



ODISHA POWER TRANSMISSION CORPORATION LTD

OFFICE OF THE GENERAL MANAGER STORES & SERVICES

JANAPATH, BHUBANESWAR-751022

TEL NO. 0674-2547185 FAX NO. 0674-2542964

TENDER SPECIFICATION NO.

G.M.[S&S]- 32 / 2012-13

FOR

SUPPLY & INSTALLATION OF 1NO. 500KVA 11/0.4KV TRANSFORMER
UNDER BUYBACK SCHEME FOR POWER SUPPLY TO MULTISTOREYED
BUILDING OF OPTCL, BHUBANESWAR

DATE OF OPENING OF TENDER PAPER- 11 .04.2013 , 4.00PM

COST OF TENDER PAPER- 4000.00 + 5% VAT



ODISHA POWER TRANSMISSION CORPORATION LTD
REGD. OFFICE, JANAPATH, BHUBANESWAR -751022

No. EMC-102/12/

dt.

TENDER NOTICE NO. 32 /2012-13

For and on behalf of Odisha Power Transmission Corporation Ltd., G.M. (S&S.) invites Tenders from reputed Manufacturers for Supply & Installation of 1No. 500KVA 11/0.433KV Transformer under buyback scheme for power supply to Multistoreyed building of OPTCL, Bhubaneswar duly super scribed on the cover as : "Tender for procurement of 1No. 500KVA 11/0.433KV Transformer". Tender papers can be downloaded from the OPTCL website from dt. 13.03.2013 to dt. 11 .04.2013. The tender will opened on dt. 11 .04.13 at 4.00PM. Interested firms may visit OPTCL's official website www.optcl.co.in for detail specifications.

GENERAL MANAGER [S&S]

CC to

1. The Dir(Engg),OPTCL for kind inf.
2. The CGM(O&M),OPTCL for kind inf.
3. The SE,CWC/EE,CWD,OPTCL



NOTICE INVITING TENDER

ODISHA POWER TRANSMISSION CORPORATION LTD
JANPATH, BHUBANESWAR – 751 022,

TENDER NOTICE NO. 32 /2012-13

For and on behalf of the Odisha Power Transmission Corporation Limited, the undersigned invites bids under SINGLE-part bidding system in double-sealed cover, for the works as mentioned below, duly super scribed with Tender Specification No. & Date of opening, from reputed suppliers for Supply & Installation of 1No. 500KVA 11/0.433KV Transformer for power supply to multistoreyed building of OPTCL, Bhubaneswar.

| Sl. No. | Tender Specification No. | Description of works. | Earnest Money Deposit (In ₹.) | Cost of Tender Paper | Last date of receipt & opening of tender |
|---------|--------------------------|--|-------------------------------|----------------------|--|
| 1. | G.M. S&S-32 /2012-13 | Supply & Installation of 1No. 500KVA 11/0.433KV Transformer for power supply to multistoreyed building of OPTCL, Bhubaneswar | 6,000.00 | 4000+5% VAT | 11.04.13 at 1.00PM & 4.00PM respectively |

The tender specification documents can be had from the office of the undersigned on payment of non-refundable cost of tender specification documents in the shape of cash from 10 A.M. to 3 P.M. during dt. 13 .03.2013 to dt. 11.04.2013 (both days inclusive) on any working day either in person or by remitting demand draft payable to General Manager, Stores circle, OPTCL, Bhubaneswar- 751 022. No other mode of payment is acceptable. No tender documents will be sold on any other day except as indicated.

The specification can also be downloaded from OPTCLs official web site in free of cost. And the same may be submitted alongwith the cost of tender document by way of demand draft / pay order payable to General Manager, Stores circle, OPTCL, Bhubaneswar at the time of submission of tender document. In case, any deviation is found in the tender document submitted by the Tenderers from the content mentioned in our web site and/or non-submission of the cost of tender documents. The tender shall be liable for rejection at any stage of the contract. The Tenderers has to indemnify OPTCL for any loss accruing due to such alteration in the terms and conditions of the tender document & / or for such alteration, resulting in the cancellation of the contract. Minimum qualification criteria of bidders: The firm have supplied & successfully commissioned same capacity of transformer within last five years. The firm having registration with PAN,TIN with VAT & Service tax.

GENERAL MANAGER
STORES & SERVICES

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COMMERCIAL SPECIFICATION

PART – I SECTION - I INSTRUCTIONS TO TENDERER

1. Submission of Bids:-

Sealed tenders in triplicate on single part basis, each complete in all respect, in the manner hereinafter specified are to be submitted in the office of General Manager (S&S), OPTCL, Bhubaneswar on or before the date and time specified against the relevant tender Specification in the notice inviting the tenders. Each copy of the bids (original, duplicate and triplicate) shall be in separate double sealed envelopes super scribed on each of the covers the relevant tender Specification number and the due date of opening of the bids on the right hand top side of the envelopes. On the left top sides original/duplicate/triplicate as is relevant, shall be written.

2. Division of Specification:

The Specification is mainly divided into single part Consists of

- (i) Section-I : Instructions to Tenderers.
- (2) Section-II : General conditions of supply (commercial)
- (iii) Section-III : Schedules and forms etc.
- (iv) Section-IV : Technical Specification.
- (v) Abstract of price components as per Annexure-IV.
- (vi) Schedule of prices as per Annexure-V.

3. Tenders shall be in single Parts

The Tenderers are required to submit the tenders in single parts each in separate double sealed covers. Part-I shall be superscripted as "E.M.D., technical and commercial" "price bid".

4. Opening of Bids.

- (a) The bid shall be opened in the office of the General Manager (S&S) in presence of such of the Tenderers or their authorized representatives (limited to one person only) on the due date of opening of tender and after scrutiny of the technical particulars and other commercial terms, clarifications as may be required, shall be sought for from the bidders.

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 General Manager (S&S) on the specified date and time in present of such of the Tenderers or their authorized representatives (limited to one person only) in case of each bidders who may desire to be present, at the time of opening the bids. The General Manager (S&S) or his authorized

representatives will, on opening each bid, read aloud the name of the bidder. He shall also read aloud the attested and un-attested corrections and shall record the number of such corrections on each page of the technical bid over his dated initials and also initial all such corrections.

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.**

Tenderers who have purchased the Specification from the office or downloaded from the official website of OPTCL & deposited the tender cost while submitting the tender will only be considered.

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

The purchaser reserves the right to reject any or all the tenders without assigning any reasons what so ever 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) Bids, complete in all respect shall be submitted in person or by registered Post with A.D. Any other mode shall not be accepted. When delivered in person, the tenders shall be received by a responsible officer of the office of the General Manager (S&S), OPTCL who shall officially acknowledge the receipt of the same. Tenders received after due date and time shall be returned un-opened.

(B) **Telegraphic, Telephonic or FAX Tenders** shall not be accepted under any circumstances.

11. (i) **Earnest Money Deposit.**

The tender shall be accompanied by Earnest Money Deposit of value specified in the notice inviting tenders. Tenders without the required E.M.D. will be rejected outright .

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

(a) Cash: Payable to General Manager, Stores circle, OPTCL, Bhubaneswar.

(b) Bank Draft: To be drawn in favour of the General Manager, Stores circle, OPTCL, Bhubaneswar.

(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 worth Rs.29/- to be accompanied by the confirmation letter of the issuing Bank.

(d) National saving Certificates duly pledged in favour of General Manager (S&S), OPTCL, (Hqrs. Office), Bhubaneswar-751022.

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 ₹.25,000/- (Rupees twenty-five thousand) only the Earnest Money Deposit may be made either in cash or Bank Draft. Above ₹.25,000/- (Rupees Twenty Five Thousand only) the Earnest Money Deposit shall be furnished in shape of NSCs or EMD Bank Guarantee, as per proforma attached.
- (i) No adjustment towards Earnest Money Deposit shall be permitted Against any outstanding amount with OPTCL.
- (ii) 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.
- (iii) Earnest Money will be forfeited if the Tenderer fails to accept the letter of intent and /or purchase orders issued in his favour.

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** Tenderers are requested to quote FIRM price only.

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) If required, the Tenderers may be asked to extend the validity period of bids under the same terms and conditions as per the original tender except for the change in delivery period, In such an event the Tenderers are free to change any or all conditions of their bids including price at their own risk.

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 General Manager (S&S), 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 submit tenders in the following manner :-

- (I) Declaration Form. (As per Annexure –I)
- (ii) Earnest Money /Documents in support of exemption from Earnest Money Deposit if any.(As per Annexure-VI)
- (iii) Technical Specification and Guaranteed Technical Particulars conforming to the Purchaser's Specification along with drawings and literature.
 - a. Abstract of Terms & Conditions in prescribed Proforma as per Annexure-II.
 - b. General Terms & Conditions of supply offer as per Section-II of specification.
 - c. List of orders executed for similar items during preceding four years indicating the customer's name & P.O. copies.
 - d. Data on past experience as per Clause-7 of Section –II of the Specification.
 - e. Sales Tax, Income Tax clearance certificates, for the previous year.
 - f. Schedule of quantity and delivery in the prescribed proforma vide Annexure-III.
 - g. Orders in hand to be executed.
 - h. Abstract of Price Components, as per Annexure-IV.
 - i. Schedule of prices in the prescribed proforma as per Annexure – V.

17. **Conditional Offer**

Conditional offer shall not be accepted.

18. **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. The price bids of others (along with E.M.D. if any) shall be returned to the bidders unopened.

