



**NATIONAL BANK FOR AGRICULTURE AND  
RURAL DEVELOPMENT**

**TAMILNADU REGIONAL OFFICE**

**TENDER DOCUMENT  
PART-I  
(TECHNICAL BID)**

**SUPPLY, ERECTION, TESTING AND COMMISSIONING OF  
500 KVA TRANSFORMER AND 11 KV VCB PANEL AND  
RELATED WORKS AT NABARD REGIONAL OFFICE,  
NUNGAMBAKKAM, CHENNAI-34**

**ISSUED TO**

.....  
.....  
.....

**Last Date for Submission of Tender : 14:30 hrs. on 12/04/2019**  
**Opening of Tender : 15:30 hrs. on 12/04/2019**

**(This tender document contains 77 pages)**

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NB(TN). DPSP/

/Transformer-I/2018-19

22<sup>nd</sup> March 2019**NOTICE INVITING TENDER**

M/s.

Dear Sir

**Invitation to bid for “Supply, Erection, Testing and Commissioning of 500KVA Transformer, 11 KV VCB panel and related works at NABARD Regional Office, Nungambakkam, Chennai-34”**

National Bank for Agriculture and Rural Development (NABARD) invites sealed offers/ tenders in two parts from all eligible bidders for the Supply, Erection, Testing and Commissioning of 500KVA transformer, 11 KV VCB panel and related works at NABARD Regional Office as per the terms and conditions contained in the Request For Proposal (RFP)/ Tender. The Bidding Document may be obtained from the Bank’s office located at No. 48, Uthamar Gandhi Road, Nungambakkam, Chennai-34 on a non-refundable payment of Rs.500 by way of demand draft in favour of the Bank payable at Chennai or downloaded from <https://www.nabard.org/> free of cost. The other details are given below:

Date of commencement of issue of Tender	22 <sup>nd</sup> March 2019
Cost of RFP document (non-refundable)	Rs.500/- (Document is available for download from <a href="https://www.nabard.org/">https://www.nabard.org/</a> free of cost)
Earnest Money Deposit (Bid Security)	Rs.16,000/-
Last date for receipt of RFP queries	14:30 hrs on 11/04/2019 at NABARD Office, No. 48, Uthamar Gandhi Road, Nungambakkam, Chennai-34
Pre-Bid meeting	11:00hrs on 02/04/2019 at NABARD Office, No. 48, Uthamar Gandhi Road, Nungambakkam, Chennai-34
Last date and time for receipt of Bids	14:30 hrs on 12/04/2019 at NABARD Office, No. 48, Uthamar Gandhi Road, Nungambakkam, Chennai-34
Date and time of opening of technical bid	15:30 hrs on 12/04/2019 at NABARD Office, No. 48, Uthamar Gandhi Road, Nungambakkam, Chennai-34
Place of receiving and opening of tenders	NABARD Office, No. 48, Uthamar Gandhi Road, Nungambakkam, Chennai-34

	Tele: 044-2830 4435 Email: <a href="mailto:chennai@nabard.org">chennai@nabard.org</a>
No.of envelopes (non-window, sealed) to be submitted	Two (2) Envelopes a) Sealed envelope 1 containing technical bid+EMD DD/BG ( EMD to be enclosed in separate cover and pinned to cover-1 ) b) Sealed envelope 2 containing commercial/Price bid Both the envelopes to be placed in one common outer sealed envelope

2. It may be noted that NABARD reserves the right to change the dates mentioned in the Tender which will be displayed, as corrigendum/ amendment, at the above websites on which bidding documents are available.
3. Please note that all the information desired needs to be provided by the bidder in the formats specified by the Bank. The bidder shall bear all the costs associated with the preparation and submission of the bid and NABARD will, in no case, be responsible or liable for such costs, regardless of the conduct or outcome of tendering process.
4. The Earnest Money Deposit must accompany with tender offers as specified in this tender document. EMD amount should not be mixed with commercial bid. It should be contained in envelope-1 with the technical bid. The bidders who would obtain the tender document from the Bank's Office location should pay the cost of RFP by way of demand draft in favour of NABARD payable at Chennai which should be contained in envelope-1. Offers received without EMD and Cost of RFP will be rejected.
5. The technical specifications, terms and conditions, various formats and proforma for submitting the tender offer are described in the tender document and its enclosures/ annexures.
6. The tender offer will be opened in the presence of the bidders or their representatives who choose to attend the opening of tender on the abovementioned date, time and place.
7. NABARD reserves the right to accept/reject the tender/bids without assigning any specific reason

Yours faithfully,

Sd/-  
**Baiju Kurup**  
General Manager

**FORM OF TENDER**

**Smt. Padma Raghunathan**

**The Chief General Manager**

National Bank for Agriculture and Rural Development  
48, M.G.Road  
Nungambakkam  
Chennai 600 034

Dear Sir/Madam

**“Supply, Erection, Testing and Commissioning of 500KVA transformer, 11 KV VCB panel and related works at NABARD Regional Office, Nungambakkam, Chennai-34”**

1. I / We have examined the Scope of Works, Specifications and Schedule of Quantities and Terms and Conditions relating to the tender for the said works after having obtained the Tender document invited by you.
2. I / We have visited the site, examined the site of works specified in the Tender Document and acquired the requisite information relating thereto as affecting the Tender.
3. I / We hereby offer to execute and complete the works in strict accordance with the Tender Document at the item rates quoted by me / us in the attached Schedule of Quantities in all respects as per the specifications and Scope of Works described in the Tender Document and the Annexures containing Terms and Conditions.
4. I / We enclose herewith interest-free **Earnest Money Deposit (EMD) for Rs 16000/- (Rupees Sixteen Thousand Only)** by Demand Draft payable at Chennai in favour of 'National Bank for Agriculture and Rural Development' (NABARD) and the same shall be forfeited in the event of our withdrawal of Tender before expiry of the validity period of offer and / or in the event of our failure to execute the Contract when called upon to do so by accepting our Quotation.
5. In the event of this tender being accepted, I/We agree to enter into and execute the prescribed Agreement with NABARD as per the format given at **Annexure B**.
6. **I/ We agree to pay all Government (Central and State) Taxes such as Goods & Service Tax (GST) etc. and other taxes prevailing from time to time and the rates quoted by me/us are inclusive of the same.**
7. **The rates quoted by me / us are firm and shall not be subjected to variations on account of fluctuation in the market rates, taxes or any other reasons whatsoever.**
8. Should this tender be accepted, I / we hereby agree to abide by and fulfill all the Terms and Conditions and Provisions of the said Contract Document annexed hereto.

Having examined the Technical bid and price bid of tender document relating to the works specified in the Memorandum hereinafter set out, having visited and examined the site of the works specified in the said Memorandum and having acquired the requisite information relating thereto as affecting the tender, I/We hereby offer to execute the works specified in the said Memorandum within the time specified, at the rates mentioned in the Price Bid and in accordance

in all respects of the tender and with such materials as are provided for, by and in all other respects in accordance with such conditions so far as they may be applicable.

MEMORANDUM

- a) Description of work : **Supply, Erection, Testing and Commissioning of 500KVA transformer, 11 KV VCB panel and related works at NABARD Regional Office, Nungambakkam, Chennai-34**
- b) Earnest Money :Rs 16,000/-
- c) Time allowed for completion : 60 days from the date of issue of work order
- d) Retention Money Deposit : 5% from every R.A. Bill.

We understand that the time for completion shown above shall be reckoned from the date of issue of the Work Order.

Should this tender be accepted, I/We hereby agree to abide by and fulfil the terms and provisions or the said Conditions of the tender annexed hereto so far as they may be applicable or in default thereof to forfeit the EMD and pay to the National Bank for Agriculture and Rural Development, the amount mentioned in the said tender conditions.

Our valid electrical license details are:

Our Bankers are:

i)

ii)

The names of partners of our firm are:

i)

ii)

iii)

Name of the partner of the firm Authorized to sign:

OR

Name or person having Power of Attorney to sign the contract

*(Certified copy of the Power of Attorney should be attached):*

Yours faithfully,

Signature of Tenderer

Seal :

Date :

**NATIONAL BANK FOR AGRICULTURE AND RURAL DEVELOPMENT**

**Instructions to the Contractors for furnishing  
Individual details in prescribed proforma**

1. The contractors are required to submit their full bio-data giving details about their organisation, experience, technical personnel in their organisation, space capacity, competence and adequate evidence of their financial standing, etc. in the enclosed form **(Proforma-1, 2, 3 & 4)**
2. If the space in the proforma is insufficient for furnishing full details, such information may be supplemented on separate sheets of paper stating therein the part of the proforma and serial number. Separate sheets shall be used for each part.
3. Any letter or document accompanying the proforma shall be submitted in duplicate.
4. Tenders containing false and/or inadequate information are liable for rejection.
5. While filling up the proforma with regard to the list of important projects completed or on hand, the applicants shall only include those works which individually cost not less than Rs. 7.00lakh.
6. Clarifications if any required may be obtained from the Department of Premises, Security and Procurement (DPSP), National Bank for Agriculture and Rural Development, 48, Mahatma Gandhi Road, Nungambakkam, Chennai 600034.
7. While deciding upon the selection of contractors for participating in the Price bid, emphasis will be given on the ability and competence of applicants to do good quality works within the specified time schedule and in close co-ordination with other agencies, besides the rate structure of the items. Also, emphasis will be given to the applicants who have executed majority of the similar works.
8. Decision of the Bank in regard to selection of contractors for selecting them for price bidding will be final. The Bank is not bound to assign any reason therefor.
9. Each page of the tender document shall be signed. The application shall be signed by person/persons on behalf of the organisation having necessary authorisation/Power of Attorney to do so.

**Signature  
Seal**



**NATIONAL BANK FOR AGRICULTURE AND RURAL DEVELOPMENT****GENERAL INSTRUCTIONS TO THE CONTRACTORS**

1. The site of the proposed works is **NABARD Regional Office, 48 M.G. Road, Nungambakkam, Chennai-34.**
2. Contractors are advised to visit the site and thoroughly understand the nature and scope of the works and be familiar with the site conditions before quoting.
3. Contractors having minimum experience and qualification as given below shall be eligible for participating in the tender:
  - the contractor should have experience of similar works (11 KV installations) during the last 7 years
  - EA/ESA grade license issued by the electrical licensing board of Tamil Nadu and its validity is till----- (copy to be attached)
  - **the annual turnover of the contractor during each of the last 3 years should be at least Rs5.00 Lakhs** (Last three years income tax returns to be attached along with the technical bid)
  - The contractor should have done at least
    - i. Three similar works whose individual value is not less than **Rs7.00 lakh** or
    - ii. Two similar works whose individual value is not less than **Rs 9.00lakh** or
    - iii. One similar work whose value is not less than **Rs14.00 lakh**
4. Quantities indicated in the BOQ are only tentative and shall be executed only at the sole discretion of NABARD.
5. Quoted rates should be workable and reasonable and should include incidental and all overheads and profits. The contractor should furnish Rate Analysis for scrutiny of the rates by NABARD, if required.
6. **Rates should include all Taxes, Duties, Octroi, Levies, Wages as per Act, Goods and Service Tax (GST) etc. and should be firm for the entire Contract period. No escalation of rates will be allowed for the entire contract period on any account.**
7. Materials used should conform to relevant BIS Codes. BIS and CPWD Specifications and Method of Measurements shall be followed as applicable. However, in the absence of the same and / or in case of any discrepancy, the decision of NABARD shall be final.
8. Income Tax (TDS) and other applicable taxes as per statutory provisions will be deducted from total payment due to the Contractors.
9. The Contractor should arrange to obtain necessary insurance cover (**CAR policy (for 1.25 times of the value of the work) including Third party Liability and Workmen Compensation policy**

) at his cost for his employees as well as for any third party for any losses due to him during the execution of the work. The contractor shall be responsible for the safety of persons employed by him.

- 10.** All the Standard Conditions of the Contract shall be binding on the parties as per Indian Contract Act and prevailing Rules.
- 11.** The Contractor shall comply with all the applicable Acts, Rules, Regulations and Law (s) for entering into Construction / Maintenance Contract and NABARD will not in any way be liable or responsible for any default / irregularities / penalties on the Contractor's part.
- 12.** The Contractor shall comply with the provisions of Contract, Labour (Regulation & Abolition) Act, 1970, Minimum Wages Act and all other Labour Laws and other Statutory Regulations (both Central and State) that may be enforced from time to time by the appropriate authorities. NABARD shall not be held responsible for any penalty or failure of any Labour Regulations. NABARD shall have the power to inspect the Wage Register and for physical verification of salary paid to the staff with reference to any records of the Contractor and to insist the Contractor to comply with Laws.
- 13.** The Contractor shall comply with the provisions of Contract, Labour (Regulation & Abolition) Act, 1970, Minimum Wages Act, EPF & NP ACT – 1952 and all other Labour Laws and other Statutory Regulations (both Central and State) that may be enforced from time to time by the appropriate authorities. NABARD shall not be held responsible for any penalty or failure of any Labour Regulations. NABARD shall have the power to inspect the Wage Register, PF Register and for physical verification of salary paid to and PF deduction of the staff with reference to any records of the Contractor and to insist the Contractor to comply with Laws.
- 14.** The Contractor should obtain necessary permission that may be required for the purpose of this Contract from such authorities as may be prescribed by Law from time to time.
- 15.** The Contractor or his authorised representative should visit the site frequently as required by Consultant/PMC/NABARD and meet them with prior appointment for any clarifications and to receive instructions, take measurements, etc. at the site.
- 16.** The Contractor shall be fully responsible and shall compensate NABARD with suitable Insurance cover in the event of any damage to men or material, injury / damage or death as the case may be, caused directly or indirectly due to the negligence of the Contractor or his agents and / or his employees or workmen. The decision of NABARD in this regard shall be final and binding.
- 17.** The Contractor shall indemnify the Employer against any losses as per format given at **Annexure C**.
- 18.** Any act of indiscipline / misconduct / theft / pilferage on the part of any employee engaged by the Contractor resulting in any loss to NABARD in kind or cash will be viewed seriously and NABARD will have the right to claim damages or levy fine and / or terminate the Contract forthwith, if necessary.

