by the Purchaser, the ultimate responsibility for design, manufacture, materials used and satisfactory performance shall rest with the Tenderers. The Supplier(s) shall be responsible for any discrepancy noticed in the documents, submitted by them along with the bid(s).

**28. Validity**

Prices and conditions contained in the offer should be kept valid for a minimum period of 180 days from the date of opening of the tender, failing which the tender shall be rejected.

**29. EVALUATION.**

**(I)** Evaluation of bids will be on the basis of the FOR DESTINATION PRICE (By Road Transport) including Excise Duty, sales Tax & other levies as may be applicable. The FORD PRICE shall consist of the following components

- a) Ex-works price.
- b) Packing & Forwarding charges.
- c) Freight.
- d) Insurance.
- e) Excise Duty.
- f) Sales Tax.
- g) Other levies.
- h) Mandatory spares, if any for maintenance of equipment. (At the discretion of the purchaser).
- i) Test charges, if any.
- j) Supervision of erection, testing and commissioning charges, if any.
- k) Any other items, as deemed proper for evaluation by the purchaser.
- l) Loading factors will be taken in to account during evaluation if the prices of some of the items, not quoted.

**(II) Weightage shall be given to the Following factors in the Evaluation & Comparison of Bids**

In comparing bids and in making awards, the Purchaser will consider other factors such as compliance with Specification, minimum qualification criteria as per clause-30, outright rejection of tenders clause-34 of this tender, relative quality, adaptability of Supplies or services, experience, financial soundness, record of integrity in dealings, performance of materials/equipments earlier supplied, ability to furnish repairs and maintenance services, the time of delivery, capability to perform including available facilities such as adequate shops, plants, equipment and technical Organization.

**(III)** The local MSE bidders shall be required to furnish their willingness to match their bid price with that of the lowest evaluated bidder without any price preference and in case they agree, they shall be eligible to get up to 30% of the tendered quantity to be distributed suitably among the willing MSE bidders failing which the said 30% of the tendered quantity be awarded to the lowest evaluated bidder.

**30. Minimum Qualification Criteria of Bidders.**

All the prospective bidders are requested to note that their bids for tendered equipment can only be considered for evaluation if:

- i) The bidder should have manufacture and supply experience of above rated or higher capacity equipments for a minimum period of 2 (two) years as on the date of opening of the tender
- ii) At least 50% of the tendered quantity. Of above rated or higher capacity equipment should have been supplied within the above-stipulated period.
- iii) The above rated or higher capacity equipment should have at least 2 (two) years successful performance from the date of commissioning. At least one of the performance certificates shall be submitted from Govt.of India/State Govt.(s) or their undertakings.
- iv) The bidder should have conducted type tests on the tendered equipments in Government approved laboratory within five years from the date of opening of the tender.

**31. Jurisdiction of the High Court of Odisha.**

Suits, if any, arising out of this contract shall be filed by either Party in a court of Law to which the jurisdiction of High court of Odisha extends.

**32. Correspondences.**

- i) Any notice to the supplier under the terms of the contract shall be served by Registered Post or by hand at the Supplier's Principal Place of Business.
- ii) Any notice to the Purchaser shall be served at the Purchaser's Principal Office in the same manner.

**33. Official Address of the Parties to the Contract**

The address of the parties to the contract shall be specified:-

- [i] **Purchaser:** Senior General Manager (Procurement)(CPC) OPTCL  
Bhubaneswar-751022 (Odisha)

Telephone No. 0674 - 2541801

FAX No. 0674 – 2542964

- [ii] **Supplier:** Address  
Telephone No.  
Fax No.

#### **34. Outright Rejection of Tenders**

Tenders shall be outright rejected if the followings are not complied with.

- [i] The tenderer shall submit the bid in electronic mode only and shall submit the cost of tender document and Tender processing fee on or before the date & time of opening of technical bid. In case of local Micro & Small Enterprises (MSEs) registered with respective DICs, Khadi, Village, Cottage & Handicraft Industries, OSIC and NSIC participating in the tender have to submit notarized hard copy of valid registration as local MSE as above on or before the date & time of opening of the technical bid.
- [ii] The tenderer shall submit the bid in electronic mode only
- [iii] The Tender shall not be submitted telegraphically or by FAX.
- [iv] The prescribed EMD shall be submitted on or before the date and time of opening of technical bid.
- [v] The Tender shall be kept valid for a minimum period of 180 days from the date of opening of tender.
- [vi] The Tender shall be submitted in two parts as specified.
- [vii] The Tenders shall be accompanied by a list of major supplies effected prior to the date of opening of tender. Data of at least 2 (two) years shall be furnished.
- [viii] The tenderer shall upload the scanned copy of latest type test certificates (for the tests, carried out on the tendered equipments, being offered). Such type tests should have been conducted within last five years from the date of opening of this tender in a Government approved laboratory/CPRI in presence of any Government Organization's representative(s).
- [ix] The schedule of prices should be filled up fully to indicate the break-up of the prices including taxes and duties. Incomplete submission of this schedule will make the tender liable for rejection. Vide Clause-4(ii) of Part-II.

- [x] The Tenderer should quote 'FIRM' price only and the price should be kept valid for a minimum period of 180 days from the date of opening of the tender.
- [xi] The tenderer shall upload the scanned copy legibly written user's certificate to prove the satisfactory operation of the offered equipments/materials for a minimum period of 2 (two) years from the date of commissioning/use as per the tender specification. User's certificate shall include the detailed address of the user with Equipment/Material, Name and type as per this specification, number of years of satisfactory use/operation & date of issue of this user's certificate with official seal written in English only & clearly visible must be furnished. At least one of the user's certificates shall be from state or Central Govt. or their Undertakings.
- [xii] Guaranteed Technical particulars & Abstract of terms and Conditions should be filled in completely.

**35. Documents to be treated as confidential.**

The supplier shall treat the details of the specification and other tender documents as private and confidential and these shall not be reproduced without written authorization from the Purchaser.

**36. Scheme/Projects**

The materials/equipment covered in this specification shall come under "O&M" works.



## SECTION - III [LIST OF ANNEXURES]

The following schedules and proforma are annexed to this specification and contained in Section-III as referred to in the relevant clauses.

1	Declaration form	ANNEXURE-I
2	Abstract of terms and conditions to accompany Section-II of Part-I	ANNEXURE-II
3	Schedule of Quantity and Delivery	ANNEXURE-III
4	Abstract of price component [to accompany Part-II of this specification]	ANNEXURE-IV
5	Schedule of prices to accompany Part-II	ANNEXURE-V
6	Bank Guarantee form for earnest money deposit	ANNEXURE-VI
7	Composite Bank Guarantee form for security deposit, payment and performance	ANNEXURE-VII
8.	Chart showing particulars of E.M.D.	ANNEXURE - VIII
9.	Data on Experience.	ANNEXURE - IX
10.	Schedule of spare parts.	ANNEXURE-X
11.	Schedule of Installations.	ANNEXURE-XI
12	Deviation from specification (Technical)	ANNEXURE-XII(A)
13	Deviation from specification (Commercial)	ANNEXURE-XII(B)

## **ANNEXURE – I DECLARATION FORM**

To

Sir,

1. Having examined the above specification together with Tender conditions referred to therein I/We the undersigned hereby offer to supply the materials covered thereon complete in all respects as per the Specification and General Conditions, at the rates entered in the attached contract schedule of prices in the Tender.
2. I/We hereby undertake to have the materials delivered within the time specified in the Tender.
3. I/We here guarantee the technical particulars given in the Tender supported with necessary reports from concerned authorities.
4. I/We certify to have purchased/down loaded a copy of the Specification by remitting Cash/Money order/ D.D./ remitting the cost of tender, herewith and this has been acknowledged by your letter No. \_\_\_\_\_ Dated \_\_\_\_\_
5. In the event of Purchase order being decided in my/our favour, I/We agree to furnish the Security Deposit in the manner acceptable to GRID CORPORATION OF ODISHA LTD. and for the sum as applicable to me/us per Clause-19 of Section – II of this Specification within 15 days of issue of Letter of intent/Purchase order failing which I/We clearly understand that the said Letter of intent/Purchase order will be liable to be withdrawn by the Purchaser.