PART - I
SECTION - II

GENERAL TERMS & CONDITIONS OF CONTRACT (G.T.C.C)

1. **Scope of the Contract**

The scope of the contract shall be to Supply & Installation of 1No. 500KVA 11/0.433KV Transformer for power supply to multistoreyed building of OPTCL, Bhubaneswar.

2.0 **Definition of Terms**

For the purpose of this Specification and General Terms & Conditions of Contract (G.T.C.C.) the following words shall have the meanings hereby indicated, except where otherwise described or defined.

2.1 "The Purchaser" shall mean the General Manager (S&S) for & 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.

2.2 "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.

2.3 "The Contractor" shall mean the Bidder whose bid has been accepted by the Purchaser and shall include the Bidders' executives, Administrators, Successors and permitted assignees.

2.4 "Equipment" shall mean and include all machinery, apparatus, Materials, articles to be provided under the contract by the Contractor.

2.5 "Contract Price" shall mean the sum named in or calculated in accordance with the provisions of the contract as the "Contract Price" which shall include packing, forwarding, freight, insurance excise duty, sales tax, Octroi and other taxes and duties as applicable at the time of opening of bids.

2.6 "General Conditions" shall mean these General Terms and Conditions of Contract.

2.7 "The Specification" shall mean the Specification annexed to or issued with G.T.C.C. and shall include the schedules & drawings attached thereto as well as all samples and pattern, if any.

2.8 "Month" shall mean "Calendar month".

2.9 "Writing" shall include any manuscript, type written, printed or other statement re-production in any visible form and whether under seal or under hand.

2.10 "F.O.R. Destination Costs" shall mean the cost of equipment and material at the consignee's stores. The cost is exclusive of Excise duty, Sales Tax and other Local Taxes, but is inclusive of packing, forwarding and insurance and freight charges.

2.11 The term "Contract documents" shall mean and include G.T.C.C., Specifications, Schedules, Drawings, Form of Tender, Covering Letter, Schedule of Price of the final

successful bidder any special conditions applicable to the particular contract, Specifications and drawings and the purchase order & the agreement to be entered into.

2.12 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 on the Contractor's premises the materials and workmanship of all equipment to be supplied under this contract and if part of the said equipment is being manufactured on other premises, the Contractor shall obtain for the Purchaser's representative, permission to inspect, examine and test as if the equipment were being manufactured on the Contractor's premises. Such inspection, examination and testing shall not release the Contractor from his obligations under the contract.

ii) The Contractor shall give to the Purchaser adequate time/notice(at least 5 days for inside the State suppliers and 15 days for outside the State suppliers) in writing for inspection of materials indicating the place at which the equipment is ready for testing and inspection and shall also furnish the Routine Test Certificates and Packing List along with offer for inspection to the Purchaser indicating the quantity which can be delivered in full truck load/Mini truck load to facilitate issue of dispatch instruction.

iii) Where the contract provides for test on the Premises of the Contractor or of any of his Sub-Contractors, the Contractor 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 carryout such test effectively & efficiently. The Contractor is required to produce Routine Test Certificate before offering their materials for inspection.

iv) After completion of the tests, the Purchaser's representative shall forward the test results to the Purchaser. If the test results are satisfactory, the purchaser shall communicate the same to the Contractor in writing. The Contractor shall provide at least three 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 a dispute regarding the quality of supply.

5. **Training Facilities**

The Contractor shall provide all possible facilities for training of Purchaser's Technical personnel, where applicable when deputed by the Purchaser for acquiring first hand knowledge in assembly of the equipment and for it's proper operation and maintenance in service if required.

6. **Rejection of Materials**

In the event any of the materials/equipment supplied by the Contractor 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 materials/equipment or ask the Contractor in writing to rectify the same. The Contractor on receipt of such notification shall either rectify or replace the defective equipment free of cost of the Purchaser. If the Contractor fails to do so, the Purchaser may :-

- (a) As its option, replace or rectify such defective equipment and recover the extra costs so involved from the Contractor 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 Manufacture.
- ii) Standing of the firm and manufacture of equipment quoted:
- iii) Description of equipment similar to the quoted, supplied and installed during the last four years with the name(s) of the party(s) to whom supplies were made:
- 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 executed during the last four years along with user's certificate.
- viii) Equipment capability & upto calibration certificate(s) .

Bids may not be considered if the past manufacturing experience is found to be unsatisfactory or is of less than 4 years on the date of opening of the bid.

8. **Language and Measures**

All documents pertaining to the contract including Specifications, Schedule, Notices, Correspondence, Operating & 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, drawing etc. specified in the tender schedule thoroughly before tendering so that, if any deviations are made by the Tenderers the same are prominently brought out on a separate sheet under heading "Deviations".

A list of deviation shall be enclosed with the Tender. Unless deviation 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, notwithstanding 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 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 the above action(s).

11. **Contractor to inform himself fully**

The Contractor 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 additional allowances except as otherwise provided therein will be levied. The Purchaser shall not be responsible for any misunderstanding or incorrect information obtaining by the Contractor other than the information given to the Contractor in writing by the Purchaser.

12. **Patent Rights Etc.**

The Contractor shall indemnify the Purchaser against all claims, actions, suits and proceedings for the infringement or alleged infringement of any patent design or copy right protected either in the country of origin or in India by the use of any equipment/materials supplied by the Contractor. But such indemnity shall not 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 essence of the contract, the equipment shall be supplied within the delivery date 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 or Intent/Purchase order as may be specified in the LOI/Purchase order.
- (b)
 - i) The desired delivery period shall not ordinarily exceed more than 3 months.
 - ii) The quantity offered for inspection should tally with the lots prescribed for delivery in the purchase order.
 - iii) Dispatch instructions shall be issued to accommodate a full truck load/mini truck load.

(c) The installation & commissioning of AC Machines is to be completed within 30days from the date of supply.

14. Despatch instructions.

i) The materials should be securely packed and dispatched directly to the consignee at the Contractor's risk by Lorry Transport only.

ii) **Loading & Unloading of Ordered Materials.**

It will be the sole responsibility of the Contractor for loading and unloading & stacking of materials both at the factory site and at the destination store. The Purchaser shall have no responsibility on this account.

15. Contractor's Default Liability.

i) The Purchaser may, upon written notice of default to the Contractor, terminate the contract in circumstances detailed hereunder.

(a) If in the judgment of the Purchaser, the Contractor fails to make delivery of equipment within the time specified in the contract or within the period for which extension has been granted by the Purchaser in writing in response to written request of the Contractor.

(b) If in the judgment of the Purchaser, the Contractor 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 equipment/material similar to those terminated and the Contractor will be liable to the Purchaser for any additional costs for such similar equipment and/or for penalty for delay as defined in Clause-23 of this section until such reasonable time as may be required for the final supply of equipment.

iii) In the event the Purchase does not terminate the contract as provided in Clause 15(i) of this Section, Contractor shall continue executing the contract, in which case he shall be liable to the Purchaser for penalty for delay as set out in Clause-23 of this Section until the equipment is accepted. This shall be based only on written request of the supplier and written willingness of Purchaser.

16. Force Majeure:

The Contractor 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, provided that the Contractor shall within ten (10) days from the beginning of such delay notify the Purchaser in writing of the cause of delay, upon which, the Purchaser shall verify the facts and grant such extension as facts justify.

17. Extension of Time.

If the delivery of equipment/materials is delayed due to reasons beyond the control of the Contractor, the Contractor 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 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 12 (twelve) months from the last date of commissioning or 18 months from the date of delivery 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 Contractor free of cost to the Purchaser provided such defects are due to faulty design, bad workmanship or bad materials used, upon written notice from the Purchaser.
- ii) Equipment/material failed or found defective during 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 Stores after such repair/replacement which ever is earlier.
Date of delivery as used in this Clause shall mean the date on which the materials are received in OPTCL stores in good condition, which are released for dispatch by the Purchaser after due inspection.

19. Bank Guarantee towards Security Deposit, 100% Payment and performance Guarantee.

A Composite Bank Guarantee as per the proforma enclosed at Annexure-VII of the specification for 10%(Ten percent) of the total cost of the purchase order, shall be furnished from any Nationalised/ Scheduled Bank having a place of business at Bhubaneswar, to the office of General Manager (S&S), OPTCL within 15(Fifteen) days of issue of purchase order. The Bank Guarantee shall be executed on non-judicial stamp paper worth of Rs.29/- or as applicable, as per the prevalent rules, valid for a period of 2(two) month more than the guarantee period mentioned at clause-18 for scrutiny and acceptance, failing which the supply order will be liable for cancellation without any further written notice. The said Bank Guarantee should be accompanied or followed by a confirmation letter from the concerned Bank, & should have provision for encashment at BBSR, before the bank Guarantee is accepted & all concerned intimated. The BG should be revalidated as & when intimated to you to cover the entire guarantee period. You are requested to extend the validity of the entire guarantee period.

- i) No interest is payable on any kind of Bank Guarantee.
- ii) In case of non-fulfillment of contractual obligation as required in the detailed purchase order/specification, the composite Bank Guarantee/Permanent Registration Fee shall be forfeited.
- iii) The Composite/Performance Bank guarantee amount on the full order value shall be deducted from the first claim of the supplies made in cases where no Composite Bank Guarantee/Performance Bank Guarantee is furnished.