- 19.** In case of any default or failure on Contractor's part to comply with all/any one of the Terms / Conditions, NABARD reserves to itself the right to take necessary steps to remedy the situation including, inter-alia, the deduction of appropriate amount/s from dues otherwise payable to Contractor and / or by taking recourse to appropriate recovery proceedings.
- 20.** If any dispute arises on any matter concerning this Contract, the decision of NABARD shall be final and binding.
- 21.** The Contractor should not at any time do, cause or permit any nuisance on the site / do anything which shall cause unnecessary disturbances or inconvenience to the occupants/visitors at site or near the site of work.
- 22.** The work should be carried out with least inconvenience to the Office and the car parking. The workmen employed by the Contractor should abide by the Rules and Regulations maintained by PMC & NABARD in the premises, especially in respect of working hours, entry of the workers to the premises, interpersonal relation with the occupants etc.
- 23.** The Contractor should obtain approvals, if any, necessary for the work from the statutory bodies on behalf of NABARD. The Contractor shall assist Architect/ PMC & NABARD fully in respect of any liaison with TNEB / Municipal or any other authority for necessary approval/permission with regard to the construction / maintenance works. The fees and other statutory charges, if any, will be reimbursed to the Contractor based on the original receipts produced to NABARD.

#### **24. TERMINATION OF CONTRACT BY EMPLOYER**

If the contractor being a company go into liquidation whether voluntary or compulsory or being a firm shall be dissolved or being an individual shall be adjudicated insolvent or shall make an assignment or a composition for the benefit of the greater part, in number of amount of his creditors or shall enter into a Deed or arrangement with his creditors, or if the Official Assignee in insolvency, or the Receiver of the contractor in insolvency, shall repudiate the contract, or if a receiver of the contractor's firm appointed by the court shall be unable within fourteen days after notice to him requiring him to do so, to show to the reasonable satisfaction of the employer that he is able to carry out and fulfil the contract, and if so required by the employer to give reasonable security therefore, or if the contractor shall suffer execution to be issued, or shall suffer any payment under this contract to be attached by or on behalf of and of the creditors of the contractor, or shall assign, charge or encumber this contract or any payments due or which may become due to contractor, there under, or shall neglect or fail to observe and perform all or any of the acts matters of things by this contract, to be observed and performed by the contractor within three clear days after the notice shall have been given to the contractor in manner hereinafter mentioned requiring the contractor to observe or perform the same or shall use improper materials of workmanship in carrying on the works, or shall in the opinion of the employer not exercise such due diligence and make such progress as would enable the work to be completed within due time agreed upon, and shall fail to proceed to the satisfaction of the employer after three clear notice requiring the contractor so to do shall have been given to the contractor as hereinafter mentioned or shall abandon the contract, then and in any of the said cases, the Bank may notwithstanding previous waiver determine the contract by a notice in writing to the effect as hereinafter mentioned, but without

thereby effecting the powers of the employer of the obligations and liabilities of the contractor the whole of which shall continue in force as fully as if the contract, had not been so determine and as if the works subsequently executed by or on behalf of the contractor (without thereby creating any trust in favour of the contractor) further the employer or his agent, or servants, may enter upon and take possession of the work and all plants tools scaffolding sheds machinery, steam, and other power, utensils and materials lying upon premises or the adjoining lands or roads and sell the same as his own property or may employ the same by means of his own servants and workmen in carrying on and completing the works or by employing any other contractors or other persons or person to complete the works, and the contractor shall not in any way interrupt or do any act, matter or thing to prevent or hinder such other contractors or other persons or person employed from completing and finishing or using the materials and plants for the works when the works shall be completed, or as soon thereafter as conveniently may be the employer shall give notice in writing to the contractor to remove his surplus materials and plants and should the contractor to remove his surplus materials after receipt by him the employer may sell the same by Public Auction and shall give credit to the contractor for the amount so realized. Any expenses or losses incurred by the contractor for the amount so realized. Any expenses or losses incurred by the employer in getting the amount payable to the contractor by way of selling his tools and plants or due on account of work carried out by the contractor prior to engaging other contractors or against the Security Deposit.

25. On site storage space will be provided to the Contractor subject to availability. However, the Contractor may erect temporary sheds for storage purposes at his cost with the permission of NABARD. NABARD will not be responsible for Contractor's materials. The Contractor may be required to vacate the storage space and sheds as per exigency without any extra cost to NABARD. If any statutory charges are required to be paid for erection of sheds, the same should be borne by the Contractor.
26. The Contractor shall provide everything necessary for the proper execution of the works. NABARD will not supply any T & P materials or any other equipment, materials, labour, etc. and no payment in this respect will be made by NABARD. The Contractor shall supply, fix and maintain all the scaffoldings, jhulla, T&P etc. at his cost during the execution of any work and remove them as soon as the work is completed.
27. The Contractor shall not directly or indirectly transfer, assign or sublet the Contract or any part of it, without written permission of NABARD.
28. Any defect which may appear within the Defect Liability Period of 12 months after the completion of work should be rectified by the Contractor at his cost and only thereafter the Security Deposit will be refunded to the Contractor.
29. The bidder shall enclose a Demand Draft (from a scheduled commercial bank) for **Rs.16000/- (Rupees Sixteen Thousand only)** drawn in favour of National Bank for Agriculture and Rural Development payable at Chennai towards **Earnest Money Deposit (EMD)**. In case of successful bidder, the EMD will be retained with NABARD, which will form part of the Security Deposit (SD) and will be refunded after **three months** after settlement of the final bill. In case of unsuccessful bidders, the EMD will be refunded only on award of contract to the successful

bidder. The EMD of all the technically unqualified bidders shall be refunded immediately after evaluating the technical bids and within 30 days. The EMD / SD will not bear any interest. If the bidder withdraws his tender before expiry of the validity period of the tender or if the Contractor fails to execute / complete the works satisfactorily, NABARD reserves the right to forfeit the EMD / SD. Any tender not accompanied by the EMD will be rejected.

- 30. RETENTION MONEY DEPOSIT (RMD)/ SECURITY DEPOSIT (SD):** Five percent (5%) of the gross value of the work done and claimed in the Bills shall be deducted towards Retention Money Deposit. The RMD will not bear any interest and will be refunded as provided for under Clause 35 (iii) below, provided the Contractor has satisfactorily carried out all the rectification works and attended to all defects to the satisfaction of NABARD.
- 31. DEFECTS LIABILITY PERIOD:** Twelve (12) months from the date of Virtual Completion (VCC) certified by NABARD. If the agency fail to undertake the rectification within the stipulated time of one week from the date of intimation, the rectification work will be carried out by NABARD utilizing the RMD amount at the cost to the contractor.
- 32. CERTIFICATE OF VIRTUAL COMPLETION OF WORKS:** The Contractor shall report in writing to the Employer in the form of a Certificate as per the format given at **Annexure A**, as and when the works are completed in all respects. The Employer shall, after due verification of the works, issue to the Contractor a certificate to be called "**Virtual Completion Certificate**"(VCC). The defects liability period shall commence only from the date of actual possession.
- 33. VALIDITY OF OFFER:** 90 Days from the date of opening of the price bid.
- 34. LIQUIDATED DAMAGES:** Should the work be not completed to the satisfaction of the Employer / Architects within the stipulated period, the contractor shall be bound to pay to the Employer a sum calculated as given below by way of liquidated damages and not as penalty during which the work remains not commenced or unfinished after the expiry of the completion date. If the contractor fails to complete the work by the Scheduled date of completion or within any sanctioned extended time, he will have to pay liquidated damages at rate of 0.25 % of contract value for each week of delay subject to a maximum of 5% of the accepted tender amount .
- 35. PAYMENT OF CONTRACTOR'S BILL :**
- i. The Contractor shall be entitled under the Interim Certificates, payment against the checked bills for the work done not prior to 15 days from the date of issue of the work order subject to the actual work being executed in accordance with the contract, and reasonable scrutiny by NABARD. The Contractor shall submit interim bills only after working out the appropriate measurements jointly recorded with ARCHITECT/PMC/NABARD at site in the measurement book (MB). This is not only to regulate the correctness of the quantity but also to facilitate expeditious clearing of the bills. **The Minimum value of Interim Bill shall not be less than Rs. 5.00 Lakhs.**
  - ii. Interim Bills submitted by the Contractor will be paid by NABARD after all the statutory deductions viz. RMD @ 5%, TDS and other statutory deductions etc., as applicable.

iii. **Retention Money Deposit at the rate of 5% (Five percent) of the value of the work executed shall be deducted from running interim bills, shall constitute the Security Deposit.** 50% of the Retention Money Deposit shall be refunded after the "Virtual Completion" of the work certified by the Architect/ PMC/ Bank's Engineer. The balance 50% shall be released after the expiry of the "Defect Liability Period" of **12 months from the date of Virtual Completion**, provided the defects are made good according to the true intent and meaning thereof after due completion of work.

**36.COMPLETION PERIOD:** The work should be completed within **60days** from the day of issue of work order.

**37.DELAY AND EXTENSION OF TIME:** If, in the opinion of the Employer the works be delayed (a) by force majeure or (b) by reason of any exceptionally inclement weather or (c) by reason of proceedings taken or threatened by the dispute with adjoining or neighbouring owners or public authorities arising otherwise than through the Contractor's own default or (d) by the works or delays of other Contractors or tradesmen engaged or nominated by the Employer and not referred to in the Schedule of Quantities and/or Specifications or (e) by reason of Employer's instructions, or (f) by reason of civil commotion, local commotion of workmen or strike or lockout affecting any of the building trades or (g) in consequence of the Contractor not having in due time necessary instructions from the Employer for which he shall have specifically applied in writing, ahead of time, giving the Employer reasonable time to prepare such instructions, the Employer shall make a fair and reasonable extension of time for completion of the Contracted works. In case of such strike or lockout, the Contractor shall, as soon as may be, given written notice thereof to the Employer, but the Contractor shall nevertheless constantly use his endeavours to prevent delay and shall do all that may reasonably be required to the satisfaction of the Employer to proceed with the work. The Contractor shall take all practicable steps to avoid or reduce any delay in the execution and completion of the works arising out of

- i. Force Majeure
- ii. Exceptionally inclement weather
- iii. Loss or damage by fire and earthquake
- iv. Civil commotion, lockout, strike etc.
- v. Employer's Instructions, as the case may be
- vi. Delay on the part of the nominated Sub-Contractor or nominated supplier
- vii. Delay on the part of the other Contractor employed by the Employer

**37. Additional Terms and Conditions as per enclosure.**

**38. ARBITRATION:**

All disputes or differences of any kind whatsoever which shall at any time arise between the parties hereto touching or concerning the works or the execution or maintenance thereof this contract or effect thereof or to the rights or liabilities of the parties or arising out of or in relation thereto whether during or after determination foreclosure or breach of the contract (other than those in respect of which the decision of any person is by the contract expressed to be final and binding) shall after written notice by either party to the contract to the other of them and to the Employer

hereinafter mentioned be referred for adjudication to a sole Arbitrator to be appointed as hereinafter provided. For the purpose of appointing the sole Arbitrator referred to above, the Employer will send within thirty days of receipt of the notice, to the contractor a panel of three names of persons who shall be presently unconnected with the organization for which the work is executed from the following categories of Arbitrators:

- a) Retired High Court/Supreme Court judge who have experience in handling Arbitration Cases.
- b) Member of Council of Arbitrators
- c) Fellow of the Institution of Engineers
- d) Eminent Retired Chief Engineer from State/Central PWD/Public sector Undertaking of good reputation and integrity
- e) Fellow of Indian Institute of Architects

The contractor shall on receipt of the names as aforesaid, select any one of the persons' name to be appointed as a sole Arbitrator and communicate his name to the Employer within thirty days of receipt of the names. The Employer shall thereupon without any delay appoint the said person as the Sole Arbitrator. If the contractor fails to communicate such selection as provided above within the period specified, the Competent Authority should make the selection and appoint the selected person as the Sole Arbitrator.

If the Employer fails to send to the contractor the panel of three names as aforesaid within the period specified, the contractor shall send to the Employer a panel of three names of persons who shall all be unconnected with either party. The Employer shall on receipt appoint him as the Sole Arbitrator. If the Employer fails to select the person and appoint him as the Sole Arbitrator within 30 days of receipt of the panel and inform the contractor accordingly, the contractor shall be entitled to appoint one of the persons from panel as the Sole Arbitrator and communicate his name to the Employer.

If the Arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another Sole Arbitrator shall be appointed as aforesaid. The work under the Contract shall, however, continue during the arbitration proceedings and no payment due or payable to the contractor shall be withheld on account of such proceedings.

The Arbitrator shall be deemed to have entered on the reference on the date he issued notice to both the parties fixing date of the first hearing.

The Arbitrator may from time to time, with the consent of the parties, enlarge the time for making and publishing the award.

The arbitrator shall give a separate award in respect of each dispute or difference referred to him. The Arbitrator shall decide each dispute in accordance with the terms of the contract and give a reasoned award. The venue of arbitration shall be such place as may be fixed by the Arbitrator in his Sole discretion.

The award of the Arbitrator shall be final and binding on the both the parties.

Subject to aforesaid the provisions to the Arbitration Act. 1996or any statutory modification or re-enactment thereof and the rules made there under, and for the time being in force, shall apply to the arbitration proceeding under this clause.

The Employer and the contractor hereby also agree that arbitration under clause shall be condition precedent to any right to action under the contract with regard to the matters hereby expressly agreed to be so referred to arbitration

I/we accept all the above Terms and Conditions in all respects without any reservation.

I/we accept all the above Terms and Conditions in all respects without any reservation.