Signed this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

Yours faithfully,

Signature of Tenderer  
With Seal of the Company

**(This form should be fully filled up by the Tenderer and uploaded along with the Tender in the vender generic document.)**

**ANNEXURE-II**  
**ABSTRACT OF GENERAL TERMS AND CONDITIONS OF CONTRACT**  
**[COMMERCIAL] TO ACCOMPANY PART-I**

1	(a) The tenderer shall submit the bid in electronic mode only & submit the tender cost on or before the date & time of opening of the technical bid. In case of Local MSE participating in the tender have to submit the notarized hard copy of valid registration as above on or before the date of opening of the technical bid. (b) Earnest money furnished. <span style="float: right;">(A) Bank Guarantee, (B) Bank Draft.</span>																	
2	Manufacturer's supply experience including user's certificate furnished or not.[As per clause No.7 of Section-II.]	Yes/No																
3	<table style="width: 100%; border: none;"> <tr> <td style="width: 40%;">Deviations to the specification if any [list enclosed or not As per clause-9 of the Section-II]</td> <td style="width: 20%; text-align: center;">PHASE-I</td> <td style="width: 20%;">(a) Commercial (b)Technical.</td> <td style="width: 20%;"></td> </tr> <tr> <td>Deviations to the specification if any [list enclosed or not As per clause-9 of the Section-II]</td> <td style="text-align: center;">PHASE-II</td> <td>(a) Commercial (b)Technical.</td> <td></td> </tr> </table>	Deviations to the specification if any [list enclosed or not As per clause-9 of the Section-II]	PHASE-I	(a) Commercial (b)Technical.		Deviations to the specification if any [list enclosed or not As per clause-9 of the Section-II]	PHASE-II	(a) Commercial (b)Technical.		<table style="width: 100%; border: none;"> <tr> <td style="width: 40%;">a)Yes/No b)Yes/No</td> <td style="width: 20%;"></td> <td style="width: 20%;">a)Yes/No b)Yes/No</td> <td style="width: 20%;"></td> </tr> <tr> <td>a)Yes/No b)Yes/No</td> <td></td> <td>a)Yes/No b)Yes/No</td> <td></td> </tr> </table>	a)Yes/No b)Yes/No		a)Yes/No b)Yes/No		a)Yes/No b)Yes/No		a)Yes/No b)Yes/No	
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Deviations to the specification if any [list enclosed or not As per clause-9 of the Section-II]	PHASE-II	(a) Commercial (b)Technical.																
a)Yes/No b)Yes/No		a)Yes/No b)Yes/No																
a)Yes/No b)Yes/No		a)Yes/No b)Yes/No																
4	<b>Delivery</b> (period in months from the date of purchase order) PHASE-I PHASE-II																	
5	<b>Guarantee:-</b> Whether agreeable to OPTCL's terms. [As per clause-18 of Section-II]	Yes/No																
6	Whether agreeable to furnish Composite B.G. in case his tender be successful [As per clause-19 of Section-II]	Yes/No																
7.	<b>Terms of payment:-</b> Whether agreeable to OPTCL's terms or not [As per clause-21 of Section-II]	Yes/No.																
8.	Nature of price:- FIRM	Yes/No																
9.	<b>Penalty:-</b> Whether agreeable to OPTCL's terms or not (As per clause-22 of Section-II)	Yes/No																
10.	Whether STCC/ P&L A/C, Balance Sheet for the required period are furnished as per clause-25 of Section-II	Yes/No																
11.	<b>Validity: -</b> Whether agreeable to OPTCL's terms or not [As per clause-28 of Section-II]	Yes/No																
12.	Whether recent type test certificates from any Government approved laboratory are furnished or not. [As per clause-34[viii] of section-II]	Yes/No																
13.	Whether guaranteed technical particulars in complete shape are furnished or not	Yes/No																
14.	Whether dimensional design/drawings furnished or not	Yes/No																
15.	Whether materials are ISI/ISO marked.	Yes/No																
16.	Manufacturer's name and it's trademark.																	
17.	Whether registered under Orissa Sales Tax Act. 1947/central tax Act	Yes/No																
18.	Whether declaration form duly filled in furnished or not.	Yes/No.																

Place: - \_\_\_\_\_

Date: - \_\_\_\_\_

Signature of the Tenderer  
with seal of the company

**ANNEXURE-III**  
**SCHEDULE OF QUANTITY AND DELIVERY**  
(To be filled up by the tenderer)

Delivery Phase	LOT No	Description of materials	Quantity required	Desired Delivery	Destination	Remarks.
1	2	3	4	5	6	7
PHASE-I	LOT-I					
	LOT-II					
	LOT-III					
	LOT-IV					
PHASE-II	LOT-I					
	LOT-II					
	LOT-III					
	LOT-IV					

Place:

Date:

Signature of Tenderer  
with seal of Company

## ANNEXURE-IV

### ABSTRACT OF PRICE COMPONENT [TO ACCOMPANY PRICEBID]

1	Price basis	F.O.R. Purchaser's destination Stores/site.
2	Packing & forwarding	
3	Rate of Insurance charges	
4	Rate of Freight charges	
5	Rate of excise duty	
6	Rate of sales Tax	
7	Rate of other taxes/levies / duties etc.	
8	Rate of entry tax.	
9.	Rate of Service Tax on supervision of erection testing and commissioning	
10.	Nature of price.	
11.	Whether MODVAT benefit, if any has been fully passed on to the purchaser while quoting the price.	Yes/No

Place

Date:

Signature of Tenderer  
With seal of company

NB:- Abstract of price component shall be done for equipment/material offered, for testing & commissioning charges, if any. All the above prices will be taken during bid price evaluation.

**ANNEXURE – V**  
**(To Accompany Price Bid Part-II)**

**SCHEDULE OF PRICE**

The bidders have to download the price bid sheets (in .xls format) from the tender portal and filled in all the required cells and upload the same without making any modification to the sheet name and file name.

N.B. :

1. The Tenderers should fill up this schedule properly & in full. The tender may be rejected if the schedule of price is submitted in incomplete form. No post tender correspondence will be entertained on break up of prices.
2. In case where F&I components are not specifically indicated in this schedule, 5% of the Ex-works price shall be taken towards F&I components for the purpose of comparison of price.
3. Conditional offers will not be acceptable.
4. Price Bid in any other format will not be acceptable and the offer will be rejected.

## ANNEXURE-VI

### PROFORMA FOR BANK GUARANTEE FORM FOR EARNEST MONEY DEPOSIT

- | Ref | Date | Bank Guarantee No: |
|-----|------|--------------------|
|-----|------|--------------------|
- 1 In accordance with invitation to Bid No. \_\_\_\_\_ Dated \_\_\_\_\_ of \_\_\_\_\_ ODISHA POWER TRANSMISSION CORPORATION LTD. [OPTCL][herein after referred to as the \_\_\_\_\_ OPTCL for the purchase of \_\_\_\_\_ Messers \_\_\_\_\_ Address \_\_\_\_\_ wish/wished to participate in the said tender and as a Bank Guarantee for the sum of Rs. \_\_\_\_\_ [Rupees \_\_\_\_\_ Valid for a period of 240 days [Two hundred forty days] is required to be submitted by the \_\_\_\_\_ Tenderer. We the \_\_\_\_\_
- [Indicate the Name of the Bank]  
[Hereinafter referred to as 'the Bank'] at the request of M/S \_\_\_\_\_
- [Herein after referred to as supplier (s)] do hereby unequivocally and unconditionally guarantee and undertake to pay during the above said period, on written request by the Sr. General Manager [CPC] ODISHA POWER TRANSMISSION CORPORATION LTD. \_\_\_\_\_ [Indicate designation of the purchaser] an amount not exceeding Rs. \_\_\_\_\_ to the OPTCL, without any reservation. The guarantee would remain valid up to 4.00 PM of \_\_\_\_\_ [date] and if any further extension to this is required, the same will be extended on receiving instructions from the \_\_\_\_\_ on whose behalf this guarantee has been issued.
2. We the \_\_\_\_\_ do hereby, further undertake [Indicate the name of the bank] to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the OPTCL stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the OPTCL by reason of any breach by the said supplier [s] of any of the terms or conditions or failure to perform the said Bid . Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. \_\_\_\_\_
3. We undertake to pay the OPTCL any money so demanded notwithstanding any dispute or disputes so raised by the contractor [s] in any suit or proceeding instituted/pending before any Court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the supplier(s) shall have no claim against us for making such payment.
4. We, the \_\_\_\_\_ further agree that the guarantee [Indicate the Name of the Bank]

herein contained shall remain in full force and effect during the aforesaid period of 240 days [two hundred forty days] and it shall continue to be so enforceable till all the dues of the OPTCL under or by virtue of the said Bid have been fully paid and its claims satisfied or discharged or till Managing Director, ODISHA POWER TRANSMISSION CORPORATION LTD. certifies that the terms and conditions of the said Bid have been fully and properly carried out by the said Supplier [s] and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the \_\_\_\_\_ we shall be discharged from all liability under this guarantee thereafter.