20. (A) Performance Guarantee

The suppliers those who are not covered under Clause-19(i), (ii), (iv) of this Specification including Central/State Govt. undertaking are required to furnish a performance Guarantee to the tune of 2.5% of the total F.O.R. Destination cost of the purchase order in shape of Bank Guarantee from any Nationalised or Scheduled Bank on a non-judicial stamp paper worth Rs.29/- or as applicable as per prevalent rules, as per the proforma at Annexure-VIII of the Specification. Such performance Bank Guarantee shall be furnished while delivering the first Lot of goods or within 30 days of issue of the purchase order whichever is earlier. The Bank Guarantee shall be valid to cover the guarantee period for the materials as stipulated under Clause -18 of the Specification. Such Bank Guarantee shall be supported by the confirmation letter of the issuing Bank.

(B) Annexure – XI –enclosed to the Specification may be referred to for details regarding security Deposit, Payment and Performance Guarantee.

21. 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.

22. Terms of Payment.

100% payment shall be made within 30 days on Supply & Installation of Transformer at site subject to verification by the consignee and approval of Guarantee Certificates by the purchaser and furnishing of @10% value of cost of transformer as Composite Bank Guarantee.

23. Penalty for Delay in Completion of Contract.

(i) If the Contractor 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 Contractor penalty for a sum of one half of one percent (0.5 per cent) of the Ex-works price of the undelivered equipment for each calendar week of delay or any part thereof. For this purpose the date of receipted challans shall be reckoned as the date of delivery. The total amount of penalty shall not exceed five per cent (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, parts are also delivered. If certain components are not delivered in time, the equipment will be considered as delayed until such time as the missing parts are delivered.

(ii) If the contractor fails to rectify/ replace the equipment/materials within 30days from the date of intimation of the fact, 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 shift from the 30th day from the date of issue of letter on defective ness of equipments/materials, so supplied by the purchaser. The total amount of penalty in this case shall not exceed 10% (Ten percent) at the purchase order amount. If the defects so intimate will not rectified by the suppliers within the guarantee period then whole of the BG will be forfeited by the purchaser, without any intimation to the supplier.

24. Insurance

The Contractor at his cost shall arrange, secure and maintain all insurance as may be pertinent to the works and obligatory in terms of law to protect his interest and interests of the employer, against all perils detailed herein. The form and the limit of such insurance as defined herein together with the under-writer in each case shall be acceptable to the employer. However irrespective of such acceptance the responsibility to maintain adequate insurance coverage at all time during the period of Contract. Shall be of the contractor alone. The contractor's is failure in this regard shall not relieve him of any of this contractual responsibilities and obligations. The Insurance covers to the taken by the Contractor shall be in the joint name of the Employer and the Contractor. The Contractor shall, however, be authorized to deal directly with Insurance Company or Companies and shall be responsible in regard to maintenance of all insurance covers. Further the insurance should be in freely convertible currency. Any loss or damage to the equipment during handling, transportation, storage erection, putting into satisfactory operation and all activities to be performed till the successful completion of commissioning of the equipment shall be to the account of the Contractor.

25. Payment Due from the Contractor.

All costs and damages, for which the Contractor is liable to the Purchaser, will be deducted by the Purchaser from any money due to the Contractor under any of the Contract(s).

26 Sales Tax Clearance, Balance sheet and Profit & Loss Account.

- (i) Sales Tax clearance certificates valid upto the date of opening of Tender, should be enclosed with tender.
- (ii) Balance sheet and profit and loss account of the bidder duly certified by the Chartered Accountant for the previous 3 years should be enclosed to assess the financial soundness.

27. Certificate for 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.

28. Contractor's Responsibility.

Notwithstanding anything mentioned in the Specification or subsequent approval or acceptance by the Purchaser, the ultimate responsibility for design, materials used and satisfactory performance shall rest with the Tenderers.

29. Validity.

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

30. Evaluation & Comparison of Bids.

(i) Weightage shall be given to the following factors in the Evaluation & Comparison of Bids.

- (a) Early Delivery.
- (b) Past track record in delivery of similar items to OPTCL.
- (c) Track record in manufacture & supply of similar items to other utilities other than OPTCL.
- (d) Deviation in the bid vis-à-vis in the stipulation in the Bid Specification both in Technical and Commercial.
- (e) In comparing bids and in making awards, the Purchaser may consider such factors as compliance with Specification, 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.

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 Contractor under the terms of the contract shall be served by Registered Post or by hand at the Contractor'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:** General Manager (S&S)
ODISHA POWER TRANSMISSION CORPORATION LTD,
Bhubaneswar-751022. Phone: 0674-2541801/ 2542554

- (ii) **Supplier:**

Address:

Telephone No.

FAX No.

34. Outright Rejection of Tenders.

Tenders shall be outright rejected if they are not complying with the following requirements:

- i) Tenders shall be submitted in person or by **Registered Post with A.D.**
- ii) Tenders shall not be submitted telegraphically or by FAX.
- iii) Tenders shall be accompanied by the prescribed Earnest Money Deposit unless otherwise qualified for exemption from furnishing of EMD.
- iv) Tender shall be kept valid for a period of 180 days from the date of opening of Tender.
- v) Tender shall be submitted in one part as specified.
- vii) 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.
- viii) Tenderer should quote FIRM price and the price should be kept valid for a period of 180 days from the date of opening of the tender.

35. Documents to be treated as Confidential.

The Contractor shall treat the details of the Specification and other Tender documents as private and confidential and they shall not be reproduced without written authorization from the Purchaser.

36. Scheme/Projects.

The materials/equipments covered in this Specification shall come under Capital works of OPTCL.

TECHANICAL SPECIFICATION

TECHINCIAL SPECIFICATION FOR 11/433 KV, 500 KVA COPPE R WOUND DISTRIBUTION TRANSFORMER.

1. SCOPE:

1.1 This specification covers design, manufacturing, testing and delivery of 500 KVA, 11/0.433, three phase, oil immersed, Oil Natural Air Natural (ONAN), outdoor type distribution transformers (conventional type) suitable for 11 KV and 50 Hz distribution system.

1.2 The equipment offered shall be completed with all parts necessary for their effective and trouble-free operation. Such parts will be deemed to be within the scope of the supply irrespective of whether they are specifically indicated in the commercial order or not.

1.3 It is not the intent to specify herein complete details of design and construction. The equipment offered shall conform to the relevant standards and be of high quality, sturdy, robust and of good design and workmanship complete in all respects and capable to perform continuous and satisfactory operations in the actual service conditions at site and shall have sufficiently long life in service as per statutory requirements.

1.4 The design and constructional aspects of materials shall not withstanding any anomalies, discrepancies, omissions, in-completeness etc. in these specifications and will be subject to good engineering practice in conformity with the required quality of the product, and to such tolerances, allowances and requirements for clearances etc. as are

necessary by virtue of various stipulations in that respect in the relevant Indian Standards, IEC standards, I.E. Rules, I.E. Act and other statutory provisions.

1.5 The Bidder / supplier shall bind himself to abide by these considerations to the entire satisfaction of the purchaser and will be required to adjust such details at no extra cost to the purchaser over and above the tendered rates and prices.

1.6 Tolerances: The tolerance of guaranteed performance figures shall be as specified in the (Part-I) table 7 of latest issue of IS 2026 or relevant International Standard except wherever specified otherwise in this specification.

2. System particulars:

The transformers shall be suitable for outdoor installation with following system particulars and they should be suitable for service under fluctuations in supply voltage as permissible under Indian Electricity Rules.

- Nominal System Voltage : 11KV
- Corresponding Highest System Voltage : 12KV
- Natural earthing : Solidly earthed
- Frequency : 50Hz with +5% tolerance
- Number of phase : 3

3. Service conditions:

3.1 Equipment supplied against the specification shall be suitable for satisfactory operation under the following tropical conditions:

- i. Max. Ambient air temperature : 50° C
- ii. Max relative humidity : 100%
- iii. Max. Annual rainfall : 1450 mm
- iv. Max. Wind pressure : 150kg/sq.m
- v. Max. Altitude above mean sea level : 1000mtrs
- vi. Isoceraenic level : 50
- vii. Seismic level (Horizontal acceleration) : 0.3g
- viii. Climatic Condition : Moderately hot and humid tropical

climate conducive to rust and fungus growth

- ix. Reference Ambient Temperature for Temperature rise : 50° C

3.2 The climatic conditions are prone to wide variations in ambient conditions and hence the equipment shall be of suitable design to work satisfactorily under these conditions.

4. Applicable standards:

The design, manufacture and performance of the equipment shall comply with all currently applicable statutes, regulations and safety codes.

The distribution Transformers shall conform to IS: 2026 as amended up to date or other International Standards for equal or better performance.

Unless otherwise specified, the equipment offered shall conform to latest applicable Indian, IEC, British or U.S.A. Standards and in particular to the following:

| | | |
|----|---|--|
| a. | IS : 2026 (part I, II, IV)/1997, (Part-III)/1981, (Part-V)/1994 | Power & Distribution Transformer |
| b. | IS : 1180/1989 (Part-1) | Outdoor type, Three phase distribution transformers up to and including 100 KVA, 11 KV |
| c. | IS : 335/1993 | New insulating oil – Specification (fourth revision) |
| d. | IS : 2099/1986, IS : 7421 – 1988, IS : 3347 (Part-I/Sec-2)-1979, IS : 3347 (Part-I/Sec-I)-1982 Amended up to date | Bushing |
| e. | IS : 5 | Colours for ready mixed paints and enamels |
| f. | IS : 13730 (Part – 27) 1996 | Specifications for particular types of winding wires |
| g. | IS : 3073/1974, IS : 3070 (Part-II) | Specifications for Lighting Arrestors |
| h. | CBIP Publication no. 295:2006 | Manual on transformers |

In case of conflict arising out due to variations between the applicable standard and the standards specified herein the provisions of this specification should prevail.