**Place**

**Date**

**Signature**

**Name & Seal**

**Address**



**NATIONAL BANK FOR AGRICULTURE AND RURAL DEVELOPMENT**  
**TERMS AND CONDITIONS**

1. The Tender is strictly on Item Rate basis.
2. All the pages of the Tender Document shall be signed by the bidder.
3. The Envelope containing Tenders should be properly sealed, addressed, duly super scribed with name of work. The tenders should be submitted in two parts as Techno-Commercial Bid(Part-1) and Price Bid(Part-2) separately in two sealed envelopes. These two envelopes should be duly superscribed Tender for "**Supply, Erection, Testing and Commissioning of 500KVA transformer, 11 KV VCB panel and related works at NABARD Regional Office, Nungambakkam, Chennai-34(Part-1: Techno-Commercial Bid)**" and "**Supply, Erection, Testing and Commissioning of 500KVA transformer, 11 KV VCB panel and related works at NABARD Regional Office, Nungambakkam, Chennai-34(Part-2: Price Bid)**" respectively and should be submitted in the **Tender box provided at the Ground Floor** of National Bank for Agriculture and Rural Development, 48, M.G. Road, Nungambakkam, Chennai 600034. **The last date of receipt of tender is on or before 14:30 hours on 12/04/2019**
4. The Part-1 (Techno-Commercial bid) of the tender shall be opened at **15:30 hrs. on 12/04/2019** in the presence of bidders/their authorized representatives, who choose to be present.
5. The Price Bids (Part-2) of those bidders whose Techno-commercial bid are in line with the requirements and acceptable to the employer as per the NIT and terms and conditions of the tender document shall only be opened on a date that shall be communicated to technically qualified bidders.
6. Bids submitted by unauthorized agents and FAX / Telex / Telegraphic bids shall not be entertained / considered.
7. Intending tenderer shall visit the site and make himself thoroughly acquainted with the local site condition, nature and requirements of the works, facilities of transport conditions, effective labour and materials, access and storage for materials and removal of rubbish. The tenderer shall include the cost of these items in the quoted rates like carriage, freight and other charges as also for any special difficulties and including police restriction for transport etc., for proper execution of work as indicated in the drawings. The successful tenderer will not be entitled to any claim of compensation for difficulties faced or losses incurred on account of any site condition which existed before the commencement of the work or which in the opinion of the employer or his agent / Architect might be deemed to have reasonably been inferred to be so existing before commencement of work.
8. Rates should include for removal of debris out of premises to the safe Municipal limits, removing stains, cleaning the site thoroughly and unless the same is done to the satisfaction of the Consultant/PMC & NABARD, the bill will not be accepted.
9. The successful contractor will be required to sign agreement in accordance with the draft agreement from enclosed and the schedule conditions. The contractor shall pay for all stamps and legal expenses, incidental thereto. However, the written acceptance by the

employer of a tender will constitute a binding contract between the employer and the person so tendering whether such formal agreement is or is not subsequently executed

10. Income Tax (TDS) and other statutory deductions etc., as applicable will be deducted from any payment due to the Contractors.
11. Quantities mentioned in the schedule of quantities may vary to any extent or may be deleted without assigning any reasons and as such, the rates quoted should be firm, workable, reasonable and should include all kinds of Taxes, Duties, Work Contract Tax, Octroi, Goods and Service Tax (GST) etc. as applicable, overheads and profit etc. No separate charges for carriage or labour would be made. There is no question of extra payment above the quoted rate under any circumstance. In case of any variation in quantity or value, the same will not be made as a subject matter for dispute by the bidder.
12. The BIS / CPWD specifications shall be followed as applicable and in the absence of the same the decision of NABARD shall be final.
13. The contractor shall at the instructions of the Employer within such time as notified, open up for inspection any work and should the contractor refuse or neglect to comply with such instructions, the Employer may employ other workman to open of the same. Such work if it is found not in accordance with approved specifications, or the instructions, expenses of opening up and redoing if required shall be borne by and recoverable from the Contractor from any money due or which may become due to the contractor
14. The successful tenderer is bound to carry out any or all items of work necessary for the completion of the job even though such items are not included in the quantities and rates
15. The Contractor shall make necessary arrangement for watch and ward.
16. The bidders should quote their rates strictly adhering to Terms and Conditions stipulated in the Tender Document. Unsolicited correspondence after opening of the Tender shall not be entertained. Conditional/Deviation Tenders may be rejected without making any reference to the bidders.
17. No bidder will be allowed to withdraw his Tender during the validity period.
18. Rates should be filled in the Bidders Schedule of Quantity in the Price –Bid (Part-2) neatly and no correction shall be made. Corrections, if any should be duly authenticated by the signing authority. The rates quoted should be written legibly in words and figures. If on check, differences are observed between the rates given by the Contractor in words and figures or in the amount worked out by him, the following procedure shall be followed.
  - i. When there is a difference between the rates in figures and in words, the rates, which corresponds to the amounts worked out by the Contractor shall be taken as correct.
  - ii. When the amount of an item is not worked out by the Contractor or it does not correspond with the rate written either in figures or in words, then the rate quoted by the Contractor in words shall be taken as correct.

- iii. When the rates quoted by the Contractor in figures and in words tallies, but the amount is not worked out correctly, the rate quoted by the Contractor shall be taken as correct and not the amount.

**19. No advance shall be paid towards mobilisation and cost of materials.**

20. No compensation shall be admissible for any loss suffered by the Contractor during the execution of the work. It shall be the Contractor's sole responsibility to protect NABARD's staff and his employees against accidents from any cause and he shall indemnify NABARD against any claims for damage for injury to person or property, resulting from any such accidents with necessary Insurance cover.
21. The Contractor should obtain necessary insurance cover (Workmen compensation policy and Third Party Insurance) at his cost for his employees as well as for any third party for any losses due to him during the execution of the work. The contractor shall be responsible for the safety of persons employed by him.
22. Any damages caused to the building / premises during the execution of the work shall be made good by the Contractor at his risk and cost and if necessary, through suitable Insurance cover.
23. The Contractor shall use necessary safety equipment and maintain all safety measures during the execution of works and ensure compliance of Safety Code as per Rules and Regulations in force.
24. The Contractor shall engage necessary qualified and experienced supervisory staff at his cost during the execution of the work for attending to day to day affairs.
25. The Contractor shall submit the bills along with the accepted and jointly recorded measurement sheets duly certified by the Consultant/PMC & NABARD's Engineer.
26. The Contractor should have necessary Contract License and comply with the Labour Laws as applicable.
27. The **foundation of the transformer** platform should be checked for damage like cracks etc. and necessary repair as required should be taken up by the contractor at his own cost.
28. Notwithstanding anything stated above, NABARD reserves the right to assess the bidder's capability and capacity to perform the contract, should the circumstances warrant such assessment in the overall interest of NABARD.
29. The decision of NABARD in awarding the work shall be final and cannot be subjected to arbitration.
30. NABARD reserves the right to accept / negotiate / reject any Quotation either in whole or in part without assigning any reasons therefor whatsoever and without entering into any further correspondence and hence, NABARD shall be under no obligation to accept the lowest or any other Quotations received in response to this Quotation. The decision of NABARD in this regard shall be final and indisputable.

31. NABARD also reserves the right of supersession of any of the conditions stipulated in the Quotation Document.
32. The contractor shall require shifting some of the furniture, electrical items, etc., to some other places within the colony during the time of work and may also be required to place them in the appropriate place after completing the work. No extra payment will be made for those works.
33. **There will be other works being carried out by various contractors in the said premises. Hence Care should be taken not to damage any other works and also to coordinate with the other work contractors.**
34. Final bill: The final bill has to be submitted by the contractors as early as possible after the completion of the work along with completion of recording the final measurements.
35. Co-ordination and Monitoring: The contractor's site supervisor/ engineer will be coordinating and monitoring the project and report the progress to NABARD on weekly basis.
36. Site order book: Site order book shall be maintained on the site for issuing instructions to the contractor in the course of day to day supervision of the work.
37. Hindrance register: A hindrance register shall be maintained at the site to have a record of hindrances in the progress of work which may result in delays

**Place:**

**Signature**

**Date:**

**Name and Seal**

**NATIONAL BANK FOR AGRICULTURE AND RURAL DEVELOPMENT**

**Scope of the work**

**Supply, Erection, Testing and Commissioning of 500KVA transformer, 11 KV VCB panel and related works at NABARD Regional Office, Nungambakkam, Chennai-34**

1. **Replacement of existing 630 KVA off- load transformer with 500 KVA on-load transformer**
2. **Replacement of existing 11 KV LBSF**
3. **with 11 KV VCB**
4. **Replacement of existing 11 KV cable with new 11 KV cable**
5. **Installation of new earthing system**
6. **Reconditioning of LT ACB panel.**

**General Conditions**

- a) All necessary precautions shall be taken not to disrupt the occupancy and functioning of the Office and any services like Electrical, Water supply, sanitary lines etc. Whenever required temporary arrangements shall be made to maintain the continuity of the above services.
- b) Though mentioned above, the scope of the work is not limited strictly to the areas/units mentioned, but is required to be carried out at any other locations other than those mentioned above as directed by the Consultant/PMC/NABARD Engineer in charge.
- c) Supply of manpower with tools and tackles etc., along with supervision to carry out the miscellaneous jobs as directed by the Consultant/PMC/NABARD Engineer-in-charge.
- d) All the jobs given to the contractor shall be taken up on priority basis without any delay by mobilizing all the resources immediately at site.
- e) If the job is delayed beyond the given schedule, NABARD shall be at its discretion to execute job through any other suitable agency at the risk and cost of the original agency.
- f) **There may be other contractor working inside/ outside the office building simultaneously for carrying out other works. Cooperation and coordination between the contractors shall be maintained including permitting them to use the Scaffoldings.**

**DECLARATION BY THE CONTRACTOR**

We / I have read and understood all the instructions / conditions made above and we / I have taken into account the above Instructions /Terms and Conditions while quoting the rates. We / I accept all the above Terms and Conditions without any reservation, in all respects.

**Place:**

**Date:**

**Signature**

**Name and Seal**

**Address:**

## PREAMBLE TO BILL (S) OF QUANTITIES

The rates shall be inclusive of costs of all materials, labour, tools & tackles, taxes, etc., and all costs and expenses which may be required in for the completion of the work described, together with all general risks involved, liabilities and obligations set forth or applied in the documents on which the tender is based.

1. General directions and description of works and materials given elsewhere in the tender documents are not necessarily being repeated in the bill(s) of quantities. A reference shall be made to the other documents for the full information/details.
2. Unless otherwise specified in the description of items of work in bills(s) of quantities the rates shall be for all heights and levels.
3. For all cement concrete work, the machine crushed hard blue granite stone aggregate shall be used whether the same has been specifically mentioned in the item of work or not and the rates quoted will be deemed to have been for the use of the above mentioned aggregate.
4. IS codes/specification referred shall mean latest IS codes/ specifications up to date.
5. House keeping the area of work and surrounding shall have to be carried out on daily basis.
6. Agency shall provide personal protective equipment (PPE) to its entire workforce.
7. All statutory regulations like ESI, PF, minimum wages registration etc., shall be strictly complied with.

## NOTES TO THE AGENCY

The agency shall engage a qualified and experienced supervisor who can understand the instructions given by engineer-in-charge and can read and interpret the specifications and execute the job accordingly.

1. Agency shall have contact telephone number to contact any time inclusive of out of office hours and holidays. The agency supervisor shall meet Consultant/PMC/NABARD Engineer-in-charge on every working day morning between 8.30 am and 9.00 am without fail.
2. Metallic scaffolding as and when required has to be arranged by the agency for carrying out jobs at all elevations at their own cost and no additional claims shall be entertained on this account. Wooden scaffolding is not permitted in the outer areas.
3. Agency will require to work in coordination to the working of the Office. No extra payment will be made for idle labour.
4. The entire jobs at all stages are subject to the inspection and approval by job engineer and carry out the jobs along with the other agencies.

5. Agency shall ensure the presence of their supervisor at the job site continuously during the execution of the job failing which the work permit shall be withdrawn and the jobs suspended.
6. Agency shall mobilize necessary material, manpower etc., for carrying out the jobs within two days of intimation. Agency shall mobilize material in sufficient quantities in line with the schedule of the work.
7. Agency shall maintain documents giving details of gate entries/other relevant details for the material supply.
8. Agency should strictly adhere to the safety rules and regulations of the refinery.
9. Agency shall record the measurements only on NABARD approved format only.
10. All measurements sheets and other attachments submitted along with the bill shall carry the bill number and date clear description of job carried out and its location.

Bidders to note that all the works specified in this tender/bid shall be executed in living condition. Prior permissions have to be obtained from the owner wherever necessary. Work execution shall be carried out within the timings specified by the owner. Special sanction shall be taken from the owner for working beyond standard working hours. Bidders quoted rates shall be deemed to have taken care of the aspects and no extra claim at later date shall be entertained on this account.

**Place:**

**Date:**

**Signature**

**Name and Seal**

**Address:**

### IMPORTANT NOTES TO THE AGENCIES

1. The transformer works have to be carried out during the normal operation of the office building, and with prior permission on holidays. All the safety precautions stipulated shall be strictly followed. Usage of the relevant personnel protective equipment shall be ensured and the work shall be carried out with valid work permits.
2. Wherever testing of transformer at factory is required, the same has to be strictly undertaken in the presence of NABARD Engineer/ consultant prior to erection at site..
3. While carrying out the chipping of loose/ porous/ spelled/ damaged concrete, it shall be ensured that the area is properly covered so that the chipped material/debris does not fall on the adjacent to and below the area or on parked cars. While chipping at higher elevations, the scaffolding platform shall be covered with sheets/tarpaulins, to prevent the debris falling on the cars/manpower below the area of repair works.
4. The agency shall take care of all statutory requirements such as ESI,PF, minimum wages etc. The agency shall possess its own individual ESI code and PF code.
5. Agency shall follow professional documentation for material movement, consumption testing and inspection data, work measurements and daily logging etc.
6. The agency shall adhere to the time schedule. The agency shall be prepared to execute part order. The quantities are likely to vary.
7. Agency shall visit the site, understand the scope of the job and familiarize with the area and site conditions under which the job is to be carried out before submitting their offer. Agency shall meet the engineer-in-charge for any clarifications regarding the scope and locations of the work to be carried out.

### SAFETY REGULATIONS FOR AGENCIES

1. Maintain attendance record.
2. Ensure all contract employees are covered under ESI
3. Ensure all contract employees are medically fit.
4. Ensure all contract employees are more than 18 years and less than 58 years of age.
5. Ensure all contract employees do not work for more than 16 hours per day.
6. Ensure all contract equipment has valid certification.
7. Always wear safety equipment such as safety shoes and safety helmet, safety belt at height etc.
8. In case of accidents, for contract personnel agency should arrange subsequent medical treatment at his own expense.

**Place:**

**Date:**

**Signature**

**Name and Seal**

**Address:**



## SPECIAL CONDITIONS

### **1. Scope of Supply of Water And Electricity By NABARD**

Only power and water will be supplied at free of cost as per the following: Power will be supplied free of cost at the nearest available source. However, Agency shall make their, own arrangements for tapping and distribution at their own cost. Water will be supplied, free of cost, at the nearest available source at one point. However, Agency shall make their own arrangements for tapping and distribution at their own cost.