5. We, the \_\_\_\_\_ further agree with the OPTCL that  
[Indicate the name of the Bank]  
the OPTCL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Bid or to extend time of performance by the said Supplier [s] from time to time or to postpone for any time or from time to time any of the powers exercisable by the OPTCL against the said supplier [s] and to forbear or enforce any of the terms and conditions relating to the said bid and we shall not be relieved from our liability by reason of any such variation, postponement or extension being granted to the said Supplier [s] or for any forbearance act or omission on the part of the OPTCL or any indulgence by the OPTCL to the said Supplier[s] or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

1. This guarantee will not be discharged due to the change in the name, style and constitution of the Bank or the supplier [s].

2. We, \_\_\_\_\_ lastly undertake not revoke this  
[Indicate the name of the Bank]  
Guarantee during its currency except with the previous consent of the OPTCL in writing.

8. We the \_\_\_\_\_ Bank further agree that this guarantee shall also be invocable at our place of business at \_\_\_\_\_, of Bhubaneswar in the state of Odisha. [Indicate the name of the Bank]

'Notwithstanding anything contained herein above'

a) Our liability under the bank guarantee shall not exceed Rs. \_\_\_\_\_ (In words Rupees \_\_\_\_\_).

b) This bank Guarantee shall be valid up to \_\_\_\_\_.

c) We are liable to pay guaranteed amount or any part thereof under this bank guarantee only if you serve upon us at \_\_\_\_\_ branch of Bhubaneswar in the state of Odisha a written claim or demand on or before \_\_\_\_\_ (date of expiry of guarantee).

Dated \_\_\_\_\_ Day of \_\_\_\_\_

For \_\_\_\_\_  
[Indicate the name of Bank]

Witness ((Signature, names & address)

1.

2.



**ANNEXURE-VII**  
**PROFORMA FOR COMPOSITE BANK GUARANTEE FOR SECURITY DEPOSIT**  
**PAYMENT AND PERFORMANCE**

This Guarantee Bond is executed this \_\_\_\_\_ day  
of \_\_\_\_\_ 2011 by us the  
\_\_\_\_\_ Bank at \_\_\_\_\_

P.O. \_\_\_\_\_ P.S. \_\_\_\_\_  
District \_\_\_\_\_ State \_\_\_\_\_

1. WHEREAS the ORISSA POWER TRANSMISSION CORPORATION LTD., a body corporate constituted under the Electricity Act, 2003 [hereinafter called "the OPTCL" which shall include its successors and assigns has placed orders No. \_\_\_\_\_ Date \_\_\_\_\_ [hereinafter called "The Agreement"] on M/s. \_\_\_\_\_ [hereinafter called "The Supplier"] which shall include its successors & assigns for supply of materials.

AND WHERE AS the supplier has agreed to supply materials to the OPTCL in terms of the said agreement AND

WHEREAS the OPTCL has agreed [1] to exempt the supplier from making payment of Security [2] to release 100% payment of the cost of materials as per the said agreement and [3] to exempt from performance guarantee on furnishing by the Supplier to the OPTCL, a Composite bank Guarantee of the value of 10 % [ten percent] of the contract price of the said agreement.

NOW THEREFORE, in consideration of the OPTCL having agreed [1] to exempt the Supplier from making payment of Security [2] releasing 100% payment to the Supplier and [3] to exempt from furnishing performance guarantee in terms of the said agreement as aforesaid, we, the \_\_\_\_\_ [Bank][hereinafter referred to as 'the Bank'] do hereby undertake to pay to the OPTCL an amount not exceeding Rs. \_\_\_\_\_ [Rupees \_\_\_\_\_] against any loss or damage caused to or suffered by or would be caused to or suffered by the OPTCL by reason of any breach by the said Supplier [s] of any of the terms or conditions contained, in the said agreement.

2. We the ( \_\_\_\_\_ Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on demand from the OPTCL stating that the amount claimed is due by way of loss or damage caused to or suffered by the OPTCL by reason of any breach by the said Supplier [s] of any of the terms or conditions, contained in the said agreement or by reason of the supplier's failure to perform the said agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. \_\_\_\_\_ [Rupees \_\_\_\_\_]
3. We the \_\_\_\_\_ Bank} also undertake to pay to the OPTCL any money so demanded notwithstanding any dispute or disputes raised by the supplier [s] in any suit or proceeding instituted/pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Supplier [s] shall have no claim against us for making such payment.

4 We, (\_\_\_\_\_Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to do so enforceable till all the dues of the OPTCL under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Managing Director, ORISSA POWER TRANSMISSION CORPORATION LTD. certifies that the terms and conditions of the said agreement have been fully and properly carried out by the said Supplier [s] and accordingly discharges this Guarantee.

Unless a demand or claim under this guarantee is made on us in writing on or before the [Date\_\_\_\_\_], we shall be discharged from all liability under this guarantee thereafter.

5. We,(\_\_\_\_\_Bank) further agree that the OPTCL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Supplier [s] and we shall not be relieved from our liability by reason of any such variations or extension being granted to the said supplier [s] or for any forbearance, act or omission on the part of the OPTCL or any indulgence by the OPTCL to the said Supplier [s] or by any such matter or thing whatsoever which under the law relating to sureties would but these provisions have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the name , style and constitution of the Bank and supplier [s].

7. We,[\_\_\_\_\_Bank] lastly undertake not to revoke this guarantee during its currency except with the previous consent of the OPTCL in writing.

8. We the \_\_\_\_\_ Bank further agree that this guarantee shall also be invocable at our place of business at \_\_\_\_\_ of Bhubaneswar in the state of Odisha. [Indicate the name of the Bank]

'Notwithstanding anything contained herein above'

a)Our liability under the bank guarantee shall not exceed Rs.\_\_\_\_\_(In words Rupees\_\_\_\_\_).

b)This bank Guarantee shall be valid up to\_\_\_\_\_.

c)We are liable to pay guaranteed amount or any part thereof under this bank guarantee only if you serve upon us at \_\_\_\_\_branch of Bhubaneswar in the state of Odisha a written claim or demand on or before \_\_\_\_\_ (date of expiry of guarantee).

Date at \_\_\_\_\_the, \_\_\_\_\_day of 201\_\_\_\_\_

For\_\_\_\_\_  
[Indicate the name of Bank]

Witness (Name, Signature & Address)

- 1.
- 2.

**ANNEXURE-VIII**  
**CHART SHOWING PARTICULARS OF EARNEST MONEY DEPOSIT  
FURNISHABLE BY TENDERERS**

1.	Central and State Government Undertakings	Exempted
2.	All other inside & outside state units.	The amount of EMD as specified in the specification /Tender Notice in shape of bank guarantee /DD.

**NB: - REFUND OF E.M.D.**

- [a] In case of unsuccessful tenderers, the EMD will be refunded immediately after the tender is decided. In case of successful tenderer, this will be refunded only after furnishing of Composite Bank Guarantee referred to in clause No.19 of Section-II of this specification.  
Suits, if any, arising out of EMD shall be filed in a court of law to which the jurisdiction of High Court of Odisha extends.
- [b] Earnest Money will be forfeited if the tenderer fails to accept the letter of intent/purchase order, issued in his favour or revises the bid price[ s] within the validity period of Bid.