5. Specific Technical requirement:

- a) Standard KVA Ratings: The standard ratings for transformer shall be 500 KVA.
- b) Nominal voltage ratings: Primary voltage: 11 KV, Secondary voltage: 0.433 KV.
- c) Winding connections:
 - i) H.V. Winding :Delta
 - ii) L.V. Winding : Star

The natural of the L.V. Winding shall be brought out to a separate insulated insulated terminal. The vector group shall be DYn-11.
- d) Temperature Rise:
 - i) The temperature rise for top oil over an ambient temperature of 50° C should be 35° C maximum (measured by thermometer in accordance with IS 2026 or relevant International Standard) i.e. Max. Temp. of top oil shall not exceed 85° C.

6. Design & construction

6.1 Core

- i) The core shall be stacked type
 - a) For Stack core: The core shall be of high prime grade cold rolled grain oriented (C.R.G.O) annealed steel lamination having low loss and good grain properties, coated with hot oil proof insulation, bolted together to the frames firmly to prevent vibration or noise. All core clamping bolts shall be effectively insulated. The complete design of core must ensure permanency of the core losses with continuous working or the transformers.
 - b) The construction of Top/Bottom yoke shall be one. No cut core shall be allowed by any case.
- ii) The grade of core laminations shall be HIB grade. The grade of core laminations shall be required to submit the manufacture's test report showing the watt Loss per kg and the thickness of the core lamination, to ascertain the quality of Core materials. The purchaser reserves the right to get sample of the core material tested at any Government recognized laboratory.
- iii) The transformer core shall not be saturated for any value of V/f ratio to the extent of 112.5% of the rated value of V/f ration (i.e. 11000/50 or 22000/50) (due to combined effect of voltage and frequency) up to 12.5% without injurious heating at full load conditions and will not get saturated. The bidder shall furnish necessary design data in support of this situation.
- iv) Core base and bottom yoke shall be supported with 75X40 mm MS channel properly bolted together. In no case Flat or Cut channels shall be accepted.
- v) Flux Density:

Flux density should not be more than 1.5 Tesla at the rated voltage and frequency. The value of the flux density allowed in the design shall be clearly stated in the offer along with graph.
- vi) The No load current at rated voltage shall not exceed the percentage given in Table below:

| SL NO | KVA RATING | AT RATED VOLTAGE | AT 112.5% RATED VOLTAGE |
|-------|------------|--|--------------------------------|
| 1 | 500 | 1.25% of the full load current in LT winding | 2.5% of the full load current. |

- vii) Number of steps of core shall be minimum 9 for 500 KVA transformers.

Note: In case if it is found at any stage that the core used is defective/second used/scrap core or no load loss found to be more than stipulated limits, the supplier is liable for imposing penalty and even blacklisting the firm at the discretion of purchaser.

6.2 Winding:

- a. Materials: Double paper covered Electrolytic copper conductor shall be used for HV and LV winding.
- a. Current Density: Current density for HV and LV winding or any part should not be more than 2.8 A/sq.mm on any working tap including extreme tap.
- b. L.V. Neutral formation shall be at top.
- c. Vertical ducts & sufficient spacers should be provided between HV & LV windings.
- d. The current density of delta lead shall not exceed 205 A/mm².
- e. The no of LV coil and HV coil in one limb shall be 1 & 6 in each case.

6.3 Losses:

The losses shall not exceed the values given below

| KVA | NO LOAD LOSS (W) (Max) | LOAD LOSSES (W) AT 75°C (Max) |
|-----|------------------------|-------------------------------|
| 500 | 1100 | 6500 |

No tolerance for losses of 11/0.433 KV Distribution transformers as per IS: 1180 (Part-1) amended up to date. In case the actual loss values exceed the above guaranteed values (during tenure of supply i.e. at works / at store / at site), the transformers shall be rejected at the risk, cost and responsibility of the supplier.

The values guaranteed in G.T.P. For flux density, no load current at rated voltage, no load current at 112.5% of rated voltage and no load loss at rated voltage shall be individually met.

6.4 Insulation material & clearances:

a. Materials – Makes of Electrical grade insulating craft paper, press board, Perma wood / Haldi wood insulation shall be declared in GTP by the bidder. The test reports for all properties as per relevant I.S. amended up to date shall be submitted during inspection.

b. The electrical clearance between the winding and body of the tank (between inside surface of the tank and outside edge of the windings) should not be less than 25 mm for 11 KV class.

Minimum external clearances of bushing terminals.

| | | |
|----|----------|-------|
| HV | Ph to PH | 255mm |
| | Ph to E | 140mm |
| LV | Ph-to-Ph | 75mm |
| | Ph to E | 40mm |

- c. The clearance between HV coil & Top/Bottom yoke shall be 25 mm (min).
- d. Inter coil insulation shall not be less than 9 mm.
- e. The insulation between core & LV shall be 4 mm (min).
- f. The insulation between HV coil & LV coil shall be 11 mm (min).
- g. Minimum 8 nos. of wedges to be provided.

6.5 Impedance Value:

The percentage impedance at 75°C shall be 5% for 315 & 500 KVA transformers with positive tolerance of 10%. No negative tolerance on % impedance is allowed.

6.6 Tank

6.6.1 The transformer tank shall be made up of prime quality, High grade, low carbon steel plate & suitable for welding. The transformer tank shall be of robust construction. All joints of tank and fittings should be oil tight and no bulging shall occur during service. The tank design shall be such that the core and windings can be lifted freely. The tank plates shall be of such strength that the complete transformer when filled with oil may be lifted bodily means of the lifting lugs provided. Tank inside shall be painted by hot oil resistant varnish or paint. Top cover plate shall be slightly sloping; approximately 5 to 10 deg. towards HV bushing and edges of cover plate should be bent downwards so as to avoid entry of water through the cover plate gasket. The width of bend plate shall be 25 mm min. the top cover shall have no cut at point of lifting lug. The rectangular tank shall be fabricated by welding at corners.

6.6.2 The tank should be of rectangular shape. Horizontal or vertical joints in tank side walls and its bottom or top cover will be not allowed. In addition the cover of the main tank shall be provided with an air release plug.

Side wall thickness : 3.15 mm (min).

Top and bottom plate thickness : 5 mm (min).

6.6.3 Reinforced by welded angle 50X50X6 mm on all the outside walls on the edge of tank to form two equal compartments. The permanent deflection is not more than 5 mm up to 750 mm length and 6 mm up to 1250 mm length when transformer tank without oil is subject to air pressure of 35 Kpa above atmospheric pressure for 30 min. Pressure test shall be performed carefully at the time of 1st stage inspection only to confirm the adequacy of reinforcement angle and gauge of the tank and certified by inspector.

6.6.4 All welding operations to be carried out by MIG process.

6.6.5 Lifting lugs: 4 nos. welded heavy duty lifting lugs for 250 KVA of MS plate of 10 mm thickness suitably reinforced by vertical supporting flat of same thickness as of lug welded edgewise below the lug on the side wall, up to reinforcing angle. They shall be so extended that cutting of bend plate is not required.

6.6.6 Pulling lugs: 4 nos. of welded heavy duty pulling lugs of MS plate of 8 mm thickness shall be provided to pull the transformer horizontally in length side.

6.6.7. Top cover fixing bolts: GI nut bolts of 3/8" dia X 1/2" with one plain washer shall be used for top cover fixing, spaced at 2 1/2" apart 6mm neoprene bonded cork oil resistance gaskets conforming to type B/C IS 4253 Part-II amended up to date will be placed between tank and cover plate. Four nos sealing bolt to be provided at four corners of top cover.

6.6.8. All pipers, radiators stiffeners which are welded to the tank wall shall be welded externally & shall be double welded wherever possible. All welds shall be stress relieved.

6.6.9. Vertical clearance: The height of the tank shall be such that minimum vertical clearance up to the top cover plate of 80 mm is achieved from the top of the tap changer.

6.7 Painting

6.7.1. All paints shall be applied in accordance with the paint manufacture's recommendations. Particular attention shall be paid to the following:

- a) Proper storage to avoid exposure as well as extremes of temperature.
- b) Surface preparation prior to painting.
- c) Mixing and thinning
- d) Application of paints and the recommended limit on time intervals between coats.
- e) Shelf life for storage.

6.7.2. All paints, when applied in normal full coat, shall be free from runs, sags, wrinkles, patchiness, brush marks or other defects.

6.7.3. All primers shall be well marked into the surface, particularly in areas where painting is evident, and the first priming coat shall be applied as soon as possible after cleaning. The paint shall be applied by airless spray according to the manufacture's recommendations. However, wherever airless spray is not possible, conventional spray be used with prior approval of purchaser.

6.7.4. The supplier shall prior to painting protect nameplates, lettering gauges, sight glasses, light fittings and similar such items.

6.8 Cleaning and surface preparation

6.8.1. After all machining, forming and welding has been completed, all steel work surfaces including radiators shall be thoroughly cleaned of rust, scale, welding slag or spatter and other contamination prior to any painting.

6.8.2. Steel surfaces shall be prepared by Sand / Shot blast cleaning in accordance with ISO 8501 part 1 or chemical cleaning by seven tank process including Phosphate to the appropriate quality.

6.8.3. The pressure and volume of the compressed air supply for the blast cleaning shall meet the work requirements and shall be sufficiently free from all water contamination prior to any painting.