### **2. Scope of Supply of Materials By The Agency**

All materials, consumables, testing appliances, construction equipment, tools & tackles, skilled, unskilled manpower, supervision necessary for completing the work shall be procured and supplied by the Agency at their own cost for timely completion of job in all respects to the entire satisfaction of Engineer-in-Charge.

### **3. Payment Terms**

- i. Payments will be made against Running Accounts Bills certified by Consultant/PMC/NABARD's Contact Person for this job/ his nominated representative within 15 Days from the date of receipt of the certified bill by the Disbursement Section of NABARD.
- ii. Running Account Bills and the Final Bill (against this work order) shall be submitted by the Contractor together with the duly signed measurements sheet(s) to Consultant/PMC/NABARD's contact Person for this job/ his nominated representative in duplicate for certification. The Bills shall also be accompanied by quantity calculations in support of the quantities contained in the bill, actual/theoretical, wherever applicable duly certified by Consultant/PMC/NABARD's Contact Person for this job/ his nominated representative.
- iii. All Running Account payments shall be regarded as on account payment(s) to be finally adjusted against payment of the Final Bill (against this Work Order). Payment of Running Account Bill(s) shall not determine or affect in any way the rights of Consultant/PMC/NABARD under this Contract to make the final adjustments of the quantities of material, measurements of work and adjustments of amounts etc., in the Final Bill (against this Work Order)
- iv. The Final Bill (against this WO) shall be submitted by the Contractor within one month of the date of completion of the work fully and completely in all respects. If the Contractor fails to submit the Final Bill (against this WO) accordingly, Consultant/PMC/NABARD's Contact Person for this job/ his nominated representative, may make the measurement and determine the total amount payable for the work carried out by the Contractor and such a certification shall be final and binding on the Contractor. Consultant/PMC/NABARD's Contact Person for this job/his nominated representative, may take the assistance of an outside party for taking the measurement, the expenses of which shall be payable by the Contractor.

- v. Payment of the Final Bill (against this WO) shall be made within 30 days from the date of receipt of the certified bill by the Disbursement Section of NABARD.
4. Rate is inclusive all taxes and No additional amount will be paid by NABARD to the contractors. NABARD will deduct the statutory taxes that are applicable from time to time from the tendered value.
  5. The bidders shall visit the site and fully understand the scope of the work before quoting for the work. Clarifications and doubts, if any shall be got clarified from the Bank's Engineer/PMC Engineer.
  6. Statutory payment if any, required to be paid to Authorities, on behalf of NABARD for any aspect of the work shall be reimbursed on producing relevant receipts. **No payment shall be made without producing receipts.**
  7. The work shall be done in strict coordination with the Bank's Engineer/ PMC Engineer/ Consultant as per the schedule/ shutdown sequence, etc. provided by the Bank/PMC.
  8. The work has to be done in office building which are occupied. As such, the work shall be done strictly following decorum and discipline with least inconvenience to the residents.
  9. If required and directed by the Bank/PMC, the contractor has to carry out the work late/ work on Saturdays/ Sundays/ Holidays to ensure smooth flow and timely completion of the work.
  10. Debris shall be periodically removed from the site. Debris/ waste materials shall be removed from the premises periodically during the progress of the work. The scrap/ waste shall not be accumulated/ dumped in the premises.
  11. **Special care should be taken not to leave unfinished work overnight, and safety arrangement to be provided all around the work area while work is executed at all time.**
  12. The specifications/ list of approved makes shall be strictly adhered to. If any item is not available as per the list of makes specified, approval has to be obtained for equivalent make, after having produced proof of non-availability of the item in the market.
  13. The contract is strictly on item-rate basis. The quantities as executed, measured and accepted for payment shall be settled as per rates quoted. No escalation in rates for whatsoever reasons shall be entertained.
  14. The old materials shall be carefully dismantled and removed before installing the new system.
  15. The total amount quoted for the items of work in the schedule, less the buyback amount if any shall only be taken for arriving at the L1 bidder.
  16. **Notwithstanding any insufficiency in detailing the scope of the work, the work is deemed to be done on turnkey basis strictly adhering to specification and instructions of the Bank from time to time and also conforming to prevalent BIS/ NBC norms.**
  17. The cost for travel and other arrangements for witnessing the tests by the Bank's Engineer/Consultant at the vendor's works shall be borne by the Contractor.
  18. As directed by the Bank/consultant, the contractor has to carry out the work late/ work on Saturdays/ Sundays/ Holidays with prior approval so as to ensure smooth flow and timely completion of the work.

19. The Bank, will provide electricity and water, free of cost
20. Permission, if any required, from the local statutory authorities / bodies shall be obtained by the contractor at his own cost.
21. The replacement of existing to new transformer, 11 KV cabling and 11 KV VCB are to be carried out during any non working days of Nabard which is Saturday and Sunday of every week. The work has to be completed within these two days and new transformer has to be put in service on the same day to avoid any disruption in the power supply

**DECLARATION BY THE CONTRACTOR**

We / I have read and understood all the instructions / conditions made above and we / I have taken into account the above Instructions /Terms and Conditions while quoting the rates. We / I accept all the above Terms and Conditions without any reservation, in all respects.

**Place:**  
**Date:**

**Signature**  
**Name and Seal**  
**Address:**

## TECHNICAL SPECIFICATIONS

### **Supply, Erection, Testing and Commissioning of 500KVA transformer, 11 KV VCB panel and related works at NABARD Regional Office, Nungambakkam, Chennai-34**

#### **Specifications For Electrical Installation Works**

Note:

(i) These specifications are not meant to be exhaustive and prescribe the minimum acceptable standards. Where these do not cover certain items and aspects the best engineering practice shall be followed:

(ii) All codes and standards mean the latest. A list of I.S. Codes is attached to these specifications as an annexure. This list is also meant to be exhaustive and all relevant codes with divisions published on date shall be applicable.

#### **1. GENERAL**

- 1.1 The entire electrical installation work shall be carried out in accordance with approved Drawings and in general conformity with the requirements of the Indian Electricity Act, 1910 the Indian Electricity rules, 1956, the relevant I.S.codes of practice, as amended to date, Wherever applicable and the regulations of the local licensing bodies CEA etc., and Where such installations are subject to inspection and approval of fire insurance and Explosives Authorities the Installation shall be planned and executed also confirming to their Regulations/rules.
- 1.2 The specifications herein and the IEE Rules/Regulations of the local licensing Authority CEA and of the Fire Insurance/Explosives Authorities, the latter shall prevail.
- 1.3 The specifications herein and the I.S.S, the former shall prevail
- 1.4 Rates for all items of work are deemed to include costs for all operations involved in adhering to the specifications (including the IEE Rules/Regulations of the local licensing Authority CEA of the Fire Insurance/Explosives Authorities, the I.S.S.) Unless there is a provision to the contrary in the schedule of quantities.

#### **2. SCHEDULES**

The position of the transformer shall be as per the present location and same shall subject to the approval of Consultant wherever required.

#### **3. SUPERVISION**

From the contractor's side supervision shall be carried out by person/persons holding certificates of competency of appropriate class with HT License issued by the respective State

Government bodies authorized to issue such certificates under statutory rules and regulations in force. The name/names of such supervising personnel shall be approved by the consultants.

#### **4. TESTING AND COMMISSIONING**

On completion of the work and/or at the appropriate stages of the works as necessary, the contractor shall arrange for all necessary tests for proper operation, continuity, etc. of the necessary installation /equipment/plant etc., in accordance with the provisions in the IE rules, relevant IS codes of practice and commission the completed installation. He shall furnish a certificate and guarantee in the prescribed form (attached to the tender document), countersigned by the licensed and qualified supervisor under whose direct supervision the installation will be taken over by the Employer only on its being so commissioned, the test results being thoroughly satisfactory.

Provided that the work shall not be deemed to be complete and the installation will not be taken over the test results are not within satisfactory limits. In case the results are unsatisfactory the contractor is required to carry out all necessary rectifications/modifications at his level of own cost to bring the installation/equipment to the level acceptability within a period of \_\_\_from the date of test and the defects liability period of 1 year will stand extended by period of delay in such rectification/modification that is in excess of said period of\_\_\_\_\_.

#### **5. WORKMANSHIP**

First class workmanship and neat appearance are essential requisites for compliance with these specifications.

#### **6. MATERIALS AND MAKES**

All materials, equipment, fittings fixtures, appliances, accessories, etc., to be used in installation shall comply in all respects with the requirements of the Indian Electricity Act 1916, and the Indian Electricity Rules 1956 and the relevant Indian Standard codes and regulations of the local electricity supply authorities and the Central Electrical Authority. The transformer shall be of the best quality obtainable in the makes/manufacture specified in the make list, samples being approved by consultants.

### **SPECIAL INSTRUCTIONS TO BIDDERS**

- a. The work has to be carried out only by Electrical contractors who are authorized by the Tamil Nadu Electrical Inspectorate, and possessing valid EA/ESA license and HT electrical works license.
- b. After completion of electrical works, the contractor should test the installations in presence of client/ consultant
- c. Inspection will be conducted by consultant at every stage of work. The contractor will proceed with the work only after getting the clearance from consultant

- d. The contractor shall bring to site all the necessary tools and tackles necessary for the work including field test instruments like merge etc.
- e. Contractor shall employ one site engineer/ supervisor who will be responsible for all the activities at site and the necessary experienced labour force.
- f. Contractor shall bring to the attention of the consultant in case there is any discrepancy in the items mentioned in the tender.
- g. The contractor has to inform the client about the area which they are going to work on day to day basis before switching off the power supply.
- h. The contractor should bear it in mind that they will doing the work in a human occupied environment and suitable care should be taken not to disturb the same.
- i. Prior permission to be taken in case of any overtime work after the office hours from the concerned officer.
- j. The contractor shall follow the safety codes as per IS-5216-1982 while carrying out the electrical works

### **Technical Specification for the 11kV Indoor VCB Housed in outdoor Kiosk**

#### **System / Circuit Breaker data:**

Highest system voltage	: 12 kV
Normal operating Voltage	: 11 kV
Rated Current	: As mentioned in tender
Rated Frequency	: 50 Hz
No of phases	: Three
Rated impulse withstand voltage (peak)	: 75 kV
Rated power frequency withstand voltage ( RMS)	: 28 kV
Rated short circuit breaking current	: 26.2 KA for 3 sec
Tripping supply	: 110 Volts DC

#### **Panel Design**

Shall be metal clad, extensible type, of bolted design made from CRCA sheets of minimum 2 mm thickness, suitable for indoor applications with a degree of protection not less than IP 4X. The bus bars and interconnections shall be made from highly conductive electrolytic copper. The bus bars shall be sized as per the current rating, ambient temperature inside the enclosure and other de-rating factors. Earth bus shall be of copper and shall be of copper. The main bus bars shall be insulated type, with the insulation being provided by sleeves on the bus bars and taping at the joints.

The panels shall be freestanding type with bottom cable entry suitable for 11 KV XLPE cables for both incoming and outgoing sides. Suitable gland plates shall be provided. The gland plates shall be above ground level for ease of bending of the cables from the cable trench.

The fixed portion of the isolating contacts shall be mounted on cast epoxy spouts with no gaps for any arc transfer and the shutters provided shall be metallic only.

The VCB panel shall be so designed to safeguard the operator during switching operation even under heavy short circuit faulty conditions by providing pressure relief flap segregation / partitioning of compartments from other live compartments. The outer surface of the switchgear shall be painted by epoxy based paint to gray colour by powder coating process. The manufacturer shall have in-house facility for carrying out the powder painting of sheet metal components.

In the case of outdoor panel, double door design shall be adopted with fully gasketed outer door with locking facility. A canopy shall be fixed to protect the equipment from rain.

### **VCB Design:**

The technology of the circuit breaker shall be vacuum for higher mechanical and electrical operation and interrupters used shall be shield less type. Vacuum interrupters mounted on common phase segregated epoxy body shall be preferred due to better insulation and negligible chances of non-simultaneous operation of the poles.

The Vacuum Circuit Breaker shall be of truck-mounted design so that no separate breaker handling truck is required for its removal from the panel. The truck unit / moving portion of the VCB shall be withdraw able type on caster / rollers. The finger contacts in the VCB truck (moving portion) shall be connected to fixed contacts of the bus bars and feeder circuit (fixed portion of the panel) by the vertical movement of the circuit breaker. These main circuit devices for disconnection shall be accessible for maintenance. The cassette type unit shall have arrangement to draw out the same completely and transport to other place for complete overhauling.

Interlocking required for preventing the racking in or out of a closed VCB shall be provided. Automatic shutters shall be provided to cover the live parts of the VCB bus bars / feeder sections when the truck unit is withdrawn.

Earthing facility for the cable and bus bar circuits shall be provided. Earthing switch shall be integral type with interlock. The switch shall be capable of with standing the required making and breaking currents.

All metal parts shall be connected to the earth bar, which shall run continuously throughout the length of each section of the switchgear.

The closing mechanism shall be motor charged spring operated type with release mechanism. Main springs of the mechanism shall not be plated. Powder coating or any other treatment may be given so that spring property is not lost. All MS components in the mechanism shall be treated with yellow passivation and should further be coated with lacquer in order to avoid corrosion. Visual mechanical indicating devices shall be fitted to the VCB in addition to the electrical indicating device to show the open and closed position. The VCB mechanism shall be trip free and shall have anti-pumping features.

A visual mechanical indicative device shall be provided to indicate the 'spring charged' and 'free' positions. A manual spring charging device shall be provided as a back up facility. An operation counter shall be provided. All switches such as the on / OFF switch etc shall be lockable type.

Engagement and disengagement of the auxiliary supply shall be automatically achieved through the movement of the Circuit Breaker truck so that in the service condition, the auxiliary supply is automatically maintained.

**Metering and Protection:**

The current transformers shall have an accuracy class 5P and shall have a rated output of not less than 15 VA. The accuracy limit factor shall be 10.

Potential transformers shall be mounted on the top of the switchgear panel for ease of replacement of the primary fuses without disturbing the circuit breaker.

Voltage indication devices for all three phases of proven design shall be supplied to verify that the power supply is available.

Numeric type over current and earth fault relays shall be provided of proven design.

**Quality Assurance:** ISO 9000 or equivalent.

**Relevant Standards:**

- a) IEC 60298 - AC metal enclosed switchgear and control gear
- b) IEC 60056 - HV AC Circuit Breaker
- c) IEC 60129 - AC Disconnectors / Earthing switches
- d) IEC 60044 - Current transformers
- e) IEC 60255 - Electrical relays
- f) IEC 60529 - Degree of protection of enclosures
- g) BS 159 - Bus bars
- h) IEC 60076 - Power transformers
- i) IEC 600502 - Power cables with external insulation upto 12kV.
- j) BS 74 IEC 60044 - Current transformers
- h) BS 7430 - Code of practice for Earthing.