**ANNEXURE-IX**  
**DATA ON EXPERIENCE**

- [a] Name of the manufacturer.
- [b] Standing of the firm as manufacturer of equipment quoted.
- [c] Description of equipment similar to that quoted [supplied and installed during the last two years with the name of the organizations to whom supply was made].
- [d] Details as to where installed etc.
- [e] Testing facilities at manufacturer's works.
- [f] If the manufacturer is having collaboration with another firm, details regarding the same and present status.
- [g] A list of purchase orders, executed during last three years.
- [h] A list of similar equipments of specified MVA rating, voltage class, Impulse level, short circuit rating, Designed, manufactured, tested and commissioned which are in successful operation for at least two years from the date of commissioning with legible user's certificate. User's full complete postal address/fax/phone must be indicated. (Refer clause No.7 of the Part-I, Section-II of the specification).

Place:

Date:

Signature of tenderer  
Name, Designation, Seal



# ANNEXURE-XI

## SCHEDULE OF INSTALLATIONS

<u>Rated MVA</u>	Rated Voltage	Place of installation and complete postal address	Year of commissioning

Place: -  
Date

Signature of Tenderer:  
Name, Designation, Seal

**ANNEXURE-XII(A)**

**DEVIATION FROM SPECIFICATION (TECHNICAL)**

**Deviation from the condition of contract (Technical)**

The tenderer shall enter below, deviation if any, from the conditions of contract as herein.

Sl. No.	Clause No. of Specification	Particulars of deviation

Date:

Place:

SIGNATURE OF TENDERER

NAME:

DESIGNATION:

(SEAL)

**ANNEXURE-XII(B)**

**DEVIATION FROM SPECIFICATION (COMMERCIAL)**

**Deviation from the condition of contract (commercial)**

The tenderer shall enter below, deviation if any, from the conditions of contract as herein.

Sl. No.	Clause No. of Specification	Particulars of deviation
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Date:

Place:

SIGNATURE OF TENDERER

NAME:

DESIGNATION:

(SEAL)



**PART – II**  
**PRICE BID**

1. **PRICE:**

- (i) Bidders are required to quote their price(s) for goods offered indicating they are 'FIRM'
- (ii) The prices quoted shall be FOR Destination only at the consignee's site/store inclusive of packing, forwarding, Freight & Insurance. In addition, the break-up of FOR Destination price shall be given as per schedule of Prices in Annexure-V of Section - III. The Tenderer has to certify in the price bid that MODVAT benefit if any, has been fully passed on to the Purchaser, while quoting the tender prices.

2. **INSURANCE:**

Insurance of materials/equipments, covered by the Specification should normally be done by the Suppliers with their own Insurance Company unless otherwise stated. The responsibility of delivery of the materials/equipments at destination stores/site in good condition rests with the Supplier. Any claim with the Insurance Company or Transport agency arising due to loss or damage in transit has to be settled by the Supplier. The Supplier shall undertake free replacement of equipments/materials damaged or lost which will be reported by the Consignee within 30 days of receipt of the equipments/materials at Destination without awaiting for the settlement of their claims with the carriers and underwriters.

3. **CERTIFICATE FOR EXEMPTION FROM EXCISE DUTY/SALES TAX:**

Offers with exemption from excise Duty/ Sales tax shall be accompanied with authenticated proof of such exemption. Authenticated proof for this clause shall mean photostat copy of exemption certificates, attested by Gazetted Officers of State or Central Government.

4. **PROPER FILLING UP OF THE PRICE SCHEDULE:**

- (i) In case where Freight & Insurance charges are not furnished, 5% of the Ex-works price shall be considered as the freight & Insurance charges.

(ii) The tenderer should fill up the price schedule (Annexure-V of Section-III) properly and in full. The tender may be rejected if the schedule of price is submitted in incomplete form as per clause-34 (ix) of Section-II of the Specification.

5. **NATURE OF PRICE INDICATED IN SPECIFICATION SHALL BE FINAL.**

The nature of price indicated in the Clause-13, Section - I of PART -I of the Specification shall be final and binding.



**ORISSA POWER TRANSMISSION CORPORATION  
LIMITED  
CENTRAL PROCUREMENT CELL,  
JANAPATH, BHUBANESWAR - 751022.**

## **SECTION - IV**

# **TECHNICAL SPECIFICATION**

## **FOR**

**400KV, 220KV ,132KV,33KV SURGE ARRESTER**

**LOT-I- 400 KV SURGE ARRESTER- 17 NOS.**

**LOT-II- 220 KV SURGE ARRESTER- 224NOS.**

**LOT-III- 132 KV SURGE ARRESTER- 506NOS.**

**LOT-IV- 33 KV SURGE ARRESTER- 623NOS.**

## SECTION - IV

# TECHNICAL SPECIFICATION FOR SURGE ARRESTERS FOR 400 KV, 220KV, 132KV, 33KV SYSTEMS.

### CONTENTS

CLAUSE NO	TITLE
1.0	SCOPE
2.0	STANDARDS
3.0	GENERAL TECHNICAL REQUIREMENTS
4.0	CONSTRUCTION
5.0	TESTS
6.0	INSPECTION
7.0	QUALITY ASSURANCE PLAN
8.0	DOCUMENTATION
9.00	PACKING & FORWARDING
10.0	QUANTITY & DELIVERY REQUIREMENT

APPENDIX - I	TECHNICAL REQUIREMENTS
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ANNEXURES	
A	GUARANTEED TECHNICAL PARTICULARS
B	CHECK - LIST
C	CALIBRATION STATUS OF TESTING EQUIPMENTS/METERS
D	CHECK-LIST TOWARDS TYPE TEST REPOR

APPENDIX - II	QUANTITY AND DELIVERY SCHEDULE
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## SECTION – IV

### TECHNICAL SPECIFICATION FOR SURGE ARRESTERS FOR 400KV, 220KV, 132KV, 33KV SYSTEMS

#### 1.0 **SCOPE** :

1.1 This Specification provides for the design, manufacture, inspection and testing before dispatch, packing and delivery F.O.R. (destinations) of metal oxide (gapless) Surge Arresters with discharge counters, insulating base, terminal connectors and other accessories as specified here in.

Following is the list of documents constituting this Specification. :

(i)	Technical Specification (TS)	
(ii)	Technical Requirements.	Appendix-I
(iii)	Quantity and delivery schedule.	Appendix-II
(iv)	Guaranteed Technical Particulars.	Annexure-A
(v)	Check-List.	Annexure-B
(vi)	Calibration Status of testing equipments and meters/Instruments.	Annexure-C
(vii)	Check-list towards Type Test Reports.	Annexure-D
Note : Annexure-A,B,C,& D are to be filled up by the Bidder.		

1.1 All the above along with amendments thereof shall be read and interpreted together. However, in case of a contradiction between the Technical Specification and any other volume, the provisions of this volume will prevail.

1.2 The Surge Arrester shall conform in all respects to high standards of engineering, design, workmanship and latest revisions of relevant standards at the time of offer and purchaser shall have the power to reject any work or materials, which in his judgment is not in full accordance therewith.

#### 2.0 **STANDARDS:-**

2.1 Except to the extent modified in the Specification, the Surge Arrester shall conform to the latest editions and amendments of the standards listed hereunder.

Sl. No.	Standard Ref. No.	Title.
1	IEC-99-4	Specification for Surge Arresters without gap for AC System.
2	IS:2147	Degree of protection, provided by enclosures for low voltage switchgear and control.
3	IS:2629	Recommended practice for hot dip galvanization of iron and steel.
4	IS:2633	Method for testing uniformity of coating on zinc coated articles.
5	IS:3070	Specification for surge arresters for alternating current system.
6	IS:5621 &IEC-621155	Specification for large hollow porcelain for use in electrical installation.

7	IEC-60-1	High-Voltage Test technique.
8	IEC-270	Partial discharge measurements.
9	IEC-99-1	Non-linear resistor type gapped arresters for a.c. systems.
10		Indian Electricity Rules, 1956.
11.	IEC-60815	Shed profile of hollow porcelain Insulator.

2.2 Surge Arresters with the requirement of other authoritative standards, which ensure equal or better quality than the standards, mentioned above shall also be acceptable. Where the equipment offered by the supplier conforms to other standards, salient points of difference between the standards adopted and the specified standards shall be clearly brought out in the offer. 4 (Four) copies of the reference standards in English language shall be furnished along with the offer.

3.0 **GENERAL TECHNICAL REQUIREMENTS :**

3.1 The Surge Arrester shall confirm the technical requirements as per Appendix-I and this TS.

3.2 The energy handling capability of each rating of Arrester offered, supported by calculations, shall be furnished with the offer.