6.8.4. Chipping, scraping and steel wire brushing using manual or power driven tools cannot remove firmly adherent mill-scale and shall only be used where blast cleaning is impractical.

6.9. Protective coating

As soon as all items have been cleaned and within four hours of the subsequent drying. They shall be given suitable anticorrosion protection (painting) strictly as stated below.

Painting – Transformer Tank, Pipes, Radiator etc.

| | Surface preparation | Primer Coat | Intermediate Undercoat | Finish Coat | Total DFT | Colour Shade |
|-------------------------------------|-----------------------------------|--|-----------------------------------|------------------------------------|------------|--|
| Tank, Pipe etc. (External Surfaces) | Blast Cleaning | Epoxy base Zinc Primer (30-40 µm) | Epoxy HB MIO (30-40 µm) | Aliphatic Polyurethane (min 50 µm) | Min 155 µm | 697 shade as per IS 5 |
| Tank (Internal surfaces) | Blast clearing Sa2 ^{1/2} | Hot oil resistant, non-corrosive varnish or paint or epoxy | _____ | _____ | Min 30 µm | Glossy white for paint |
| Radiator (External surfaces) | Chemical/blast cleaning (Sa21/2) | Epoxy base Zinc primer (30-40 µm) | Epoxy base Zinc primer (30-40 µm) | PU paint (min 50 µm) | Min 30 µm | Matching shade of tank / different shade aesthetically matching to |

| | | | | | | |
|--|-------------------------------|---|--|--|--|------|
| | | | | | | tank |
| Radiator and pipes (Internal surfaces) | Chemical cleaning if required | Hot oil proof, low viscosity varnish, flushing with transformer oil | | | | |

6.10 Painting procedure

6.10.1 Painting shall be carried out in conformity with both specifications and with the paint manufacture's recommendations. All paints in anyone particular system. Whether shop or site applied, shall originate from one paint manufacturer.

6.10.2 Particular attention shall be paid to the manufacture's instructions on storage, mixing, thinning and pot life. The paint shall only be applied in the manner detailed by the manufacture e.g. Brush, roller, conventional or airless spray and shall be applied under the manufacturer's recommended conditions. Minimum and maximum time intervals between coats shall be closely followed.

6.10.3 All prepared steel surfaces should be primed before visible re-rusting occurs or within 4 hours whichever is sooner. Chemical treated steel surfaces shall be primed as soon as the surface is dry and while the surface is warm.

6.10.4 Where the quality of film is impaired by excess film thickness (wrinkling, mud cracking or general softness) the supplier shall remove the unsatisfactory paint coatings and apply another. As a general rule, dry film thickness should not exceed the specified minimum dry film thickness by more than 25%. In all instances, where two or more coats of the same paints are specified, such coatings may not be of contrasting colors.

6.10.5 Paint applied to items that are not be painted, shall be removed at supplier's expense, avail the surface clean, un-stained and undamaged.

6.11 Damages to paints work

6.11.1 Any damage occurring to any part of the painting scheme shall be made good to the same standard of corrosion protection and appearance as that originally employed.

6.11.2 Any damaged paint work shall be made as follows:

a) The damaged area, together with an area extending 25 mm around its boundary, shall be cleaned down to bare metal.

b) A priming coat shall immediately applied, followed by a full paint finish equal to the originally applied and extending 50 mm around the perimeter of the originally damaged.

6.11.3 The repainted surface shall present a smooth surface. This shall be obtained by carefully chamfering the paint edges before & after priming.

6.11.4 Dry film thickness

6.11.4.1 To the maximum extent practicable, the coats shall be applied as a continuous film of uniform thickness and free of pores. Over-spray, skips, runs, sags and drips should be avoided. The different coats may not be same color.

6.11.4.2 Each coat of paint shall allow to harden before the next is applied as per manufacture's recommendations.

6.11.4.3 Particular attention must be paid to full film thickness at edges.

6.11.5 Painting procedure: All painting shall be carried out in conformity with both specifications and with the paint manufacture's recommendations. All paints in anyone particular system. Whether shop or site applied, shall originate from one paint manufacture.

6.11.6 Particular attention shall be paid to the manufacture's instructions on storage, mixing, thinning and pot life. The paint shall only be applied in the manner detailed by the manufacture's recommended conditions. Minimum and maximum time intervals between coats shall be closely followed.

6.11.7 All prepared steel surfaces should be primed before visible re-rusting occurs or within 4 hours whichever is sooner. Chemical treated steel surfaces shall be primed as soon as the surface is dry and while the surface is warm.

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Each coat of paint shall allowed to hardened before the next is applied as per manufacture's recommendations.

6.11.12 Particular attention must be paid to full film thickness at edges.

6.12 Heat Dissipation (Radiator):

a. Heat dissipation by tank walls excluding top and bottom should be 500W / sq.m.

b. Heat dissipation by film type (pressed steel) radiator 1.25 mm thick will be worked out on the basis of manufacture's data sheet. The tendered shall submit the heat dissipation calculation sheet with the offer or the offer shall stand rejected.

c. 4 nos. radiators shall be provided on LV/HV side respectively. They should be fixed at right angle to the sides and not diagonally. The size of the radiator shall be such that it covers at least 50% of the bottom yoke, full core and complete top yoke.

6.13 Conservator :

a) The total volume of conservator shall be such as to contain 10% of total quantity of oil in the tank. It should have the capacity between the highest & lowest visible levels to meet the requirement of expansion of the total cold oil volume in the transformer & cooling equipment from the minimum ambient temperature i.e. -5°C to 98°C . Dimension of the conservator shall be indicated on the General Arrangement Drawing.

b) Oil level indicator shall be provided on the side which will be with fully covered detachable flange with single gasket and tightened with GI nut-bolt.

c) The inside diameter of the pipe connecting the conservator to the main tank shall be within 20 to 50 mm and it should be project in to the conservator in such way that its end is approximately 20 mm above the bottom of the conservator so as to create a sump for collection of impurities. The minimum oil level (corresponding to -5°) should be above the sump level.

d) The pipe from conservator tank connecting to main tank shall be minimum 32 mm (min.) dia and shall have a slopping flap so that the oil falling from the pipe shall not fall directly on the active job and shall fall on the side walls only.

e) The conservator shall be provided with the drain plug and a filling hole (30 mm dia) with cover.

f) Pressure Release Device: Explosion vent as pressure release device shall be mounted on the top of the cover of the transformer. MS pipe of 80 mm dia shall be used for the same. Suitable diaphragm shall be used for the same. Suitable diaphragm shall be used for releasing of pressure.

6.14 Breather:

Breather joints will be screwed type. It shall have die-cast aluminum body or of Polypropylene materials and inside container for silica gel shall be of tin sheet, in case of aluminum die cast breather. Makes of the breather shall be subject to purchaser's approval. Volume of breathers shall be suitable for 500 gm. of Silica Gel. The make and design of breather shall be subject to approval of purchaser.

6.15 Terminals:

AAAC. Brass terminal stud of suitable size to carry 1000 A for 500 KVA for LT with necessary nuts, check-nuts and plain thick tinned washer & extended tinned brass / copper terminal plate (palm connector) to accommodate 3 no of cables to evacuate power.

6.16 Bushing & Connections:

6.16.1 For 11 KV class 12 KV bushing shall be used and for 433 volts 1.1 KV bushing shall be used. Bushings of the same voltage class shall be interchangeable. Bushings with plain shed shall be as per relevant IS: 3347 amended up to date. HV bushings shall not be mounted on the

top of the transformer tank & LV bushings shall not be mounted on the top of the transformer tank & LV bushings shall be mounted outside of the transformer tank.

6.16.2 Only continuous sheet metal pocket shall be provided for mounting all HV/LV bushing and the same shall not be fixed on pipes. Sheet metal pockets shall be designed in such a way that all H.V. Bushings shall remain parallel and at equal-distance throughout. Bushings having type tested, as per relevant IS amended up to date shall only be acceptable. Bushings on top cover shall not be acceptable.

6.16.3 The minimum creep age distance for both HV & LV bushings shall not be less than 25 mm per KV.

6.17. Internal connections:

6.17.1 H.V. Winding:

1. In case of HV winding all jumpers from winding to bushing shall have cross section larger than winding conductor.
2. Inter coil connection shall be by crimping and brazing.
3. Lead from delta joint shall be connected to bushing rod by brazing only. The current density in Delta lead shall be less than 1.5 A/mm².

6.17.2 L.V. Winding:

1. L.T. Star point shall be formed of Aluminum/Copper flat of sufficient length & size. Lead from winding shall be connected to the flat by crimping and brazing.
2. Firm connection of LT winding to bushing shall be made of adequate size of "L" shaped flat. Connection of LT coil lead to 'L' shape flat shall be by crimping and brazing. Alternatively 'L' shape lug of adequate capacity effectively crimped shall be acceptable.
3. 'L' shape flat/lug shall be clamped to LV bushing metal party by using nut, lock-nut and washers.
4. For Aluminum windings, L&T Alkapee aluminum brazing rods with suitable flux shall be used. For copper winding crimping and silver brazing alloy shall be used.

6.18. Tank base channel: It should be of 2 numbers of 75 mm X 40 mm channel for transformers. Unidirectional roller shall be provided.

6.19. Terminal Marking plates and rating plates:

Terminals shall be provided with terminal marketing plates. The transformer shall be provided with riveted rating plate of minimum 8 SWG aluminum anodized material sheet in a visible position. The entries of the rating plate shall be in indelibly marked (i.e. by etching, engraving or stamping) as OPTCL and 'Sr. No.' of transformer shall be engraved on transformer main tank below L.T. Bushings.