**Training:**

Two technical personnel shall be trained in operation and maintenance and fault finding of the 11kV Kiosk prior to shipment at the manufacturer's training facility.

**Factory inspection and acceptance testing:**

Prior to dispatch, the testing of the 11KV switchboard shall be carried out at the manufacturer's test facility and such tests shall be witnessed by the engineer/consultant.



The following acceptance tests shall be carried out at the manufacturer's facility witnessed by the engineers.

1. Power frequency voltage test on the Main Circuits
2. Die-electric tests on the auxiliary and control circuits.
3. Measurement of main circuit resistance
4. Mechanical operation tests
5. Tests on protection relay functioning.
6. Verification of correctness of control wiring.

All Circuit Breakers shall be tested for 200 Nos of operations at manufacturer's works and then subjected to computerized Circuit Breaker analyzer for checking all relevant parameters.

**Technical literature, Test reports and Drawing:**

The tenderer shall supply two copies of operation / maintenance manuals for each type of equipment. Such manuals shall comprise of Single line diagrams, control-wiring diagrams, Maintenance and fault finding charts. Type test reports on the tests conducted on similar equipment at CPRI shall be submitted. The tenderer shall also furnish the catalogues and maintenance manuals for protective relays and Tri vector meter.

The 11kV switchboard shall comprise of the following main equipment:

1. 630 Amps Copper bus bars
2. 630 Amps Vacuum Circuit Breakers
3. Current transformers of ratio 30/5/5, class 0.5 , 15 VA for metering and 5P 10, 15 VA for protection.
4. Potential Transformer 11kV/root3 / 110V/root3, Class 0.5, 100 VA, mounted on with drawable trolley. Fuses shall be provided on the HV and the LV.
5. Numeric type IDMT Over current & Earth fault relay with over-current setting of 50 to 200% and earth fault setting of 40 to 80%, both with high set units as mentioned in tender.
6. Master trip relay
7. Live cable indicators set ( optional )
8. Set of LED indication lamps to indicate ON/OFF/Auto-trip/Spring Charged and healthy trip.
9. Breaker control switch.
10. Anti condensation heaters with MCBs and thermostat
11. Earth Spouts for Earthing of bus bars through circuit breaker.
12. Local/remote control switch
13. Breaker auxiliary contacts
14. Electronic annunciation window ( 8-window )
15. Hooter with test and acknowledge push button
16. Powerpak 110V DC for tripping circuit ( Voltage to be derived from PT secondary/ exterior source )
17. Numeric type restricted earth fault rely connected to neutral CT of TR as mentioned in tender
18. 3 nos of zinc oxide based surge arrestors

**Assistance to Site Erection / Testing and Commissioning:**

All assistance from the manufacturer is to be available for safe erection, testing and commissioning of the equipment.

The following tests shall be carried out by the contractor assisted by the equipment vendor/manufacturer on the switchboard before energizing the same.

1. Primary injection on the assembled switch board
2. Tripping of circuit breakers through protective relays including relay calibration
3. Test on transformer fault alarms by simulation Testing of under voltage and over voltage relays by simulation
4. Measurement of resistance for main circuit of switch board
5. Insulation resistance for power and control circuits
6. Checking the functional features of breakers, interlocks etc.

Based on the above tests, 4 sets of test reports shall be prepared and shall be duly signed by the equipment vendor/ contractor and the employer's representative as acceptance. The employer being an ISO certified organization, all the ISO procedures shall be followed.

**Accessories and spares to be supplied along with the equipment:**

The following spares and accessories shall be supplied along with the equipment at free of costs.

1. Charging lever for manual charging of breaker
2. Any other spares and tools which are essentially required at the time of emergency and routine maintenance

The VCB shall be coupled to the transformer by connecting HT terminals of the transformer with outgoing terminals of VCB with 630A copper bus bars.

**SPECIAL INSTRUCTIONS TO BIDDERS**

1. The work has to be carried out only by Electrical contractors who are authorized by the Central Electricity authority, and possessing valid license.
2. After completion of electrical works, the contractor should test the installations in presence of client/ consultant
3. Contractor should finalize the makes of items he is going to procure from the list of approved makes and get the same approved by consultant
4. Inspection will be conducted by consultant at every stage of work. The contractor will proceed with the work only after getting the clearance from consultant
5. The contractor shall bring to site all the necessary tools and tackles necessary for the work including field test instruments like Megger etc
6. Contractor shall employ one site engineer/ supervisor who will be responsible for all the activities at site and the necessary experienced labour force.
7. Contractor shall bring to the attention of the consultant in case there is any discrepancy in the items mentioned in the tender.
8. The contractor has to inform the client about the area which they are going to work on day to day basis before switching off the power supply.

9. The contractor should bear it in mind that they will doing the work in a working environment and suitable care should be taken not to disturb the same.
10. Prior permission to be taken in case of any overtime work after the office hours from the concerned officer.
11. The contractor shall follow the safety codes as per IS-5216-1982 while carrying out the electrical works

#### **Make List**

- |                      |   |
|----------------------|---|
| 1. Transformer       | Crompton Greaves/ Kirloskar/ Voltamp or Equivalent      |
| 2. 11 KV VCB         | ABB/ Siemens/ Schneider/ L&T / GE/ Alstom or Equivalent |
| 3. 11 KV cable       | Polycab / KEI / Universal/ Legrand or Equivalent        |
| 4. LT cable          | Polycab / KEI / Universal or Equivalent                 |
| 5. 11 KV cable joint | Reychem/3M or Equivalent                                |
| 6. Earth electrode   | Jeff or Equivalent                                      |

#### **Technical Specifications for Oil filled transformers (distribution)** **Transformer Rated 500 KVA 11 KV/433V**

#### **1.0 SCOPE**

This specification covers the technical requirements of design, manufacture, test at works and supply of power transformer complete with all accessories

#### **2.0 STANDARDS**

The equipment covered by this specification shall, unless otherwise stated, be designed, constructed and tested in accordance with latest revisions of relevant Indian Standards and shall conform to the Regulations of local Statutory Authorities.

- |            |   |
|------------|---|
| IS : 1180  | Distribution transformers- Level-2  |
| IS : 10028 | Code of practice for selection, installation and maintenance of transformers. |
| IS : 2099  | Bushing for alternating voltage above 1000V.                                  |
| IS : 3637  | Gas operated relays.  |
| IS : 4527  | Porcelain bushing for transformers.   |
| IS : 335   | New insulating oils.  |
| IS : 6600  | Guide for loading of oil transformer.   |

#### **3.0 GENERAL REQUIREMENTS**

The power transformer shall be of core type, 2 winding, 3 phase oil immersed having a rating by natural air cooling and shall be suitable for indoor installation.

**3.1 Voltage and Frequency Variations:**

Transformer shall operate without injurious heating on any Tap under the following conditions provided increase in voltage is not accompanied by reduction in frequency.

- i) At rated MVA at any voltage within  $\pm 10\%$  of the rated voltage.
- ii) At rated current at a voltage equal to 105% of the rated voltage.
- iii) To deliver rated current under 10% continuous over fluxing.

**3.2 Overloads**

It shall be possible to operate the transformer satisfactorily upto overloads of 150% of the rated value in conformation with the loading guide specified in IS:6600. There shall be no limitation imposed by bushings, tap changers, auxiliary equipments to meet this requirement.

**3.3 Rated Power and Temperature Rise**

The transformer shall be capable of operating at rated power specified in the technical schedule on a continuous basis and with the cooling classification given at the most onerous simultaneous climatic conditions specified.

The temperature rise specified shall not be exceeded when the transformer is operated continuously at the rated power at the design ambient temperature of 45°C.

**3.4 Rated Voltage and Tapping**

The principal tapping rated voltage shall be as specified. The tappings shall provide a variation in the transformation ratio without producing phase displacement. All tappings shall be full power tappings.

**3.5 Impedance Voltage and Short Circuit Impedance**

The impedance voltage at principal tappings shall be as specified.

**3.6 Short Circuit Withstand Capability**

The transformer shall be designed and constructed to withstand without damage to the thermal and dynamic effects of external short circuits between phases or between phase and ground.

**3.7 Insulation Levels**

The insulation shall withstand the rated lightning impulse voltage and power frequency withstands voltages.

**3.8 Radio Interference:** The transformer shall be designed and constructed so as not to cause any undesirable interference in radio or communication circuits.

**4.0 CONSTRUCTIONAL FEATURES OF CORE AND WINDING**

#### 4.1 General

Screws, studs, nuts and bolts shall be hot dip-galvanized. Exposed parts shall be designed so that water cannot collect at any point.

Materials in contact with oil shall be such as, not to contribute to the formation of acid in oil.

All similar parts particularly the removable ones shall be inter-changeable.

#### 4.2 Core

The core shall be built up, interleaved with high grade, non-ageing, low loss, high permeability, cold rolled grain oriented, silicon steel laminations properly treated for core material.

The final core assembly shall be rigidly clamped to ensure adequate mechanical strength and to prevent vibrations during operation.

The frame, clamps and core bolts shall be electrically insulated from the core. Such insulation shall be capable of withstanding maximum temperature existing in the core. For this purpose, class B or better insulation shall be used. Core clamps shall be electrically connected to the tank.

The core and windings shall be suitably braced to prevent displacement or distortion during transportation or abnormal electrical conditions in service.

The core shall be provided with lugs suitable for lifting the complete core and coil assembly.

All metal parts of the transformer core assembly except individual core laminations, core bolts and side-clamping plates shall be earthed. The magnetic circuit shall be earthed to the clamping structure through one removable core insulation test link only, placed in an accessible position beneath an inspection opening provided in the main tank cover.

#### 4.3 Windings

The coils shall be of high conductivity electrolytic copper conductor, properly insulated and stacked. Coil assembly shall be suitably supported between adjacent sections by insulating spacers and barriers, which shall be permanently secured in place.

Windings shall not contain sharp bends, which might damage the insulation or produce high dielectric stresses.

Coils shall be so insulated that the effects of impulse and power frequency voltage stresses are minimum.

The transformer winding shall be connected in group of vector symbols specified. All terminal and tapping markings shall be in accordance with IS:1180.

## 5.0 CONSTRUCTION FEATURES OF TANK AND COOLING PANELS

### 5.1 Tank

Tank shall be of all welded construction and fabricated from good commercial grade low carbon steel of adequate thickness. All seams shall be properly welded.

The tanks shall have sufficient strength to withstand the following without any deformation.

- i) The tank together with core and oil can be lifted and transported without damage or loss of oil tightness.
- ii) Mechanical shock during transportation. The tank cover shall be bolted onto the tank with weatherproof hot oil resistant, resilient gasket in between for complete oil tightness. Bushings, turrets, holes and other devices, shall be designed to prevent any leakage of water into the tank or oil from the tank.
- iii) Tank cover shall not distort when lifted. Each tank shall be fitted with inspection covers of ample size to give any access to internal connections of the bushings, current transformers, winding connections and earth link for testing.
- iv) The design shall be such that the cover does not support the weight of the core and windings.
- v) Tank cover shall be fitted with pockets for oil temperature indicator, which shall be located in the position of maximum oil temperature at maximum continuous rating.

The under-carriage of the transformer shall be provided with four flat cast iron rollers. The wheels shall be mounted on plain axle. Rollers shall be bi-directional.

Each tank shall be provided with following handling facilities capable of lifting and/or moving the transformer complete and filled with oil.

- i) Lifting lugs of adequate capacity shall be provided on tank to lift completely assembled transformer filled with oil.
- ii) Jacking pads in accessible position shall be provided to enable the transformer to be raised or lowered.
- iii) Suitable haulage holes shall be provided to tow the complete transformer.
- iv) Lifting handle shall be provided on the tank inspection covers.
- v) Rails for transformer movements.

Two numbers earthing terminals capable of carrying maximum system earth fault current for duration of at least equal to the period, for which the main windings are designed, shall be provided close to the base of the tank at diagonally opposite positions.

Tank, tank cover other associated components on the transformers shall have electrical continuity for earthing.

Tank with radiators, conservator etc. shall withstand without any permanent distortion for the following conditions:

- a) Full vacuum of 760mm of HG.
- b) Internal gas pressure of 0.35 Kg/Sq.cm

## 5.2 Explosion Vent

The explosion vent shall be of double diaphragm type. An explosion vent of sufficient size shall be mounted on the tank to protect the tank from damage and to control the explosion of oil during an internal fault. The explosion vent shall be mounted such that pressure relief is not invalidated by the operation of valves and it shall direct the oil downwards and away from tanks and bushings. It shall be capable of maintaining the oil tightness of the equipment under all conditions of normal service.

## 5.3 Conservator Tank

A conservator tank shall be mounted on the top above the highest point of the oil circulating system of the transformer. It shall be of ample capacity to accommodate the expansion and contraction of oil in the whole system over the extreme possible temperature range.

Conservator tank shall be connected to the main tank by the pipe through Buchholz relay with stop valves at both ends. The connection shall be such that air or gas is not entrapped.

The conservator oil outlet pipe shall be fixed above the base of the conservator to form a sump to trap condensation and sludge. One end of the conservator shall be fixed by bolts to enable the tank to be cleaned.

Each conservator shall be fitted with:

- i) At least one oil level indicator of direct reading prismatic glass type visible from ground level, provided with alarm contacts for minimum oil level.
- ii) Oil filling hole with cover.
- iii) The conservator tank shall be vented to atmosphere through a weather proof dehydrating breather with activated silica gel as dehydrating agent.

## 5.4 Cooling Units

The cooling unit shall consist of detachable type of radiators made of pressed sheet steel of thickness not less than 1.0mm. Radiators shall be designed so that all painted surfaces can be thoroughly cleaned by hand and subsequently painted inside by suitable brushes. They shall be also so designed to avoid pockets in which moisture, dust or sand may collect.

Radiators shall withstand the pressure tests appropriate to the main tank. They shall be also capable of withstanding without damage the full vacuum associated with oil treatment. The radiators shall be provided with the following accessories.

- i) Bolted gasketed flanges connection at each point of connection to the main tank.
- ii) Top and bottom shut off valves on each radiator.