3.3 The Surge Arresters shall be fitted with pressure relief devices and arc diverting paths and shall be tested as per the requirements of IEC for minimum prospective symmetrical fault current as specified in Appendix-I.

3.4 A grading ring shall be provided if required, (for attaining all the relevant technical parameters) on each complete Surge Arrester.

3.5 **PROTECTIVE LEVELS :**

Surge Arresters shall be capable of providing protection to sub-station equipments, designed for the withstand levels, given in the following table.

Sl. No.	Equipment to be protected	Insulation level of 420KV Systems	Insulation level of 245KV Systems.	Insulation Level of 145KV Systems	Insulation Level of 36KV System
		L.I. Level (KVP)	L.I. Level (KVP)	L.I. Level (KVP)	L.I. Level (KVP)
1	Auto Transformers/Power Transformers.	± 1300	± 950	± 650	± 170
2	Instrument Transformers.	± 1425	± 1050	± 650	± 170
3	Reactors	± 1300	± 950	± 650	± 170
4	Circuit Breakers/Isolators.				
(i)	Phase to ground.	± 1425	± 1050	± 650	± 170
(ii)	Across open contacts.	± 1425(+240)= 1650	± 1200		

Surge arresters shall be suitable for the following duty cycles of circuit breakers at the following system voltages:

1.	420 KV Circuit Breaker	0-0.3 sec-co-3 min-co
2.	245 KV Circuit Breaker	0-0.3 sec-co-3 min-co
3.	145 KV Circuit Breaker	0-0.3 sec-co-3 min-co

4	36 KV Circuit Breaker	0-0.3 sec-co-3 min-co
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3.6 **DUTY REQUIREMENT :**

- 3.6.1 Surge Arresters shall be of heavy-duty station class and gapless type without any series or shunt gaps.
- 3.6.2 Surge Arresters shall be capable of discharging over voltages occurring during switching of un-loaded transformers, lines, capacitors and reactors.
- 3.6.3 The Surge Arresters shall be capable of discharging lightning and switching surges and temporary power frequency over-voltages.
- 3.6.4 The Surge Arresters shall be capable of discharging the energy equivalent to class 3 of IEC-99-4.
- 3.7 The reference current of the arrester shall be high enough to eliminate the influence of grading and stray capacitance on the measured reference voltage. The supplier shall submit values and the supporting evidence along with calculations on above.
- 3.8 Surge Arresters shall be fully stabilized thermally to give a life expectancy of 100 years under site conditions.
- 3.9 Surge Arresters shall be able to withstand maximum wind load of 260 Kg./sq.m.
- 3.10 Surge Arresters shall be capable of withstanding effects of direct solar radiation.
- 3.11 Surge arresters shall be capable of spark over on severe switching Surges and multiple strokes.
- 3.12 The Surge Arrester should be adequately designed to operate satisfactorily under temporary power frequency over-voltage as given in specific technical requirements, after discharging two shots of respective long duration surges.
- 3.13 Unless otherwise brought out separately by the Bidder in the schedule of deviations, the Surge Arresters, offered shall conform to the specification scrupulously. All deviations from the specification shall be brought out in the schedule of deviations. The discrepancies between the specification and the catalogues or literature, submitted as part of the offer shall not be considered as valid deviations unless specifically brought out in the schedule of deviations.

4.0 **CONSTRUCTION :**

- 4.1 Non linear blocks shall be sintered metal oxide material. These shall be provided in such a way as to obtain robust construction with excellent electrical and mechanical properties even after repeated operations.
- 4.1.1 All the units of arresters of same rating shall be inter-changeable without adversely affecting the performance.
- 4.2 The Surge Arresters shall be suitable for pedestal type mounting.
- 4.3 All the necessary flanges, bolts, nuts, clamps etc. required for assembly of complete arrester with accessories and mounting on support structure to be supplied by the purchaser, shall be included in supplier's scope of supply.
- 4.4 The drilling details for mounting the Arrester on owner's support shall be supplied by the supplier.
- 4.5 The minimum permissible separation between the Surge Arrester and any earthed object shall be indicated by the Bidder in his offer.
- 4.6 Surge Arresters shall be designed to incorporate pressure relief devices and arc diverting paths to prevent shattering of the blocks or the porcelain housing, following prolonged current flow or internal flash over and providing path for flow of rated fault currents in the event of arrester failure.
- 4.7 Surge Arresters shall incorporate anti-contamination feature to prevent arrester failure, caused by uneven voltage gradient across the stack, resulting from contamination of the arrester porcelain.

- 4.8 Seals shall be provided in such a way that these are always effectively maintained even when discharging rated lightning current.
- 4.9 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. Moralized coating thickness for reduced resistance between adjacent discs is to be furnished along with the procedure for checking the same. Details of thermal stability test for current distribution of current on individual disc is to be furnished.
- 4.10 Each individual unit of Surge Arresters shall be hermetically sealed and fully protected against ingress of moisture. The hermetic seal shall be effective for the entire lifetime of the arrester and under the service conditions as specified. The supplier shall furnish sectional view of the arrester showing details of sealing employed.
- 4.11 The Surge Arresters shall be suitable for hot line washing.
- 4.12 **PORCELAIN HOUSING :**
- 4.13.1 All porcelain Housings shall be free from lamination cavities or other flaws, affecting the maximum level of mechanical and electrical strengths.
- 4.13.2 The porcelain shall be well vitrified and non-porous.
- 4.13.3 The minimum creepage distance of the arrester housing shall be as per Appendix-I.
- 4.13.4 The porcelain petticoat shall be preferably of self-cleaning type (Aerofoil design). The details of the porcelain housing such as height, angle of inclination, shape of petticoats, gap between the petticoats, diameter (ID and OD) etc. shall be indicated by the Bidder in his offer in the form of detailed drawing.
- 4.13.5 Porcelain housings shall be so coordinated that external flash over will not occur due to application of impulse or switching Surge voltages up to the maximum design value for arrester.
- 4.14 **GALVANISATION, NICKEL PLATING ETC. :**
- 4.14.1 All ferrous parts exposed to atmosphere shall be hot dip galvanized as per IS: 2629, as amended from time to time. Tinned copper/brass lugs shall be used for internal wiring of discharge counter. Screws used for electrical connections shall be either made of brass or shall be nickel-plated.
- 4.14.2 Ground terminal pads and nameplate brackets shall be hot dip galvanized.
- 4.14.3 The material shall be galvanized only after completing all shop operations.
- 4.15 **ACCESSORIES AND FITTINGS :**
- 4.15.1 **Surge Counters;**
- 4.15.1.1 A self- contained Surge counter, suitably enclosed for outdoor use and requiring no auxiliary of battery supply for operation shall be provided for each unit. The surge counter shall be operated by the discharge current, passed by the surge arrester and shall be suitable for mounting on the support structure of the Arrester.
- 4.15.1.2 Surge counters shall be of the Electro-mechanical type and designed for continuous service.
- 4.15.1.3 The cyclometer counter shall be visible through an inspection window from ground level. The counter terminals shall be robust and adequate size and shall be so located that the incoming and outgoing connections are made with minimum possible bends.
- 4.15.1.4 Internal parts shall be unaffected by atmospheric conditions at site. Alternatively weather proof housing to IP 55 shall be provided and this shall be



designed to allow the recording device to be read from ground level without exposing the internal parts to the atmosphere.

4.15.1.5 The Surge Counter shall be connected in the main earth lead from the arrester in such a manner that the direction of the earth lead is not changed or its surge impedance materially altered. A bolted link shall be provided so that the surge counter may be short circuited and removed without taking the arrester out of service.

4.15.1.6 All necessary accessories and earthing connection leads between the bottom of the Arrester and discharge counter shall be in the supplier's scope of supply.

4.15.2 **LEAKAGE CURRENT METERS :**

4.15.2.1. Leakage current meters (suitable mili-ammeter) shall be connected in the earthing path of the surge arresters to measure the resistor grading leakage current. Meters shall be designed for continuous service.

4.15.2.2. The ammeter shall be suitable for mounting on the support structure of the arrester. The push buttons shall be mounted such that it can be operated from the ground level.

4.15.2.3. The internal parts shall be fully weather - proof to IP 55 or better with a transparent cover to provide an unobstructed view of the ammeter.