The name of the company, order No., capacity, month and year of manufacturing shall be engraved on separate plate which shall be firmly welded to main tank and shall form integral part of the tank.

6.20. Fittings:

The fittings on the transformer shall be as under:

| | | |
|-----|--|--|
| 1. | Rating and diagram plate | 1 no. |
| 2. | Earthing terminals with lugs | 2 no. |
| 3. | Lifting lugs | 4 no. for main tank & 2 nos. for Top cover |
| 4. | Oil fitting hole with cap (on conservator) | 1 no. |
| 5. | Drain valve – 20mm for all T/Fs | 1 no. |
| 6. | Conservator with drain plug | 1 no. |
| 7. | Thermometer pocket | 1 no. |
| 8. | Explosion vent | 1 no. |
| 9. | Silica gel breather | 1 no. |
| 10. | Platform mounting channel | 2 nos. |
| 11. | Oil level gauge indicating 3 positions of oil marked as below: | 1 no. |
| | Minimum (-) 5 ^o C. | |
| | Normal 30 ^o C. | |

| | | |
|-----|---|--|
| | Maximum 98° C | |
| 12. | HT & LT bushing | 3 nos. of HT bushing with bimetallic connectors. Each bushing (HV & LT) should be provided with 3 nos. of brass nuts and 2 plain brass washers. LV bushing should be provided with palm connector of suitable size of tinned brass / copper for evacuation of power through 3 runs of cable. |
| 13. | Radiators | As per specification |
| 14. | Lightening Arresters for HT bushings | 1 set (3 nos.) |
| 15. | Pulling lugs | 1 set (3 nos.) |
| 16. | Metallic cover spot welded to tank for drain valve shall be provided. | |

6.21. Lightening Arresters:

High surge capacity of 9 KV (Vrms), 5 KA (8/20 micro wave shape) Lightening Arrester for 11 KV transformers conforming to IS : 3070/1974 shall be mounted on the transformers, clamped securely to the tank to protect the transformer and associated line equipment from the occasional high voltage surges resulting from lighting or switching operations. The earthing terminal of the lightening arresters shall be connected solidly to the transformer tank earthing in terminal. Tinned Copper branded flexible connector / strip shall be provided for connection to HT bushing and LA terminal. The bidder shall have to submit details such as make type test reports and other technical details of Lighting Arresters along with the technical bid.

6.22 Transformer Oil:

Transformer oil to be used in all the Distribution transformers shall comply with the requirements of latest IS 335/1983 amended up to date thereof. In addition the oil should confirm to 'Ageing Characteristics' specified below for New Oil and Oil in Transformers. Type test certificates of oil being used shall be produced to at the time of stage inspection.

New oil-ageing characteristics after accelerated ageing test 96 hrs. at 115° C (open beaker method with copper catalyst):

- (i) Specific Resistance (Resistivity)
 - a. At 20° C:- 2.5X10¹² Ohm-Cm (Min)
 - b. At 90° C:- 0.2X10¹² Ohm-Cm (Min)
- (ii) Dielectric dissipation factor – 0.20 (Max. tan delta) at 90° C.
- (iii) Total acidity mg/KOH/gm-0.05 (Max.)
- (iv) Total sludge value (%) by weight – 0.05 (Max)
- (v) The method of testing these aging characteristics is given in Appendix – C of IS 335 amended up to date.
- (vi) Oil filled in transformers :

The important characteristics of the transformer oil after it is filled in the transformer (within 3 months of filling) shall be as follow:-

| Sl. No. | Characteristics | Specifications |
|---------|---|------------------------|
| 1. | Electric strength (Breakdown voltage) | 30 KV (Min.) |
| 2. | Dielectric dissipation factor (Tan Delta) at 90° C | 0.01 (Max.) |
| 3. | Specific Resistance (Resistivity) at 27 deg. C (Ohm-Cm) | 10X10 ¹² |
| 4. | Flash Point, P.M. (Closed) | 140° C (Min.) |
| 5. | Inter facial tension at 27° C | 0.03 N/M (Min.) |
| 6. | Neutralization value (total acidity) | 0.05 Mg. KOH/gm (Max.) |
| 7. | Water content PPM | 35 (Max.) |

7.0. Test and Inspection:

7.1. Testing facility

The bidder should have adequate testing facility for all routine and acceptance tests and also arrangement for measurement of losses, resistance etc. details of which will be enumerated in the tender.

The inspector of the purchaser will witness routine & type tests. In order to facilitate this, the manufacturer shall give a 15 days notice that the material is ready for inspection & testing. The material shall be dispatched only after approval of such test reports and issue of dispatch clearances by the purchaser. However the purchaser reserves the right to retest the transformers after delivery at any National Accredited Testing Laboratory in case of any disputes regarding guaranteed specifications of supplied transformers at a later date during guarantee period. The cost of such retesting shall be borne by the supplier.

7.2. Routine & Acceptance Tests:

7.2.1. All transformers shall be subjected to the following routine & acceptance tests at the manufacturer's works. The tests are to be carried out in accordance with the details specified in IS 2026 or as agreed upon between the purchaser and the manufacturer.

- (a) Measurement of winding resistance.
- (b) Ratio, polarity and phase relationship.
- (c) Load losses.
- (d) No-load losses and No-load current.
- (e) Insulation resistance.
- (f) Induced over voltage withstand.
- (g) Separate source voltage withstand.

7.2.2. All the routine tests shall be conducted in the suppliers' laboratory at their cost.

7.2.3. Heat run test shall be arranged free of cost on the unit selected from the 1st lot by Authorized Representative.

7.2.4. The calculations to confirm the thermal ability as per Clause no.- 9.1 of latest IS : 2026 Part-I or equivalent International Standard shall be submitted to our representative.

7.3. Type Tests:

The bidder should submit the report of following tests carried out in a NABL accredited laboratory:

- A. Temperature Rise Test
- B. Short Circuit Test containing the measured no load loss and load loss.
- C. Impulse Test

The balance type tests as stated below, should be carried at the manufacturer's works invariably in the presence of representative of the purchaser at the time of inspection from the first lot.

- D. Temperature Rise Test.
- E. Air pressure test as per clause no.- 22.5 of IS : 1180 (Part-I)1989.
- F. Unbalanced current test.

In respect of the successful bidder, the purchaser reserves the right to demand repetition of some or all the above tests in presence of the purchaser's representative. In case the unit fails in the type tests or routine tests, the complete lot offered shall be rejected.

7.4. Submission Routine Test Certificate:

The successful bidder shall submit the routine test certificate along with documentary evidence for having paid the Excise Duty for the following raw materials viz. Oil, Aluminum, Copper for conductors, insulating materials, core materials, bushings at the time of routine testing of the fully assembled transformer.

7.5. Stag Inspection:

7.5.1. Supplier shall give 15 days' advance intimation to the purchase dept. to organize stage inspection in which assembly of core windings and other core materials etc. would be inspected. In respect of raw materials such as core stamping, winding conductor, oil etc. successful bidder shall use these materials manufactured / supplied by the standard manufacturers and furnish the manufacturer's test certificates, as well as proof of purchase from those manufactures documentary evidence for having paid the excise duty for the information of the department. Purchaser will depute his representative at the time of stage inspection.

7.5.2. All the transformers of 10% of the transformers from the offered lot will be tested for acceptance tests at factory, in the presence of purchaser's representative before dispatch.

7.5.3. The inspection may be carried out by the purchaser at any stage of manufacture. The successful bidder shall grant free access to the purchaser's representatives at a reasonable time when the work is in progress. Inspection and acceptance of any equipment under this specification by the purchaser shall not relieve the supplier of his obligation of furnishing

equipment in accordance with the specifications and shall not prevent subsequent rejection if the equipment is found to be defective.

7.5.4. The purchaser may at its option, open a transformer supplied to the Stores, in presence of supplier at site or at Stores. If any of the technical particulars are seen to be in variance than the guaranteed technical particulars, the whole lot of transformer will be rejected without any liability on purchaser.

7.5.5. Testing of all Distribution Transformers for no load and full load losses.

After inspection of new transformers at factory for acceptance of the lot, all distribution transformers from the lot will be tested for no load and full load losses at all stores. Bidder has the liberty to be present at the time of testing.

7.5.6. Inspection & testing of Transformer oil:

The bidder shall make arrangements for testing of transformer oil to be used in the transformers testing will be done in presence of purchaser's representative.

To ascertain quality of transformer oil, original manufacturer's test report should be furnished to (Testing) at the time of factory inspection for acceptance of the lot.

7.6. Rejection:

Apart from rejection due to failure of the transformer to meet the specified test requirements the transformer shall be liable for rejection on any one of the following reasons.

- i. Losses exceed the specified values mentioned in specification.
- ii. Impedance voltage value exceeds the guaranteed value plus tolerances as per specification.
- iii. Type test are not carried out as per the specification.
- iv. Drawings is not submitted as per the specification.
- v. GTP not submitted as per the specification.
- vi. Heat dissipation calculation sheet are not submitted as per the specification.

7.7. Quality Assurance:

a) The bidder shall invariably furnish test certificates and information as following along with the offer failing to which the offer will be rejected.