- iii) Air release plug, on top.
- iv) Oil drain plug at bottom at convenient level.
- v) Lifting lugs.

#### **5.5 Transformer Oil**

Insulating oil shall be Non-PCB oil and conform to IS 335 and shall be suitable in all respects for operating the transformer at the ratings and under conditions laid down in the specification.

#### **5.6 Gas and Oil Actuated Relays**

The Buchholz relay shall be as per the latest revision of IS 3637. The relay shall be fitted in the expansion pipe connecting the transformer tank to the conservator.

The pipe work shall be so arranged that all gas arising from the transformer shall pass into the relay. Sharp bends in the pipe work shall be avoided.

The design of the relay mounting arrangement and associated pipe work shall be such that the relay will not sustain damage during transport or service, or mal-operate due to vibrations under service conditions.

The relay shall be provided with drain cock, air vent and facility for testing with air injection by hand pump. The device shall be provided with two independent floats and electrical contacts, one for alarm on gas accumulation and the other for tripping on sudden rise of pressure due to abnormal conditions. The relay shall be provided with a window through which a scale indication can be seen in order that the quantity of gas collected within the relay housing can be determined. The oil circuit through the relay shall not form a delivery path in parallel with any circulating oil pipe. The bucholtz relay contacts shall be wired to the terminal station fixed in the marshalling box.

#### **5.7 Winding Temperature Indicator**

Winding temperature indicator shall be fitted locally in a weather proof box so as to be readable at a standing height from ground level. The device shall be provided with two sets of electrical contacts, one for alarm and one for trip. WTI will be operated with CT.

#### **5.8 Oil Temperature Indicator**

Thermometer pocket and sensing element with dial type thermometer calibrated in degree Celsius, with a hand reset pointer to register the highest temperature attained, shall be provided for indicating temperature of the top layer oil in tank.

Two sets of electrical contacts, one for alarm and one for trip, shall be provided. The cover of W.P. Box shall be equipped with a viewing aperture of adequate size fitted with clear glass.

Both WTI and OTI shall be fixed in the marshalling box completely wired upto the terminal station from where external cable will be connected to the panel circuit breaker controlling the HV side of the transformer for Alarm/ Trip signals.



## 5.9 Breather

The conservator of the transformer shall be provided with a silica-gel breather complete with oil seal and oil level indication window. Visual indication of the extent to which the silica-gel has absorbed moisture shall be provided. The unit must allow simple cleaning and replacement of the desiccant and sealing oil without the use of tools, by using wing nuts or similar forms of corrosion resistant hand - tightening devices.

The breather shall be mounted at appropriate height from ground level and connecting pipe, fitted to the main tank by means of brackets. The breather should be placed at appropriate height of the supervisor at site.

## 5.10 Valves

The transformer shall be fitted with the following valves:

- i) One valve at the top and one valve at the bottom of the tank mounted diagonally opposite to each other, for connection to oil circulating and filtering equipments. The lower valve shall also function as drain valve. These valves shall be fitted with blank flanges.
- ii) Oil sampling valves at top and bottom of the tank.
- iii) Valves between radiator and tank.
- iv) 1 No. Air-release Plug.
- v) Shut off valve for Buchholz relay.

## 5.11 LV side Cable Box and Disconnecting Chamber

- a. The cable box shall be of indoor type sheet steel construction, self-supporting, with all standard facilities including the body earth terminal.
- b. Cable box shall be suitable for bus duct entry.
- c. The connections to the cable box from bushing of transformer shall be through the disconnecting chamber for isolating cables to facilitate movement of transformer without disturbing cable box and termination.

## 5.12 HV side Termination

Bare bushing suitable for 11 KV 3x185 Sqmm cable termination.

## 6.0 MARSHALLING BOX

A marshalling box for outdoor use to transfer transformer control, alarm and annunciation terminals to control panel, shall be provided.

The box shall be mounted either on the transformer tank or on a separate mounting frame with brackets and shall conform to IP 54 degree of protection for the enclosure.

This box shall contain all auxiliary devices except those mounted on the transformer. The control terminals and connectors shall have suitable current carrying capacities.

A removable bottom gland plate shall be provided for cable entry. Cables between transformer and marshalling Box, shall also be provided.

## 7.0 TAP CHANGER

### 7.1 On Load Tap Changing Gear

The on-load tap changing gear shall comply with IS: 8468. The tap changer shall be mounted in a separate tank or compartment in accessible position in/on the transformer tank. The operation of the transformer at any of the taps provided shall not produce phase displacement. All the tap changing switches shall be rated for full uni-directional power flow.

Oil surge relay shall be fitted between the tap changer compartment and the conservator.

OLTC shall be provided with the following modes of operation.

Local : Manual Control and Electrically Operated

Remote : Manual Control and Electrically Operated  
With RTCC & AVR

Both local and remote operation shall be possible with RTCC Panel.

### 7.2 Mechanical Control

The cranking device for operation of the OLTC gear shall be removable and located at a height not exceeding 1500 mm above ground level for easy operation. The mechanism shall be complete with normal accessories including at least the following.

- Tap position indicator.
- Mechanical operation counter
- Mechanical stops to prevent over cranking the mechanism beyond extreme tap positions.

### 7.3 Electrical Control

Control circuit shall incorporate the following.

- Local - electrical operation
- Device to ensure a positive and full completion of tap change once it is initiated even if the control supply fails.

## 8.0 NOISE AND VIBRATION

Care shall be taken to ensure in the design and manufacture so as to reduce noise and vibration to the level of that obtained in good modern practice.

## 9.0 PAINTING

All accessories and transformer tank shall be sand blasted and grounded to produce a smooth, clean surface, free from scale, grease and rust.

After cleaning, the surfaces shall be given a phosphate coating followed by two coats of Epoxy primer.

The transformer shall be finished with two coats of Epoxy paint to shade 631 of IS 5.

## **10.0 LOSS CAPITALIZATION**

The best parameter quoted by any tenderer shall be taken as basis. The losses will be capitalised as per CBIP manual and the same will be considered for evaluation.

## **11.0 PERFORMANCE GUARANTEE**

The performance figures which will be indicated by the vendor shall be guaranteed subject to tolerances specified as per IS: 2026.

Vendor shall also furnish guarantee for the design, manufacture, material, safe and trouble free operation of the equipment and its accessories for a period of FIVE years from the date of commissioning.

## **12.0 TESTS**

### **12.1 Factory Tests**

Complete test shall be made at the manufacturer's plant to determine the performance and operating characteristics of the assembled transformer, and accessories to determine whether or not the guarantees have been met. Unless otherwise specified, all tests shall be carried out in accordance with IS: 2026, and shall include the following.

### **12.2 Routine Tests**

- a. Resistance measurement of all windings on the rated voltage connection and on all taps.
- b. Ratio tests on the rated voltage connection and on all taps.
- c. Polarity and phase rotation tests.
- d. Impedance and load loss at rated current on the rated voltage connection and on all the taps.
- e. No-load loss and current at rated voltage on the rated voltage connection and at 95,110 and 115% of rated voltage.
- f. Power frequencies withstand test.
- g. Insulation resistance tests on winding, auxiliary devices core and tank.
- h. Mechanical operation test on Tap changer.
- i. Induced over voltage test
- j. Magnetic Balance test

### **12.3 Type Tests**

The successful Bidder shall furnish two (2) copies of the following type test certificates conducted on similar transformer.

- a. Temperature rise test.
- b. Zero phase sequence test at all taps.

- c. Audible sound level test.
- d. Impulse voltages withstand test.
- e. Short circuit withstand test.

**12.4 Other Tests – Acceptance Test.**

- a. Pressure tests on the tank and cooling system.
- b. Operational tests to show the correct functioning of all devices associated with the transformer.

All routine and other tests shall be witnessed by the Purchaser's Engineer / Consultant.

**13.0 DRAWINGS AND MANUAL**

The following drawings and manual shall be submitted for the Engineer's approval:

- a. General arrangement and dimensional Drawing showing Constructional features and Disposition of various fittings and Accessories. (Drawings shall be to scale).
- b. General Arrangement Drawing of Marshalling Box.
- c. Wiring Diagram of Marshalling Box.
- d. Name plated drawing with Terminal Marking and connection Diagrams.
- e. Drawings of other major components.
- f. Technical Leaflets on All Components.
- g. Manufacturing Schedule in the form of Bar Chart/Net work.
- h. Manufacturing and supply record.
- i. Technical Particular Data-sheet duly completed and filled-in.
- j. Type Test Certificate of Similar rating transformer.
- k. Routine Test Certificates.
- l. Operation maintenance and instruction manuals for transformer and associated fittings.
- m. Scheme / Wiring diagram for OLTC/RTCC Panel.
- n. Foundation drawing.
- o. Quality Plan

Transformer Rating (continuous)	
Quantity	1 No
Duty / Application	Continuous / Power Distribution
Service	Outdoor
Type of Winding / Core	Double Wound / Core Type
Winding type	Conventional Copper
Type of cooling	ONAN
No. of phases	Three
Supply frequency	50 Hz
Primary Winding (HV/incoming side)	Delta
Secondary Winding (LV/outgoing side)	Star with neutral
Vector Group Symbol as per IS 2026	Dyn 11
Ambient conditions (as per IS 2026):	
Max ambient air temperature	42 deg. Celsius
Design ambient temperature	45 deg. Celsius
Max daily average air temperature	40 deg. Celsius
Max yearly weighted average air temperature	32 deg. Celsius
Minimum ambient air temperature	-5 deg. Celsius
Minimum Altitude (above M.S.L.)	Not more than 1000 meters.
Impedance value	5% subject to IS tolerance
Guaranteed Temperature rise over above ambient conditions:	
By thermometer in top-oil	50 deg. Celsius
By winding resistance method:	55 deg. Celsius
Nominal Primary Voltage (No-Load) and at Principle tapping.	11000 Volts
Nominal Secondary Voltage (No-Load)	433 Volts
Tapping in HV side	Provide for variation of incoming voltage
Type of tap-changing arrangement	ON load tap changer, with RTCC panel & AVR
No. of tap steps / positions	16 steps / 17 positions with OLTC
Tapping range	+5% to – 15% in 1.25% steps
Incoming side voltage compensation range	11.55 KV to 8.5 KV

**LIST OF FITTINGS AND ACCESSORIES BEING SUPPLIED ALONG WITH THE  
DISTRIBUTION TRANSFORMER**

The transformer(s) shall be equipped with the following standard fittings and accessories:

1. 1 No. oil-conservator with oil filling hole and cap and drain plug.
2. 1 No. prismatic plain oil level gauge mounted on conservator wall, with max./min level indication.
3. 1 No. silica-gel dehydrating breather with oil-seal and with first fill of charge.
4. 1 No. double-diaphragm type Explosion-vent for pressure relief purposes.
5. Adequate Nos. of Thermometer pockets, including one no for accommodating bulb type thermometer.
6. 1 No. top oil filter valve.
7. 1 No. bottom oil filter cum drain valve.
8. 1 Set of Rating, Diagram and Terminal Marketing plates.
9. 2 Nos. earthing terminals, located on diagonally opposite sides of transformer tank-base .
10. 1 Set of lifting lugs
11. 1 Set of jacking pads
12. 1 No. inspection cover on transformer-tank.
13. Under-carriage with 4 Nos. flat plain bi-directional rollers.
14. 1 No. air release plug on main transformer tank.
15. Adequate Nos. of detachable type cooling radiators with top and bottom isolating valves.

The following additional fittings / accessories shall be provided for the transformer(s):

1. 1 No. double float Buchholz relay, with alarm and trip contacts, with one No. isolating valve between relay and conservator-tank.
2. 1 No. 8 inch (150 mm) Dial type Oil Temperature Indicator (OTI), with MRP/RSD, with two pairs of alarm and top contacts.
3. 1 No. outdoor, weatherproof type thermo-junction box, housing the OTI and WTI.
4. 1 set of cast resin neutral CTs of ratio and class of accuracy and VA burden as mentioned in tender. The CT secondary terminals shall be brought to a terminal box for external cable termination

**Terminal Arrangements**

**H.V Side - Cable box**

**L.V. Side - Cable box**

**NOTE :**

- a) The exterior surfaces of the transformer(s) shall be coated with Synthetic Enamel Paint, Shade 631 (Light-Admiralty Grey) as per I.S.5.
- b) Suitable rails and accessories shall be provided.

The transformer(s) shall be supplied with first filling of mineral oil, as per IS 335 and with all standard accessories and fittings as per I.S 2026, as listed in below.

The transformer(s) shall conform to I.S 1180- level-2 and CBIP Manual on Power Transformers, and Standard manufacturing practice.

### Specification For On-Load Tap-Changing Arrangement (OLTC)

The transformer(s) shall be equipped with On Load Tap Changing equipment, comprising :

#### **1. Transformer-tank mounted High-speed, Resistive type On Load Tap Changing Gear (OLTC) : 16-step / 17 position.**

The OLTC shall be supplied with the first fill of oil conforming to I.S:335

- a. High torque electric motor suitable for 415V, 3-Phase, 50Hz AC supply.
- b. Motor drive and energy accumulator.
- c. Motor isolating device with overload protection.
- d. Contactors for forward and reverse operation of motor.
- e. 'Raise/Lower' control selector switch.
- f. 'Local/Remote' control selector switch.
- g. 'Raise/Lower' limit switches.
- h. Retainer switch.
- i. Stepping relay.
- j. Auxiliary transformer.
- k. Anti-condensation heater with switch.
- l. Interlock between manual and electrical operation.
- m. Mains isolating switch.
- n. A set of fuses.
- o. Insulated terminal board (with connectors for transformer tap leads).
- p. Mechanical (local) tap position indicator.
- q. Handle for manual operation.
- r. Tap changing operation counter.
- s. Mechanical stops to prevent over cranking of the mechanism beyond extreme positions.
- t. Rating plate.
- u. Driving mechanism chamber locking arrangement.
- v. Undrilled gland plate for Cable entry
- w. Terminal strips
- x. Lubrication chart
- y. Drain cum filter valve
- z. Potentiometer for remote tap position indicator.

#### **2. Indoor floor mounted type, Remote Tap Changing Control Cubicle (RTCC) panel, fitted with Solid-state Automatic Voltage-regulating Relay (AVR).**

An indoor floor mounted remote control cubicle (RTCC) with rear access door with wiring and with the following components:

- a. Remote tap position indicating meter or digital meter

- b. Tap change in progress signal lamp
- c. Raise/lower push buttons for remote operation
- d. Cubicle illuminating lamp with door switch with fuse
- e. Terminal strips
- f. Supply ON signal amp
- g. Undrilled gland plate for cable entry
- h. Alarm for AC supply failure
- i. End of tap with signal.