4.15.3. Arresters shall be complete with insulating base having provision for bolting to flat surface of the structure.

4.15.4. Grading /corona rings shall be provided on each complete Arrester unit, as required, for proper voltage stress distribution.

4.15.5. The grounding terminals shall be suitable for accommodating purchaser's grounding connection to steel earth mat.

4.15.6. The Bidder has to quote unit rates of the insulating base and the surge counter separately. The purchaser reserves its option to procure insulating base and surge counter.

4.15.7. Clamp type terminal connector, suitable for 220KV-ACSR MOOSE Conductor 132KV & 33KV-ACSR Zebra Conductor shall be provided having both horizontal and vertical take-off.

4.15.8. Two clamp type ground terminal connectors, suitable for G. I. Strip (50 x 6) or (50 x 8) should be provided.

4.15.9. All interconnecting hard wares such as nuts, bolts, spring washers etc. with 5% spares shall be supplied for different units.

4.15.10. Pollution Shunt (Copper braid) shall be supplied along with each surge Arrester for by-passing the surface current.

4.15.11. Other standard accessories, which are specifically not mentioned, but are usually, provided with Surge Arrester of such type and rating for efficient and trouble free operation should be supplied.

4.16 **NAME PLATE:**

Each single pole Arrester shall be provided with non-corrosive legible name plate, at the base bearing thereon, voltage rating of the complete pole and the number of demountable sections with the following data, indelibly marked

- (a) ORISSA POWER TRANSMISSION CORPORATION LIMITED.
- (b) Purchase order No. & Date.
- (c) Name of device.

- (d) Manufacturer's name and trademark and identification no. Of the arrester being supplied.
- (e) Year of manufacture
- (f) Rated voltage
- (g) Rated Frequency
- (h) Maximum continuous operating voltage.
- (i) Type
- (j) Nominal discharge current.
- (k) Long duration discharge class.
- (l) Pressure relief current in KA(rms)
- (m) Energy discharge capability ( KJ/KV rating).

5.0 **TEST:**

5.1 **Type Tests:**

The surge Arrester offered should have been subjected to the following type tests in an independent Government approved test laboratory. The bidder shall furnish four sets of type test reports along with the offer. These tests must not have been conducted earlier than five years from the date of opening of technical bid. For any change in the design, type already type tested and the design type offered against this specification, the purchaser reserves the right to demand repetition of some or all type tests without any extra cost to OPTCL in the presence of Purchaser's representative at the cost of the supplier.

- 1 Insulation withstands tests :
  - (a) Lightning Impulse Voltage Test.
  - (b) Wet switching impulse test. (For 390KV/ 216KV only).
- 2 Residual voltage tests.
- 3 Long duration current impulses withstand tests.
- 4 Operating duty tests.
- 5 Pressure relief tests.
  - (a) High current test.
  - (b) Low current test.
- 6 Power frequency voltage vs. time curve.  
(Temporary over voltage test)
- 7 Contamination test (artificial pollution test).
- 8 Seismic withstand test.
- 9 IP-55 test on surge counter.
- 10 Minimum current operation tests of the surge counter.
- 11 Maximum current withstand test of the surge counter.
- 12 Mechanical terminal load test on bushing.
- 13 Partial discharge test.

N.B. :- Even if the condition i.e. ' the dry arcing distance or the sum of the partial dry arcing distances is larger than the test voltage divided by 500 KV/m', the lightning impulse voltage test must have been conducted or is to be conducted without any financial liability to OPTCL.

Even if the type test reports are found to be valid as per this specification, the purchaser reserves the right to demand the repetition of some or all the type tests in the presence of purchaser's representative. For this purpose, the bidder shall quote unit rates for carrying out each type test. These prices, if necessary, will be taken into consideration for bid evaluation.

5.2 **ROUTINE TESTS :**

The following routine tests shall be conducted at the supplier's cost on each surge arrester and shall be submitted along with or before offering for inspection for purchaser's approval.

- (a) Measurement of reference voltage.
- (b) Residual voltage tests.
- (c) Measurement for partial discharge and contact noise.
- (d) Sealing test for units with sealed housings.

5.3 **ACCEPTANCE TESTS :**

The following tests, considered as acceptance tests, shall be conducted in the presence of purchasers representative for which no charges will be payable by OPTCL. The acceptance tests, whenever possible shall be conducted on the complete arrester unit. The number of samples to be subjected to acceptance test shall be decided by the purchaser at the time of actual testing.

- I Temperature Cycle Test on Housing.
- II Measurement of Power Frequency Voltage at the reference current.
- III Measurement of leakage current and capacitive current at M.C.O.V.
- IV Lightning Impulse Residual Voltage Test at N.D.C., 50% of N.D.C. & 200% of N.D.C.
- V Partial Discharge Tests on complete arresters/units at 1.05 times M.C.O.V.
- VI Special Thermal stability test.
- VII Porosity test on porcelain components.
- VIII Galvanization test on metal parts.
- IX The functional (operational) test on the Surge Counter by way of checking its operation at following nominal discharge currents :
  - (i) 100 Amps with 8/20 micro second wave shape.
  - (ii) 10 KA with 8/20 micro second wave shape.
- X Check of calibration of leakage current meters.

6 **INSPECTION :**

- I The purchaser shall have access at all time to the works and all other places of manufacture, where the Surge Arresters are being manufactured and the supplier shall provide all facilities for unrestricted inspection of the supplier's works, raw materials, manufacture of all the accessories and for conducting the necessary tests.
- II The supplier shall keep the purchaser informed in advance of the time of starting and the progress of manufacture of equipment in its various stages so that arrangements could be made for inspection.
- III No material shall be dispatched from its point of manufacture unless the material has been satisfactorily inspected, tested and dispatch schedule attached to this specification.
- IV The acceptance of any quantity of equipment shall in no way relieve the supplier of his responsibility for meeting all the requirements of this specification and shall not prevent subsequent rejection, if such equipments are later found to be defective.

7 **QUALITY ASSURANCE PLAN :**

7.1 The Bidder shall invariably furnish following information along with his offer, failing which the offer shall be liable for rejection.

- (i) Statement giving list of important raw materials, names of sub-suppliers for the raw materials, list of standards according to which the raw materials are tested, list of tests, normally carried out on raw materials in presence of Bidder's representative, copies of test certificates.
- (ii) Information and copies of test certificates as in (I) above in respect of bought-out items.
- (iii) List of manufacturing facilities available.
- (iv) Level of automation, achieved and list of areas where manual processing exists.
- (v) List of areas in manufacturing process where stage inspections are normally carried out for quality control and details of such tests and inspections.
- (vi) Special features provided in the equipment to make it maintenance free
- (vii) List of testing equipments, meters available with Bidder for final testing of equipment, specified and test plant limitation, if any, vis-à-vis the type, acceptance and routine tests, specified in the relevant standards and this specification. These limitations shall be very clearly brought out in the offer.
- (viii) All the testing equipments, meters etc. should have been calibrated in a Government approved laboratory. The Bidder must submit the list of testing equipments and meters test-wise as per Annexure-C of this Technical Specification.

7.2 The suppliers, within 30 days of placement of order submit the following information to the purchaser.

- (i) List of raw materials as well as bought out accessories and the names of the materials as well as bought-out accessories and the names of sub-suppliers, selected from those, furnished along with the offer.
- (ii) Type test certificates of the raw material and bought out accessories.
- (iii) Quality Assurance Plan (QAP) with hold points for the purchaser's inspection. The QAP and hold points shall be discussed between the purchaser and the supplier before the QAP is finalized.

7.3 The supplier shall submit the routine test certificates of bought out item and raw material at the time of acceptance testing of the fully assembled equipment.

8.0 **DOCUMENTATION :**

8.1 All drawings shall conform to relevant Indian Standard as per relevant IS. All drawings shall be in ink and suitable for microfilming.

All dimensions and data shall be in S.I. Units.

8.2 The supplier shall furnish four sets of following drawings/documents' along with his offer.

- (i) General outline drawings of the complete Arrester with technical parameters.
- (ii) Drawings showing clearance from grounded and other line objects and between adjacent poles of Surge Arresters, required at various heights of Surge Arresters.
- (iii) Drawings showing details of pressure relief devices.