- i. Aluminum and copper conductor.
- ii. Transformer Oil.
- iii. Core
- iv. Insulating paper
- v. Porcelain Bushings
- vi. Steel Plate used for Tank.
- vii. List of testing & measuring equipments indicating the make type, year of manufacture, last date of calibration, name of the agency carried out the calibration etc. Purchaser reserves the right to visit the works of manufacture to ensure the available testing facility prior to placement of order.

b) Names of the supplier for the raw materials, list of standard accordingly to which the raw materials are tested, list of test normally carried out on raw materials in presence of bidder's representatives, copies of type test certificates.

c) Information and copies of test certificate as in (i) above respect of bought out accessories including terminal connectors.

d) List of manufacturing facilities available. In this list the bidder shall specifically mention whether lapping machine, vacuum drying plant, air conditioned dust free room with positive air pressure for provision of provision of insulation and winding etc. are available with him.

e) Level of automation achieved and list of areas where manual processing still exists.

f) List of areas in manufacturing process where stage inspection are normally carried out for quality control and details of such tests and inspections.

g) Special features provided in the equipments to make it maintenance free.

h) List of testing equipment available with the bidder for final testing of transformers and test plant limitation, if any, via-a-vis the type, special acceptance and routine tests specified in the relevant standards and the present specification.

7.8. Drawings:

A set of following drawings with all dimensions shall be submitted by the Bidder along with the offer:

- A. General Dimensional Drawings.
- B. Core Assembly Drawing.

- C. Internal Construction Drawing.
- D. Rating & Diagram Plate Drawing.
- E. HV/LV Bushings indicating measurement of creep age distances.
- F. Loss, Flux density, Heat dissipation calculation sheets.
- G. G.A. Drawing of off load Tap Charger.

The drawings shall be of A-3 (420X297 mm) size only. The bidder should also supply along with his offer the pamphlet / literatures etc. for fittings / accessories.

The bidder should not change design once offered as per A/T, Approved drawings and Type Test Reports.

The successful bidders shall submit complete set of drawings of transformer in triplicate indicating dimensions for approval and get approved it before offering 1st stage inspection.

7.9 Performance Guarantee:

The transformers supplied against this specification shall be guaranteed for a period of 30 months from the date of receipt at the consignee's Stores Center or 24 months from the date of commissioning, whichever is earlier. However, any engineering error, omission, working provisions etc. which do not have any effect on the time period, shall be attended to as and when observed / pointed out with any price implication.

8. Cost data sheet:

The bidders shall submit the cost data sheets indicating the break up prices and quantity of each raw material and components along with the unit rates required for manufacture the offered transformers along with the offer. The cost data sheet format is enclosed herewith. If the rates quoted are not justified with the cost data sheets, the offer shall not be considered for evaluation and placement of the order.

9. Non-compliance schedule :

On this schedule the bidder shall provide a list of non-compliance with this specification, documenting the effects that such non-compliance is likely to have on the equipment's life and operating characteristics. Each non-compliance shall refer to the relevant clause of the specification.

Where there are no deviations from specifications, the bidder shall so indicate by standing "No deviations" in this schedule.

| Clause No. | Non Compliance |
|------------|----------------|
| | |

10.0. Type Test Certificate Schedule

10.1. On this schedule a list of the test certificates included with the bid shall be provided. Each certificate listed shall be referred to the relevant specification clause and item of equipment to which the test applies.

| Sl. No. | Particular of Test | Type Test Certificate Ref. | Year of Test |
|---------|--------------------|----------------------------|--------------|
| | | | |

10.2 In case of any doubt in the type test reports submitted by the bidder, the purchaser reserves the right to verify the original type test reports, as well as to refer to the concerned laboratory directly without recourse to the bidder.

11.0 Capitalization of losses and liquidated damages for excessive losses

11.1. Losses:

Transformer with lower losses shall be preferred. The bidder shall indicate the values of load and no load losses of the transformer in his bid.

11.2. Capitalization of losses:

for total cost evaluation, the capitalized cost of losses will be taken into account as per the following:

f. Where W_i = No load losses in KW & $A = ₹ 1,52,847.00$ for no load losses.

g. W_e = Load losses in KW & $B = ₹ 20,175.00$ for load losses.

The no load loss in KW at rated voltage & frequency and the load loss in KW at rated current, rated frequency, rated output and at 75° C shall be quoted and these figures shall be guaranteed.

11.3. Liquidated damage

Liquidated damages for non-performance of transformers shall be recovered from the supplier in case he is unable to achieve the quoted guaranteed loss figures at the rate equivalent to the double of the rate considered for evaluation i.e. At the following rates.

- a. For each KW of excess in no load losses : ` 3,05,694.00
- b. For each KW of excess in no load losses : ` 40,350.00

However, the purchaser reserves the right to reject the transformer outrightly, if any of the losses, i.e. No load loss or load loss or both exceed (s) the specified maximum permissible loss as mentioned in the technical specification

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.

| | | |
|-------|---|---------------|
| i) | Declaration Form | ANNEXURE-I |
| ii) | Abstract of Terms & Conditions to accompany Section – II of Part – I | ANNEXURE-II |
| iii) | Schedule of Quantity & Delivery | ANNEXURE-III |
| iv) | Abstract of Price Component (to accompany Part – II of this Specification). | ANNEXURE-IV |
| v) | Schedule of prices to accompany Part – II | ANNEXURE-V |
| vi) | Bank Guarantee form for Earnest Money Deposit. | ANNEXURE-VI |
| vii) | Composite Bank Guarantee form for security Deposit, Payment & Performance. | ANNEXURE-VII |
| viii) | Bank Guarantee Form for Performance Guarantee. | ANNEXURE-VIII |
| ix) | Bank Guarantee form for 100%. | ANNEXURE-IX |

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 ODISHA POWER TRANSMISSION CORPORATION 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 submitted along with the original copy of Tender)

ANNEXURE – II

**ABSTRACT OF GENERAL TERMS & CONDITIONS OF
CONTRACT (COMMERCIAL) TO ACCOMPANY PART –I**

| | | |
|----|--|--|
| 1 | Earnest Money Furnished | (a)Cash (b)Bank Guarantee (c)Bank Draft |
| 2 | Manufacturers/supply experience including user's certificate furnished or not. (As per Clause No.7 of Section –II) | Yes/No |
| 3 | Deviations to the Specification in any (list enclosed or not. | Yes/No |
| 4 | Guarantee: Whether agreeable to OPTCL's terms | Yes/No |
| 5 | Whether agreeable to furnish Performance Guarantee as per Clause –20 of Section – II | Yes/No |
| 6 | Terms of Payment: Whether agreeable to OPTCL's standard terms of payment or not. (As per clause –22 of Section –II) | Yes/No |
| 7 | Nature of Price: Firm | Yes/No |
| 8 | Penalty: Whether agreeable to OPTCL's terms or not | Yes/No |
| 9 | Whether ITCC/STCC/P&L A/C. for the required period are furnished as per Clause-26 of Section –II | Yes/No |
| 10 | Validity: - Whether agreeable to OPTCL's terms or not. (As per Clause – 29 of Section –II) | Yes/No |
| 11 | Manufacturer's name and it's trade mark. | Yes/No |
| 12 | VAT / TIN | |
| 13 | PAN | |
| 14 | Delivery (Period in months from the date of Placement of purchase order.) | Yes/No |
| 15 | Whether declaration form duly filled in finished or not. | Yes/No |
| 16 | Service Tax Regd. No. | |

Place _____
Date _____

Signature of the Tenderer
With Seal of the Company

ANNEXURE – III

SCHEDULE OF QUANTITY AND DELIVERY

| Sl. No | Description | Quantity Required | Desired Delivery Period | Destination. |
|--------|--|-------------------|-------------------------|--|
| 1. | SUPPLY & INSTALLATION OF 1NO. 500KVA 11/0.4KV TRANSFORMER FOR POWER SUPPLY TO MULTISTOREYED BUILDING OF OPTCL, BHUBANESWAR | 1No. | Within two month | Electrical Maintenance Cell, OPTCL, BBSR |

NB : The details delivery programme and quantity to be delivered will be intimated at the time of placement of the Purchase Order.

ANNEXURE – IV

(ABSTRACT OF PRICE COMPONENT (TO ACCOMPANY PRICE BID))

| | |
|---|--------------------------------------|
| 1. Price Basis | F.O.R Purchaser's Destination Stores |
| 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 | |
| 10. Nature of Price | FIRM |

Place : _____
Date : _____

Signature of the Tenderer
With Seal of Company

ANNEXURE – V

SCHEDULE OF PRICE.

TENDER SPECIFICATION NO. _____

| Sl. No | Description of materials | Quantity Required | Unit Rate in ` | Total Amount in ` |
|--------|---|-------------------|----------------|-------------------|
| 1 | 500KVA 11/0.433KV,3Phase,50HZ core type, Outdoor type Natural oil cooled (ONAN)type, copper wound distribution transformer manufactured as per IS: 2026-1977 with complete fittings, accessories, first filling of oil and OFF load Automatic tap switch ranging from +2.5% to -7.5% in step of 2.5% each and LT side cable end box as per our specification. | 1No. | | |
| | Add CST | | | |
| | Add VAT | | | |
| | Add Transportation | | | |
| | Add Installation | | | |
| | Total | | | |
| | Buyback of 1No. 500KVA 11/0.4KV Existing Old Transformer. (-) | | | |
| | G.Total | | | |

(RUPEES)

Place :

Date :

Signature of Tenderer
With Seal of the Company

N.B. :

1. The price should be inclusive of all taxes & duties including transporting charges except Service Tax applicable on installation charges
2. Conditional offers will not be acceptable.
3. The Bidders are to clearly, indicate the period up to which the Tax Holidays are available to them.