The following indicating lamps shall be provided in the RTCC Panel:

- a. Tap Changer supply on
- b. Tap Change in progress
- c. Upper limit reached
- d. Lower limit reached
- e. Mechanism stuck
- f. DM Motor overload
- g. Under voltage
- h. Tap changer supply failure.

Timer will be provided in the RTCC Panel along with AVR.

### **3. Oil surge relay with one pair of trip contacts.**

The On Load Tap Changing equipment shall be suitable for the following tap-change operations:

- a) Local-manual tap change operation, with cranking handle.
- b) Local-electrical tap change operation, with Raise/Lower switches / push buttons on OLTC.
- c) Remote-electrical, non-automatic, independent tap change operation, with Raise / Lower switches / push buttons on RTCC panel.
- d) Remote-electrical, automatic tap change operations through AVR

#### **Note :**

**A suitable Potential transformer (PT) of ratio 415 V/110V, 15 VA burden shall be provided in each RTCC panel, for purpose of feedback signal from the LT side to the AVR.**



**GUARANTEED TECHNICAL PARTICULARS FOR TRANSFORMERS**  
(TO BE FILLED IN BY THE TENDERER)

S.No.	Description	Units	To be filled by the Bidders
1.	Name of Manufacturer & Type of Transformer		
2.	Service (Outdoor/indoor)		
3.	Rating		
	a) ONAN	KVA	
4.	Rated Frequency	Hz	
5.	Number of phases		
6.	Rated Voltage		
	a) HV winding	KV	
	b) LV winding	KV	
7.	Vector group symbol		
8.	Type of cooling	(ONAN/ONA)	
9.	Tapping :		
	a) Range		
	b) Number of steps		
	c) Tapping provided on HV side		
10.	Losses (at 75° C and principal tapping)		
	a) No load loss at rated voltage and frequency		
	b) Load loss at rated current (ONAN) – Subject to IS Tol.		
	c) Total loss at maximum rated power		
11.	Impedance voltage at 75° C		
	a) At principal tapping	%	
	b) At maximum tapping	%	
	c) At minimum tapping	Order	
12.	Reactance at rated current and frequency	%	
13.	Resistance at rated current and at 75° C		
	a) HV	Ohms/phase hms/phase	

S.No.	Description	Units	To be filled by the Bidders
	b) LV	order	
14.	Zero sequence impedance	%	
15.	Zero sequence capacitance of HV winding	Micro F	
16.	Temperature rise above 45° C ambient		
	a) Top of oil by thermometer		
17.	Hottest spot temperature in winding limit to – over an maximum yearly weighted average ambient temperature of 32° C		
18.	Efficiency at 75°C		
	a) At full load (ONAN/ONAF)	%	
	b) At 75% load (ONAN/ONAF)	%	
	c) At 50% load (ONAN/ONAF)	%	
19.	Load and PF at which maximum efficiency occurs % full load		
20.	Maximum efficiency		
21.	Regulation at full load and at 75°C		
	a) At unit PF	%	
	b) At 0.8 PF lagging	%	
22.	No-load current referred to HV and 50 Hz (approx.)		
	a) At 90% rated voltage	A	
	b) At 100% rated voltage	A	
	c) At 110% rated voltage	A	
23.	Maximum current density at rated power		
	a) HV winding		
	b) LV winding		
24.	Maximum flux density in iron at rated voltage ratio and at rated frequency		
	a) At 100% rated voltage	Tesla	

S.No.	Description	Units	To be filled by the Bidders
	b) At 110% rated voltage	Tesla	
25.	Maximum clearances in air		
	a) Between phases (HV/LV)	mm	
	b) Between phases and ground	mm	
26.	Insulation level		
	a. Impulse		
	i. HV	KV(peak)	
	ii. LV	KV (peak)	
27.	Power frequency		
	i. HV	KV (rms)	
	ii. LV	KV (rms)	
28.	Winding Type		
	a) HV winding		
	b) LV winding		
29.	Insulation material		
	a) HV winding		
	b) LV winding		
	c) Tapping leads		
	d) Core to LV		
	e) HV to LV		
30.	Details of core		
	a) Core lamination material		
	b) Thickness of lamination	mm	
	c) Insulation of lamination		
	d) Type (shell or core)		
	e) Specific loss of core steel at 1.5 tesla		
31.	Details of Tank		
	a) Material		
	b) Thickness of side	mm	
	c) Thickness of bottom	mm	

S.No.	Description	Units	To be filled by the Bidders
	d) Thickness of cover	Mm	
	d) Thickness of tube	mm	
	e) Maximum internal pressure the tank is capable of.		
	f) No. of limbs (core type)		
32.	Details of conservator Main Tank:		
	a) Volume of conservator	Litres	
	b) Volume of oil between the highest and the lowest levels.	Litres	
33.	Details of Radiator		
	a) No. of radiator tanks		
	b) Thickness of the radiator plate	mm	
	c) Weight of each radiator		
	d) Cooling surface area.	mm <sup>2</sup>	
34.	Details of oil		
	a) Total oil required		
	b) Whether first filling of oil with 10% excess in non returnable drums furnished.		
	c) Oil conforms to standard		
35.	Details of Bushing		
	a) Make		
	b) Type		
	c) Voltage class	KV	
	d) Weight of bushing	Kg	
	e) Creepage distance	m	
	f) Applicable standard		
	g) Current rating		
	h) Insulation level		
	Impulse		KV(peak)

S.No.	Description	Units	To be filled by the Bidders
	Power frequency dry KV	KV (rms)	
	Power frequency wet	KV (rms)	
	Length of insulator	M	
	i) Loss angle at working voltage	Tan	
36.	Explosion vent		
	a) Material		
	b) Thickness		
	c) Minimum pressure the diaphragm is set to rupture		
37.	Breather Type		
	a) Transformer		
38.	Tank pressure test		
	a) Pressure	Kg/m <sup>2</sup>	
	b) Duration	Hours	
39.	Tank Vacuum test		
	a) Vacuum		
	b) Duration	Hours	
40.	Maximum Noise level	dB	
41.	Approximate overall dimensions including coolers and fittings		
	a) Height	mm	
	b) Breadth	mm	
	c) Length	mm	
	d) Crane lift for untaking core and coil assembly (including sling)	mm	
42.	Shipping Dimensions		
	a) Height	mm	
	b) Breadth	mm	
	c) Length	mm	
43.	Weight		

S.No.	Description	Units	To be filled by the Bidders
	a) Core and windings (approx.)	Kg	
	b) Tank and fittings	Kg	
	c) Oil	Kg	
	d) Total weight including cooling gear, tap changer fittings and oil	Kg	
	e) Shipping weight	Kg	
44.	Reference standards		

**The 11 KV cable** shall be aluminium conductor XLPE insulated armoured as per IS-7098 part-2 and for earthed system. The size of the cable shall be 3 core 185 Sqmm suitable for short circuit level of 17.39KA for 1 second. The test certificate shall be furnished by the contractor indicating the drum no from where the same is cut for our reference and records. The cable shall be laid underground trench with sand cushioning and bricks for mechanical protection.

#### **Special Conditions of the contract**

1. The cost for travel and other arrangements for witnessing the tests by the Bank's Engineer/Consultant at the vendor's works shall be borne by the Contractor.
2. The work shall be done in strict coordination with the Bank's Engineer/ consultant Engineer and the Bank's Care Taker (CT) of the premises, as per the schedule/ shutdown sequence, etc. provided by the Bank/consultant.
3. The work has to be done in office premises during working hours. As such, the work shall be done strictly following decorum and discipline with least inconvenience to the officers.
4. As directed by the Bank/consultant, the contractor has to carry out the work late/ work on Saturdays/ Sundays/ Holidays with prior approval so as to ensure smooth flow and timely completion of the work.
5. The Bank, will provide electricity and water, free of cost
6. Debris shall be periodically removed from the site. Debris/ waste materials shall be removed from the office premises periodically during the progress of the work. The scrap/ waste shall not be accumulated/ dumped in the flats/ premises.
7. **Special care should be taken not to leave unfinished work overnight, no additional cost during the progress of the work and safety arrangement to be provided all around the work area while work is executed at all time.**

8. The specifications/ list of approved makes shall be strictly adhered to. If any item is not available as per the list of makes specified, approval has to be obtained for equivalent make, after having produced proof of non-availability of the item in the market.
9. The contract is strictly on item-rate basis. The quantities as executed, measured and accepted for payment shall be settled as per rates quoted. No escalation in rates for whatsoever reasons shall be entertained.
10. The total amount quoted for the items of work in the schedule, less the buyback amount if any shall only be taken for arriving at the L1 bidder.
11. **Notwithstanding any insufficiency in detailing the scope of the work, the work is deemed to be done on turnkey basis strictly adhering to specification and instructions of the Bank from time to time and also conforming to prevalent BIS/ NBC norms.**
12. Permission, if any required, from the local statutory authorities / bodies shall be obtained by the contractor at his own cost.
13. The replacement of existing to new transformer, 11 KV cabling and 11 KV VCB are to be carried out during any non working days of Nabard which is Saturday and Sunday of every week. The work has to be completed within these two days and new transformer has to be put in service on the same day to avoid any disruption in the power supply

**DECLARATION BY THE CONTRACTOR**

We / I have read and understood all the instructions / conditions made above and we / I have taken into account the above Instructions /Terms and Conditions while quoting the rates. We / I accept all the above Terms and Conditions without any reservation, in all respects.

**Place:**

**Date:**

**Signature**

**Name and Seal**

**Address:**

### SAFETY CODE

1. First aid appliances including adequate supply of sterilised dressing and cotton wool shall be kept in a readily accessible place.
2. An injured person shall be taken to a public hospital without loss of time, in cases where the injury necessitates hospitalisation.
3. Suitable and strong scaffolds should be provided for workmen for all works that cannot safely be done from the ground.
4. No portable single ladder shall be over 8 meters in length. The width between the side rails shall not be less than 30 cm. (clear) and the distance between two adjacent rungs shall not be more than 30 cm. When a ladder is used an extra mazdoor shall be engaged for holding ladder.
5. The excavated material shall not be placed within 1.5 meters of the edge of the trench or half of the depth of trench whichever is more. All trenches and excavations shall be provided with necessary fencing and lighting.
6. Every opening in the floor of a building or in a working platform be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be one metre.
7. No floor, roof or other part of the structure shall be so overloaded with debris or materials as to render it unsafe.
8. Workers employed on mixing and handling material such as asphalt, cement mortar or concrete and lime mortar shall be provided with protective footwear and rubber hand-gloves.
9. Those engaged in welding works shall be provided with welder's protective eye shields and gloves
10. (i) No paint containing lead or lead products shall be used except in the form of paste or readymade paint. (ii) Suitable facemasks should be supplied for use by the workers when the paint is applied in the form of spray or surface having lead paint dry rubbed and scrapped.
11. Overalls shall be supplied by the Contractor to the painters and adequate facilities shall be provided to enable the working painters to wash during the periods of cessation of work.
12. Hoisting machines and tackle used in the works, including their attachments, anchorage and supports shall be in perfect condition.



13. The ropes used in hoisting or lowering material or as a means of suspension shall be of durable quality and adequate strength and free from defects
14. All workers shall be provided with helmet, Safety Shoes and Safety belts.

**Signature of the Contractor**



**ANNEXURE B****ARTICLES OF AGREEMENT****(On Rs. 200/- Stamp Paper)**

ARTICLES OF AGREEMENT made on the .....of.....2019 between the National Bank for Agriculture and Rural Development, a body constituted by the NABARD Act 1981 and having its Head Office at C-24, G Block, Bandra-Kurla Complex, Bandra (E) Mumbai-400051 and Regional Office at 48, M.G. Road, Nungambakkam, Chennai – 600034 (hereinafter called the 'Employer') which expression shall, unless repugnant to the context mean and include its successors and assigns of the one part and M/s ..... (herein after called "the Contractor") which expression shall unless repugnant to the context mean and include its successors and assigns of the other part.

WHEREAS The Employer is desirous of getting executed the work of **“Supply, Erection, Testing and Commissioning of 500KVA Transformer, 11 KV VCB panel and related works at NABARD Regional Office, Nungambakkam, Chennai-34”**.

The Contractor has agreed to execute the said works i.e.,**“Supply, Erection, Testing and Commissioning of 500KVA Transformer, 11 KV VCB panel and related works at NABARD Regional Office, Nungambakkam, Chennai-34”**subject to the provisions hereinafter contained and subject also to the instructions to the Bidders, General Conditions of Contract, Special Conditions, Technical Specifications, the said drawings, the Schedule of Quantities and Bidders Schedule of Quantities, all of which are hereinafter collectively referred to as '**the said conditions**', strictly in accordance with the said drawings annexed hereto and the Specification and Schedule of Quantities referred to above at or for the respective rates set out in the Bidders Schedule of Quantities annexed hereto, amounting to the sum as hereunder arrived at or such other sum as may become payable hereunder (herein under referred to as the said contract amount).

**NOW THEREFORE THIS AGREEMENT WITNESSETH THAT:**

1. In consideration of the said Contract Amount to be paid by the Employer to the contractor at the time and in the manner set forth in the said conditions and in accordance with the schedule of payments, the Contractor shall upon completion subject to the said conditions execute and complete the work shown in the said Drawings and described in the said Specifications and Schedule of Quantities.
2. The said Conditions and the Annexure thereto shall be read and construed as forming part of this agreement and the parties hereto respectfully abide by, submit themselves to the said condition and perform the agreements on their part respectively contained in said conditions.