- (iv) Detailed drawing of discharge counters along with the wiring and schematic drawing of discharge counter and meter.
- (v) Outline drawing of insulating base.
- (vi) Details of grading rings, if used.
- (vii) Mounting details of Surge Arresters.
- (viii) Details of line terminal and ground terminals.
- (ix) Volt-time characteristics of Surge Arresters.
- (x) Details of galvanization being provided on different ferrous parts.
- (xi) The detailed dimensional drawing of porcelain Housing such as ID, OD, thickness and insulator details such as height, profile of petticoats, angle of inclination and gap between successive petticoats, total creepage distance etc.
- (xii) Cross-sectional view of the Surge Arrester Units showing all components.

**8.3 TEST REPORTS :**

- (i) Four copies of type test reports shall be furnished to the purchaser with the tender specification. Copies of acceptance test reports and routine test reports shall be furnished to the purchaser. One copy will be returned duly certified by the purchaser and only thereafter shall the materials be dispatched.
- (ii) All records of routine test reports shall be maintained by the supplier at his works for periodic inspection by the purchaser.
- (iii) All test reports of tests, conducted during manufacture shall be maintained by the supplier. These shall be produced for verification as and when requested for by the purchaser.

**9.0 PACKING AND FORWARDING :**

9.1 The equipment shall be packed in suitable crates so as to withstand handling during transport and outdoor storage during transit. The supplier shall be responsible for any damage to the equipment during transit, due to improper and inadequate packing. The easily damageable material shall be carefully packed and marked with the appropriate caution symbols. Wherever necessary, proper arrangement of lifting such as lifting hooks etc. shall be provided. Any material found short inside the packing cases shall be supplied by the supplier without any extra cost.

9.2 Each consignment shall be accompanied by a detailed packing list containing the following information :

- (a) Name of the consignee :
- (b) Details of consignment :
- (c) Destination :
- (d) Total weight of consignment :
- (e) Sign showing upper/lower side of the crate :
- (f) Handling and unpacking instructions :
- (g) Bill of materials indicating contents of each package :

9.3 The supplier shall ensure that the bill of materials is approved by the purchaser before dispatch.

**10.0 QUANTITY AND DELIVERY REQUIREMENT :**

- (i) **This is set out in Appendix - II of this specification.**
- (ii) The scope of supply shall include a supply of 2.5% extra quantity of bolts, nuts, washers, split pins, cotter pins and such other small loose items free of cost.

# APPENDIX - I. **(TECHNICAL REQUIREMENTS)**

## **TECHNICAL REQUIREMENTS FOR METAL OXIDE (GAPLESS) SURGE ARRESTERS**

The Surge Arrester under this Specification shall conform to the parameters given below :-

		390KV	216KV	120KV	30KV
Sl. No.	Particulars.	Technical Parameters	Technical Parameters.	Technical Parameters	Technical Parameters
1	Nominal system voltage (phase to phase) (KV rms).	400	220	132	33
2	Highest system voltage (phase to phase) (KV rms).	420	245	145	36
3	System Frequency (HZ).	50 ± 5 %	50 ± 5 %	50 ±5%	50 ±5%
4	System Neutral earthing.	Effectively earthed.	Effectively earthed.	Effectively earthed	Effectively earthed
5	Installation.	Outdoor.	Outdoor.	Outdoor	Outdoor
6	Class.	Station class, 10 KA, heavy duty type.	Station class, 10 KA, heavy duty type.	Station class, 10 KA, heavy duty type.	Station class, 10 KA, heavy duty type.
7	Type of construction for 10 KA rated arrester.	Single column, single phase.	Single column, single phase.	Single column, single phase.	Single column, single phase
8	No. of phases.	Three	Three	Three	Three
9	Maximum duration of earth fault (Sec.)	3	3	3	3
10	Maximum prospective symmetrical fault current at arrester location (KA rms.)	40	40	40	40
11	Rated arrester voltage (KV rms)	390	216	120	30
12	Nominal discharge current (KAP)  Discharge current at which insulation co ordination will be done	10 KA of 8/20 micro-second Wave. And 20 KA of 8/20 micro sec wave	10 KA of 8/20 micro-second Wave.	10 KA of 8/20 micro-second Wave.	10 KA of 8/20 micro-second Wave.
13	Minimum energy discharge capability (KJ/KV)	As per relevant ISS/IEC	As per relevant ISS/IEC	As per relevant ISS/IEC	As per relevant ISS/IEC
14	Maximum continuous operating voltage at 50° C(KV rms)	303	175	102	25
15	Maximum switching surge residual voltage (KVP)	780 at 1KA	496 at 1KA	272 at 1KA	72 at 500A

16	Maximum residual voltage at 8/20 micro second(KVP)				
	(i) 5 KA.		567	320	85
	(ii) 10 KA Nominal discharge current.	900 KVp	600	340	90
	(iii) 20 KA.	975 KVp	668	380	100
17	Long duration discharge class	3	3	3	2
18	High current short duration test value (KAP)(4/10 Micro-second wave).	100	100	100	100
19	Current for pressure relief test (KA-rms)	40	40	40	40
20	Minimum total creepage distance (mm).	10500	6125	3625	900
21	One minute dry and wet power frequency withstand voltage of Arrester housing (KV-rms).	630	460	275	70
22(a)	Impulse withstand voltage of arrester housing with 1.2/50 micro-second wave (KVP).	+1425	+ 1050	+650	+170
(b)	Switching Impulse Voltage (Wet) (KVP)	+1050	700	-	-
23	Pressure relief class.	A	A	A	A
24	Corona extinction voltage (KV-rms).	320 min	216	-	-
25	RIV at 92 KV rms.	Less than 500 micro volts	Less than 500 micro volts.	Less than 500 micro volts.	Less than 500 micro volts
26	Partial discharge at 1.05 times continuous over-voltage.	Not more than 50 PC.	Not more than 50 PC.	Not more than 50 PC	Not more than 50 PC
27	Seismic acceleration.	0.3g horizontal 0.15g vertical	0.3g horizontal 0.15g vertical.	0.3g horizontal 0.15g vertical.	0.3g horizontal 0.15g vertical
28	Reference ambient temperature.	50°C	50°C	50°C	50°C
29	(a) IR at MCOV.	Less than 500 micro amperes.	Less than 500 micro amperes.	Less than 500 micro amperes.	Less than 400 micro amperes
	(b) IC at MCOV.	Less than 1500 micro amperes.	Less than 1500 micro amperes.	Less than 1500 micro amperes.	Less than 1200 micro amperes
30	a) Reference Current (mA)	1 to 5 mA	1 to 5 mA	1 to 5 mA	1 to 5 mA
	b) Reference voltage at reference current.	Greater than rated voltage.	Greater than rated voltage.	Greater than rated voltage.	Greater than rated voltage.
31	Maximum steep current Impulse RDV (KVP) at 9KAP	1050	654	372	100

32	Maximum cantilever strength of the arresters (KGM).	1000	1000	1000	325
33	TOV(KVP).				
	(i) 0.1 sec.	580	382	170	53
	(ii) 1.0 sec.	565	366	163	51
	(iii) 10.0 sec.	550	351	156	49
	(iv) 100.0 sec.		336	149	47