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) (hereinafter 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 ` (Rupees _____) valid for period of 240 days (Two Hundred Forty Days) is required to be submitted by the Tenderer. We the _____

(Indicate the name of Bank)

(hereinafter referred to as 'the Bank') at the request of M/s _____ (hereinafter referred to as Contractor(s) do hereby unequivocally and Un-conditionally guarantee and undertake to pay during the above said period, on written request by the General Manager (S&S), ODISHA POWER TRANSMISSION CORPORATION LTD (OPTCL). _____

(Indicate designation of the Purchaser)

An amount not exceeding ` _____ to the said OPTCL, without any reservation. The guarantee would remain valid up to 4.00 P.M. 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 the 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 Contractor(s) of any of the terms or conditions or failure to perform 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 ` _____.

3. We undertake to pay the OPTCL any money so demanded notwithstanding any dispute or disputes so raised by the Contractor(s)/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 Contractor(s)/Supplier(s) shall have no claim against us for making such payment.

4. We the _____ further agree that the guarantee here-in
(Indicate the Name of the Bank)

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 to the OPTCL under or by virtue of the said Bid have been fully paid and its claims satisfied or discharged or till Chairman-Cum-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 Contractor(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 Contractor(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 Contractor(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 Contractor(s) or for any forbearance act or omission on the part of the OPTCL or any indulgence by the OPTCL to the said Contractor(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 reliving us.
6. This guarantee will not be discharged due to the change in the name, style and constitution of the _____ Bank or the Contractor(s).
7. We _____ lastly undertake not to revoke this
(Indicate the Name of the Bank)
guarantee during its currency except with the previous consent of the OPTCL in writing.

Dated the _____ Date of _____

Witness **:(With signature, name & address)**

1.

2.

For _____
(Indicate the name of Bank)

ANNEXURE – VII

PROFORMA FOR COMPOSITE BANK GUARANTEE FOR SECURITY DEPOSIT PAYMENT AND PERFORMANCE

This Guarantee Bond is executed this _____ Day of _____ 20____ by us the
_____, P.S. _____ Bank at _____ P.O.
_____, Dist. _____ State
_____.

1. WHEREAS the ODISHA POWER TRANSMISSION CORPORATION LTD (OPTCL a body corporate constituted under the Electricity (Supply) Act, 1948 (hereinafter called "the OPTCL") has placed orders No. _____ date _____ (hereinafter called "The Agreement") on M/s _____ (hereinafter called "The Contractor") for supply of materials.

AND WHEREAS the Contractor has agreed to supply materials to the OPTCL in terms of the said agreement, AND

WHEREAS the OPTCL has agreed (1) to exempt the Contractor 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 Contractor to the OPTCL, a Composite Bank Guarantee of the value of 10% (Ten percent)/8.5%(Eight & Half percent) of the contract price of the said agreement.

NOW THEREFORE in consideration of the OPTCL having agreed (1) to exempt the Contractor from making payment of Security (2) releasing 100% payment to the Contractor 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 the OPTCL an amount not exceeding ` _____ (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 Contractor(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 Contractor(s) of any of the terms or conditions contained in the said agreement or by reason of the Contractor's failure to perform the said agreement. Any such demand made on the Bank shall be conclusive as regards the amount due any payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding ` _____ (Rupees _____).

3. We the _____ (Bank) also undertake to pay to the OPTCL any money so demanded notwithstanding any dispute or disputes 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 Contractor(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 affect 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, ODISHA POWER TRANSMISSION CORPORATION LTD. Certifies that the terms and conditions of the

said agreement have been fully and properly carried out by the said Contractor(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 Contractor(s) and we shall not be relieved from our liability by reason of any such variations or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of the OPTCL or any indulgence by the OPTCL to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would but this 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 Contractor(s).
7. We, (_____ Bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the OPTCL in writing.
Date at _____ the _____ Day of _____
_____ Two thousand _____

For _____

(Indicate the name of the Bank)

Witness: (with signature, names and addresses)

- 1.
- 2.

ANNEXURE – VIII
PROFORMA FOR PERFORMANCE GUARANTEE.

1. In consideration of the Chairman-cum-Managing Director, ODISHA POWER TRANSMISSION CORPORATION LTD (OPTCL (Hereinafter called 'The OPTCL') having agreed to exempt M/s. _____ hereinafter called 'the said Contractor(s) from the demand under the terms & conditions of an agreement No. _____ dated _____ made between _____ and _____ for _____ (hereinafter called 'the said Agreement') for security Deposit for satisfactory performance of materials (as detailed in the said agreement) during the guarantee period (as detailed in the said agreement) and for the due fulfillment by the said Contractor(s) of the terms and conditions contained in the said agreement on production of Bank Guarantee for ` _____ (Rupees _____) only. We _____

(Indicate the name of the Bank)

Bank limited (hereinafter referred to as 'the Bank') at the request of _____ Contractor(s) do hereby undertake to pay to the OPTCL an amount not exceeding ` _____ (Rupees _____) only) against any loss or damage caused to or suffered or would be caused to suffered by the OPTCL by reasons any of breach by the said Contractor(s) of any of the terms or conditions contained in the said agreement.
2. We _____ Bank Limited do hereby undertake to **(Indicate the name of the Bank)** Pay the amount 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 damaged caused to or would be caused to or suffered by the OPTCL by reasons of any breach by the said Contractor(s) of any of the terms or conditions contained in the said agreement or by reasons of the Contractor'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 ` _____ (Rupees _____).
3. We the _____ Bank Limited further agree to pay the OPTCL any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s)/Suppliers(s) in any suit or proceeding instituted/pending before any Court or Tribunal relating thereto, out liability under this present being absolute and unequivocal.
The payment so made by us under this bond shall be valid discharge of our liability for payment thereunder and Contractor(s)/Supplier(s) shall have no claim against us for making such payment.
4. We the _____ Bank Limited further agree that the **(Indicate the name of the Bank)** 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 be so enforceable till all the dues of the OPTCL under or by virtue of the said agreement, have been full paid and its claims satisfied or discharged or until Managing Director, ODISHA POWER TRANSMISSION CORPORATION LTD (OPTCL Certifies that the terms and conditions of the said agreement have been fully and properly carried out by the said Contractor(s) and accordingly, discharges this guarantee. Unless a demand or claim under the guarantee is made on us in writing on or before the expiry of Eighteen months from the last delivery of materials or Twelve months from its use whichever is earlier we shall be discharged from all liabilities under this guarantee thereafter.
5. We the _____ Bank Limited further agree with the **(Indicate the name of the Bank)** OPTCL 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 Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reasons of any such variation, postponement, or extension being granted to the said Contractor(s) or by any such matter or thing what so ever which under the law relating to sureties would but for this provision 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 or the Contractor(s)/Supplier(s).
7. We the _____ Bank Limited lastly undertake not to **(Indicate the name of the Bank)** revoke this guarantee during its currency except with the previous consent of the OPTCL in writing.
8. This performance Bank Guarantee will remain in force up to _____ Dated the _____ Day of _____ 20 _____.

Witness with signature, names & address:

- 1.
- 2.

For _____ Bank Limited.
(Indicate the name of the Bank)

ANNEXURE – IX
PROFORMA FOR BANK GUARANTEE FOR 100% PAYMENT.

1. In consideration of the Chairman-cum-Managing Director, ODISHA POWER TRANSMISSION CORPORATION LTD (OPTCL (hereinafter called 'The OPTCL') having agreed to allow M/s. _____ (hereinafter called the 'said Contractor(s), 100% payment on proof of verification of the materials delivered under the terms and conditions of an agreement No. _____ Dated _____ made between ODISHA POWER TRANSMISSION CORPORATION LTD (OPTCL., Bhubaneswar and M/s. _____ for supply of materials (as detailed in the said agreement) and for the due fulfillment by the said Contractor(s) of the terms and conditions contained in the said agreement, on production of a Bank Guarantee for ` _____ (Rupees) _____ We _____ (the Bank) (hereinafter referred to as 'the Bank') do hereby undertake to pay to the OPTCL an amount not exceeding ` _____ (Rupees _____) against any loss or damage caused to or suffered by or would be caused to or suffered by the OPTCL by reasons of any breach by the said Contractor(s) of any of the terms and conditions contained in the said agreement.
2. We (the _____ Bank) do hereby under take 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 suffered by the OPTCL by reasons of any breach by the said Contractor(s) of any of the terms or conditions contained in the said agreement or by reason of the Contractor(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 ` _____ (Rupees _____).
3. We the _____ Bank also undertake to pay to the OPTCL any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s)/Suppliers(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 Contractor(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 be 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, ODISHA POWER TRANSMISSION CORPORATION LTD (OPTCL Certificates that the terms & conditions of the said agreement have been fully and properly carried out by the said Contractor(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 the _____ Bank Limited further agree with the OPTCL 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 Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reasons of any such variation, postponement, or extension being granted to the said Contractor(s) or by any such matter or thing what so

ever which under the law relating to sureties would but for this provision have effect of so relieving us.

4. This guarantee will not be discharged due to the change in the name, style and constitution of the Bank or the Contractor(s)/Supplier(s).

7. This guarantee will not be discharged due to the change in the name, style & constitution of the Bank or the contractors/suppliers.

8. We, (_____ Bank) lastly undertake not to revoke this guarantee during its currency except with previous consent of the OPTCL in writing.

This performance Bank Guarantee will remain in force up to _____

Date at _____ the _____ Day of _____
_____ Two thousand _____

Witness with signature, names & address:

1.

2.

For _____ Bank Limited.
(Indicate the name of the Bank)