3. Tender documents containing notice to the Contractors, Conditions of Contract, Appendix thereto, Special Conditions of Contract, Technical Specifications and Schedule of Quantities with the rates entered therein, shall be read and stamped forming part of this agreement and the parties hereto shall positively abide by and submit themselves to the conditions and specifications and perform the agreements on their part respectively in conditions contained.
4. This Contract is neither a fixed lump sum Contract nor an item rate Contract, but is a Contract to carry out work to be paid for according to actual measured quantities and rates contained in the Schedule of Quantities and probable quantities provided in the said Conditions.
5. The Employer reserves to itself the right of altering the drawing, nature of the work by adding to, reducing or omitting any items of work or having portions of the same carried out without prejudice to this Contract.
6. The Contractor should have experienced and competent staff which will enable them to ensure proper quality check on the materials, and who will ensure to carry out proper tests as required by the specifications and will supervise the day-to-day working and execution of contract works.
7. If the Contractor has any doubt about the quality of any materials or any difficulty in supervision of the day to day work, it shall be the duty of the Contractor to report the matter in writing forthwith to the Employer and for the time being, to suspend that portion of the work about which difficulty is experienced and the Contractor will abide by the direction of the Employer.
8. The Contractor covenants and warrants that completed items of work as well as the entire work on completion will be in conformity with the Specifications and the terms and conditions of Contract and will be of proper quality and description.
9. Time shall be considered as the essence of this Agreement and Contractor hereby agrees to complete the work within **60daysfrom the day of issue of work order**, nevertheless to the provisions of extension of time as contained in the said conditions.
10. All payments by the Employer under this contract will be made at **CHENNAI** by Cheque/e-payment only.
11. All disputes arising out of or in any way connected with this agreement shall be deemed to have arisen at **CHENNAI** and only court at **CHENNAI** shall have jurisdiction to determine the same.
12. This agreement shall be signed in duplicate; the original document shall be kept in the custody of the Employer and the duplicate with Contractor. Stamp duty shall be borne by the Contractor.

IN WITNESS WHEREOF the Employer has set its hand hereunto through its duly authorized official and the contractor has caused these presents under its common seal/by its duly authorized representative at the place and on the date and year first hereinabove written.

As witness our hands are affixed this        day of 2019.

Signed and sealed by the said Employer in the presence of

.....  
.....

Witness No. 1 .....

Witness No. 2 .....

Signed and Sealed by the said

.....  
.....

Contractor in the presence of

Witness No. 1 .....

Witness No. 2 .....

ANNEXURE C

INDEMNITY BOND

(On Rs. 100/- Stamp Paper)

KNOW all men by these presents that I, Shri..... of M/s .....do hereby execute Indemnity Bond in favour of National Bank for Agriculture and Rural Development ( NABARD), having their Registered Office at C-24, G Block, Bandra-KurIa Complex, Bandra (E) Mumbai-400051 and Regional Office at No. 48, Nungambakkam High Road, Chennai – 600034 and M/s.....having their office at ..... on this ..... day of..... 2019.

WHEREAS NABARD have appointed M/s.....as the Contractor for their proposed work relating to **“Supply, Erection, Testing and Commissioning of 500KVA Transformer, 11 KV VCB panel and related works at NABARD Regional Office, Nungambakkam, Chennai-34”**.

**THIS DEED WITNESSETH AS FOLLOWS:-**

I/We M/s .....hereby do Indemnify, and same harmless NABARD against and from

1. any third party claims, civil or criminal complaints liabilities, site mishaps and other accidents or disputes and/or damages occurring or arising out of any mishaps at the site due to faulty work, negligence, faulty construction and/or for violating any law, rules and regulations in force, for the time being while executing/executed works by me/us,
2. any damages, loss or expenses due to or resulting from negligence or breach of duty on the part of me/us or any sub-contractor/s if any, servants or agents.
3. any claim by an employee of mine/ours or of sub-contractor/s, if any, under the Workmen Compensation Act and Employers Liability Act, 1939 or any other law, rules and regulations in force for the time being and any Acts replacing and/or amend the same or any of the same as may be in force at the time and under any law in respect of injuries to persons or property arising out of and in the course of the execution of the contract work and/or arising out of and in the course of employment of any workmen/employee.
4. Any act or omission of mine/ours of sub-contractor/s if any, our/their servants or agents which may involve any loss, damage liability, civil or criminal action.

IN WITNESS WHEREOF THE M/s .....has set his/their hands on this .....day of ..... 2019.

SIGNED AND DELIVERED BY THE AFORESAID M/s

IN THE PRESENCE OF WITNESS :

- (1) .....
- (2) .....

**ANNEXURE D**

**Performance undertaking from the contractor**

(On aRs 200/- Non- Judicial stamp paper)

National Bank for Agriculture and Rural Development  
48, M.G. Road,  
Nungambakkam  
Chennai 600 034

WHEREAS

The National Bank for Agriculture and Rural Development (NABARD) is desirous of getting the and for that purpose invited tenders.

1. Pursuant to the acceptance by NABARD of the tender dated \_\_\_\_\_ submitted by us, on which NABARD has issued work order No \_\_\_\_ dated \_\_\_\_\_(hereinafter referred to as "the said order") and accepted us on \_\_\_\_\_ (date).

2. It is of the said order that works of supply, erection, testing and commissioning of 500KVA transformer, 11 KV VCB in the said building/s (hereinafter referred to as the said transformer works) shall be carried out as per the tender specifications.

3. It is also one of the terms of the said order that we shall furnish to NABARD a performance undertaking against any defect which may arise in a period of 5 years from the date of virtual completion pertaining to both the materials and workmanship in respect of the said transformer works and which performance undertaking shall be signed by \_\_\_\_\_ Builders and which shall be valid for a duration of 3 years from the date of virtual completion of the said transformer works.

NOW, THEREFORE, THIS PERFORMANCE UNDERTAKING WITNESSETH THAT:

1. We have carried out the said transformer works. We have read and understood the terms and conditions of the said transformer works as specified in the said order.

2. After virtual completion of the said transformer works, if at any time or times the said transformer works treated by us start malfunctioning either due to the inadequacy of the work carried out or due to any other reason, whatsoever relating to the specifications, workmanship etc., we hereby undertake to carry out necessary remedial measures up to 5 years from the date of virtual completion of the said transformer works to such extents so and often as may be necessary to keep the premises functioning without any extra cost to the NABARD. The decision of NABARD in regard to the question as to whether the problem is arising as a result of manufacturing defect, erection defect shall be treated as final and binding on us. We shall diligently, efficiently and satisfactorily rectify the defects or faults detected/arising, during the aforesaid period to the full satisfaction of NABARD and also undertake to attend to the rectification work and reinstate the

working of the transformer to its original condition after carrying out the rectification work, if necessary, by arising new materials at no extra cost to the NABARD.

We shall not revoke it without written consent of NABARD

Signed by:\_\_\_\_\_

For & on behalf of M/s\_\_\_\_\_

Date :

Place :



ANNEXURE – E

**OEM AUTHORISATION LETTER**

Original Equipment Manufacturer's authorisation letter (in Original Letter Head of OEM)

To,  
Chief General Manager,  
Department of Premises, Security and Procurement,  
NABARD, Chennai

Dear Sir,

Subject : Direct Manufacturers Authorization  
Ref : Tender No: \_\_\_\_\_ dated-----

Name of Work: - **Invitation to bid for "Supply, Erection, Testing and commissioning of 500KVA transformer, 11 KV VCB and connected works at Nabard- RO, Chennai"**

We ....., an established and reputable manufacturer of 500 KVA transformers having Corporate / Registered office at .....(address of OEM) do hereby authorize ..... (name of contractor) and having their office at ..... (contractor's address) as our representative to submit a above bid\_\_\_\_\_dt\_\_\_\_\_ and subsequently negotiate and sign the contract with you for the supply of goods manufactured by us and authorize the said firm to act on our behalf in fulfilling any or all installation, technical support and maintenance obligation as required by the contract

We hereby confirm and extend our full guarantee / warranty of five years for the products supplied by the above contractor for the said work.

Yours faithfully,  
for .....

Signature of Officer Authorized to sign this Document on behalf of the OEM

**PROFORMA-1****a) General details about the Contractor**

<b>S. No.</b>	<b>Description</b>	<b>Information to be filled up by the Contractors</b>
1	Name of the Contractor /Organisation and address of the Registered Office	
2	Year of establishment	
3	Type of the Organisation (whether Sole Proprietorship, Partnership, Private Limited or Co-operative body, etc.)	
4	Name of the Proprietor/Partner/Directors of the Organisation/Firm:	
	(a)	
	(b)	
	(c)	
	(d)	
5	Details of Registration - Whether Partnership firm, Company, etc. Name of Registering Authority, Date and Registration Number	
6	Whether registered with Government/Semi-Government/Municipal Authorities or any other Public Organisation and if so, in which class and since when?	
7	Experience in the Relevant field	
8	Areas of business activities other than construction, if any and place of business	
9	Address of business activities other than construction, if any and place of business	
10	Address of office through which the proposed work of the Bank will be handled and the name and designation of the Officer-in-charge	
11	Adequate and satisfactory evidence to indicate financial capacity of the Organisation to undertake the said construction work with names of Bankers and their full addresses (Income-tax clearance certificate and Audited Balance Sheet and Profit and Loss Account for past three years should be attached)	
12	Yearly turn-over of the Organisation during last three years (Rs.)	
13	Whether any Civil Suit/litigation arisen in the contracts executed during the last ten years/being executed now. If yes, please furnish the details. in the table given below:	

Sr. No. (1)	Name of the project and Employer (2)	Nature of work (3)	Work Order No. and date (4)	Present stage of work (5)	Value of contract (Rs) (6)	Brief details of litigation (7)

**Note: Income-tax clearance certificate and Audited Balance Sheet and Profit and Loss Account for past three years should be attached separately.**

**b) Number of supplementary sheets attached for Proforma-1:**

**Signature of the Contractor**













**d) References**

Please give reference with full postal address of two persons (Engineers, Architects or top officials of an Organisation for whom you have executed construction works of importance), who may be directly contacted by the bank or by the Bank's Architects/Consultant about the ability, competence or capability of your Organisation.

(i) Reference-1:

(ii) Reference-2:

**e) Number of supplementary sheets attached for Proforma-2.:**

Signature of the Contractor





**Details of GSTIN of the contractor**

In order to enable us to report the details of the GST collected from you in the GST returns submitted by us, we request you to furnish your GSTIN (Goods and Services Tax Identification Number) in the following format, along with a self-attested photocopy of the GSTIN allotment communication.

GSTIN Information				
S. No	GSTIN Details		Details to be filled up by customer	
1	Name of the Customer			
2	Customer ID			
3	Account No.			
4	PAN			
5	GST Identification Number (GSTIN)			
6	TAN			
7	Composition Scheme (Please indicate)		( Yes / No)	
8	Nature of service rendered- as given the registration certificate issued by the authorities			
9	Constitution of Business ( Pl. Tick)		Company	Partnership
			Proprietary	Others, plz specify
10	Address of principal place of business in the state as per GST registration certificate	Address		
		City		
		PIN		
		State		
	Multiple GST registration ** (If Yes, Please fill the following details)		( Yes / No )	
	GST Identification Number (GSTIN)			

	Address of principal place of business in the state as per GST Registration certificate	Address	
		City	
		PIN	
		State	
GST Identification Number (GSTIN)			
	Address of principal place of business in the state as per GST Registration certificate	Address	
		City	
		PIN	
		State	
11	Location	SEZ/STP/DTA	
12	Contact details	Name	
		E-mail ID	
		Phone No.	
Name of the Authorized Signatory/Primary Holder		Signature	
Name of the Authorized Signatory/Joint Holder 1		Signature	
Name of the Authorized Signatory/Joint Holder 2		Signature	

\*\* In case of multiple GST Registration number, applicant may detail the GST registration of particular state for every transaction or else the default address mentioned in the form shall be selected by the bank for issuance of invoice

**Bank Account Details for ECS Payments**

**Details to be furnished by the Tenderers/contractors/Service Provider/Firm**

1. Name of Contractor/Firm/Co./Service Provider **with Address**

\_\_\_\_\_

\_\_\_\_\_

2. Name of the Bank of the Contractor/ :  
Service Provider

3. Bank Branch and Address :

4. Title of Account where payment is required -:  
Exact wording of the account

5. Account No. :

6. Type of Account : Savings/Current/Overdraft/Cash  
Credit /Advances /NRE Savings/Credit  
Card

7. MICR No. of the Bank branch :  
**(along with a cancelled copy of the cheque)**

7. IFSC / RTGS / NEFT No. :

**Place:**

**Date:**

**Yours faithfully**

**Name and Address of the Tenderer/Contractor/Firm/Co./Service Provider**

**(Signature of the Tenderer/Contractor/Firm/Co./Service Provider)**

**Address and Seal**

**Note: Enclose a copy of PAN & Cancelled Cheque**

ANNEXURE – IVCHECK LIST FOR SUBMISSION OF BID

Bidder is requested to fill this check list and ensure that all details/documents have been furnished as called for in the Bidding Document along with duly filled in, signed & stamped checklist **with this bid document**.

**Please tick (✓) the box and ensure compliance:**

EMD of requisite amount is submitted in the form of DD as mentioned in NIT in separately sealed envelope marked "Earnest money deposit"

Submitted  EMD value: Rs. \_\_\_\_\_  
In the form   
of DD

DD No. \_\_\_\_\_ Dated \_\_\_\_\_ Drawn on \_\_\_\_\_ (Name of Bank)

2. Validity of offer is up to 90 days from the date of opening of Price Bid.

Yes

3. Power of Attorney in favour of person who has signed the offer, in stamp paper of appropriate value. For Proprietary Organisation, declaration for proprietorship submitted

Submitted  Proprietorship

4. Partnership Deed is case of Partnership firm and Articles of Association in case of limited company.

Submitted  Not applicable

5. Bid Compliance Statement (confirmation for no deviation stipulated in Bid) enclosed.

Submitted

6. Original Bidding Document along with blank (un-priced) copy of price Bid/ Schedule of Rates and addendum, if any. Price is not filled up in this document.

Submitted

7. All pages/documents prepared and signed by the authorised signatory of the bidder.

Yes

8. Price Part in original, duly filled in, signed and sealed in each page, submitted in separately sealed envelope.

Submitted

9. Duly filled in Details of Specific Experience as per the format attached in the Bidding Document along with Documentary evidences comprising Work order and Completion certificate in support of meeting Experience criteria as per the NIT.

Submitted

10. Financial statement along with the Annual Audited balance sheets and P&L Accounts for the last three years.

Submitted

11. PAN NO. with documentary proof.

Submitted

12. ESI No. with documentary proof.

Submitted

13. Tax identification Number (TIN) applicable under VAT Act.

Submitted

**NOTE:** Documents, which are required to be submitted for the subject job, which are specifically mentioned in the Bidding Document.

**SIGNATURE OF BIDDER :** \_\_\_\_\_

**NAME OF BIDDER :** \_\_\_\_\_

**COMPANY SEAL :** \_\_\_\_\_