**ANNEXURE-A.**  
**GUARANTEED TECHNICAL PARTICULARS**

(To be filled in by the Bidder)  
**400 KV   220 KV   132KV   33KV**

1	Bidder's Name and Address.				
2	Manufacturer's Name.				
3	Manufacturer's type designation.				
4	Applicable standards.				
5	Arrester class and type.				
6	Rated Arrester Voltage (KV rms).				
7	Maximum continuous operating voltages (MCOV) at design ambient temperature (KV-rms).				
8	Nominal discharge current (8/20 micro second wave) (KA).				
9	Minimum discharge capability referred to rated voltage at minimum of discharge characteristics (KJ/KV).				
10	Line discharge class as per IEC.				
11	Maximum switching surge residual voltage at 1 KA (KVP) for 216KV, 120KV and for 30KV at 500A.				
12	Maximum switching surge residual voltage at 1 KA for 390KV, 216 KV.				
13	Maximum residual voltage for 8/20 micro-second current wave.				
	(a) At 50 % nominal discharge current.				
	(b) At 100 % nominal discharge current.				
	(c) At 200 % nominal discharge current.				
14	Maximum residual voltage with 1 micro-second current wave at 10 KAP (KVP).				
15	One minute power frequency (dry) & (wet) withstand voltage of arrester (KV-rms).				
16	Impulse withstand test voltage of arrester housing with 1.2/50 micro-second wave (KVP).				
17	High current short duration (4/10				

	micro-second impulse wave) (KAP).				
18	Low current long duration (KAP).				
19	Reference voltage and corresponding reference current of arrester (KV)(mA).				
20	Maximum internal leakage current by its rms or peak value and both resistive and capacitive component separately at				
	(a) COV (resistive/capacitive) (mA).				
	(b) 1.1 COV (resistive/capacitive) (mA).				
	(c) COV at 150°C (resistive/capacitive) (mA).				
	(d) Reference voltage (resistive/capacitive)(mA).				
21	Pressure relief class.				
22	Are the protection levels affected by pollution of external insulation.				
23	Energy absorption capability per operation of the arrester, during a switching surge discharge (KJ).				
24	Maximum amount of energy that may be despatched into the arrester during discharge assuming that discharge takes place within 1 minute period and state the switching surge current (KJ/KA).				
25	Internal pressure required to operate pressure relief device as a percentage of burst pressure of porcelain (KJ) & %.				
26	Dynamic over-voltage withstand capability (KV-rms).				
	(a) For 0.1 Second.				
	(b) For 1 Second.				
	(c) For 10 Seconds.				
	(d) For 100 Seconds.				
27	Minimum prospective symmetrical fault current (KA).				
28	Rejection rate of ZnO blocks during manufacturing and operation for the past three years (%) separately.				
	(a) 2004-2005.				
	(b) 2005-2006.				
	(c) 2006-2007.				
29	<b>ZnO DISC DATA.</b>				

	(a) Rated voltage of ZnO disc. (KV-rms).				
	(b) No. of ZnO discs in a unit (Nos.)				
	(c) No. of units of arrester (Nos.)				
	(d) Height/thickness of ZnO discs (mm).				
	(e) Diameter of ZnO disc (mm).				
30	<b>EXTERNAL INSULATION.</b>				
	(a) Type.				
	(b) Applicable standard.				
	(c)(i) Lightning Impulse withstand test voltage of housing with 1.2/50 micro sec. Wave (KVP).				
	(ii) Wet switching impulse test voltage (KVP)				
	(d) One minute power frequency withstand voltage of arrester housing KV rms.				
	[i] Dry.				
	[ii] Wet.				
	(e) Total creepage distance of arrester housing (mm).				
	(f) Cantilever strength of complete arrester (Kg-m).				
31	<b>OVER ALL DIMENSIONS.</b>				
	(a) Overall Height (mm).				
	(b) Height upto top of terminal pad from mounting plane (mm).				
	(c) Material of terminal pad.				
	(d) Size of terminal pad (mm).				
	(e) Mounting dimensions and diameter of mounting holes (mm).				
	(f) Diameter of insulator (mm).				
	(g) Total weight of complete arrester (Kg.)				
32	<b>TERMINAL CONNECTOR.</b>				
	(a) Manufacturer's Name.				
	(b) Applicable standards.				
	(c) Type.				
	(d) Material of connector.				
	[i] Clamp body.				
	[ii] Bolts and Nuts.				
	[iii] Spring washers.				
	(e) Rated current (Amps.)				
	(f) Rated terminal load (kg.)				
	(g) Factor of safety.				
	(h) Minimum thickness of any part (mm).				

	(i) Weight of clamp complete with hard ware (kg.)				
	(j) Type test report as per IS enclosed.				
	(k) OGA Drawing enclosed.				
33	<b>INSULATORS.</b>				
	(a) Manufacturers Name.				
	(b) Type.				
	(c) Applicable standards.				
	(d) Height (mm).				
	(e) Diameter (top)(mm).				
	(f) Diameter (bottom) (mm).				
	(g) Total creepage distance (mm).				
	(h) Rated voltage (KV - rms).				
	(i) Power frequency withstand voltage for 1 min. dry and wet (KV - rms).				
	(j) 1.2/50 micro - second impulse withstand voltage (KVP)				
	(k) Corona Extinction voltage (KV-rms)				
	(l) Weight (kg.)				
	(m) Maximum allowable span (mm).				
	(n) Cantilever strength (Kg - m).				

**ANNEXURE - B**  
**CHECK - LIST**

- 1 Whether calculation towards energy handling capability of the Surge Arrester furnished as per Clause No.3.2 of TS ?
- 2 Whether there is provision of Corona Grading Ring in the SA as per Clause No.3.4 and 4.15.4 of TS ? ..... If not, whether justification for non-provision of the same furnished ?
- 3 Whether calculations and supporting evidence furnished to satisfy Clause No.3.7 of TS ?
- 4 Whether the heat treatment cycle details along with necessary quality checks used for individual blocks furnished as per Clause 4.10 of TS ?
- 5 Whether sectional view of arrester showing details of sealing provided as per Clause No.4.11 of TS furnished ?
- 6 Whether S.A. is suitable for hot line washing as per Clause No.4.12 of TS ?
- 7 Whether porcelain petticoat is of Aero foil design ? Whether drawing of porcelain Housing as per Clause No.4.13.4 of TS furnished ?
- 8 Whether information as per Clause No.7.1 (i) to (viii) of TS furnished ?
- 9 Whether drawings and documents as per Clause No.8.2 (i) to (xii) of TS furnished ?
- 10 Whether special measures in the manufacture of Surge Arrester for operating at ambient temperature of 50°C (against 40°C as per IEC-99-4, Clause No.4.4.1) are to be taken ? ..... State the special measures in details .....

Signature of the Tenderer With Seal & Date

**APPENDIX - II**  
**QUANTITY AND DELIVERY SCHEDULE**

Delivery Phases	Description.	Quantity required.	Desired delivery.	Destination.
PHASE-I	<b>LOT I-</b> 400 KV S. A <b>LOT II-</b> 220 KV S. A <b>LOT III-</b> 132KV S. A <b>LOT IV-</b> 33KV S. A	11Nos. 148Nos. 305Nos. 375Nos.	4 (Four) months from the date of the placement of the purchase order.	Any store/site within Orissa State, same will be indicated in the purchase order/release order.
PHASE-II	<b>LOT I-</b> 400 KV S. A <b>LOT II-</b> 220 KV S. A <b>LOT III-</b> 132KV S. A <b>LOT IV-</b> 33KV S. A	6No. 76Nos. 201Nos. 248Nos.	Commencement- After 01.04.2015 Completion- 30.07.2015	Any store/site within Orissa State, same will be indicated in the purchase order/release order.

The detail delivery programme and quantity to be delivered will be intimated at the time of placement of the purchase order/issue of release order.

## ANNEXURE -C.

### CALIBRATION STATUS OF TESTING EQUIPMENTS AND INSTRUMENTS/METERS

Name of the test.	Meters and equipments required for the corresponding test with range accuracy make and Sl. No.	Date of Calibration.	Due date of Calibration.	Name of the Calibrating Agency	Whether Calibrating Agency is Govt. Approved.	Whether documents relating to Govt. Approval of the calibrating Agency furnished ?	Whether the meters/equipment fulfill the accuracy class as per calibration report	Whether the calibrating agency has put any limitation towards the use of the particular meter/equipment. If yes, state the limitations.	Whether green sticker or blue sticker or yellow sticker has been affixed on the body of the particular equipment /meter. State the colour of the affixed sticker.	In spite of imposed limitations, whether the particular meter/equipment can still be used? Justify its use for corresponding test(s).	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

Signature of the tenderer with seal and date.

## ANNEXURE-D

### CHECK LIST TOWARDS TYPE TEST REPORTS

Name of the Type Test.	Date of Test.	Name of the Laboratory where the Test has been conducted.	Whether the Laboratory is Government Approved.	Whether the Test reports are valid as per Clause No.5.1 of T.S.	Whether the copy of Test Report in complete shape along with drawings etc. furnished or not?	Whether the Type Tested Surge Arrester fulfills the technical requirements as per TS.	If the type tested Surge Arrester does not fulfill the technical requirements as per this specification, whether the bidder agrees to conduct the particular type test again at their own cost without any financial liability to OPTCL in the presence of OPTCL's representative within the specified delivery period.	Remarks.
1	2	3	4	5	6	7	8	9

Signature of the Tenderer with seal and date.