

ASSAM ELECTRICITY GRID CORPORATION LIMITED
Regd. Office:1st floor, Bijulee Bhawan,Paltanbazar,Guwahati-781001
CIN:U40101 AS2003SGC007238
Phone:0361-2739520/Fax:0361-2739513 web:www.aegcl.co.in



BID NO: AEGCL/DGM/TTC/TEZ/T-20/2019/87, Dated: 17.08.19

Bidding Document

For

**Supply of Materials required and Erection, Testing, Commissioning of 50 MVA,
132/33 kV Transformer at 132 kV Rowta GSS.**

**DEPUTY GENERAL MANAGER
TEZPUR T&T CIRCLE
AEGCL, TEZPUR-784001**

**Tender Cost: ₹ 1000.00
EMD: ₹31000.00**

For & on behalf of the **Managing Director, AEGCL, the Deputy General Manager, Tezpur T&T Circle, AEGCL, Dhanuwa Nagar, Tezpur**, invites tenders in prescribed form, from reputed Firms/Contractors with sound technical and financial capabilities for the following work. A single stage two envelope procedure (**Techno-Commercial and Price Bid**) will be adopted for this tender.

Sl. No.	Name of work	Estimated Amount including taxes INR	Time of completion In Days(From site handing over date)
1	Supply of Materials required and Erection, Testing, Commissioning of 50 MVA, 132/33 kV Transformer at 132 kV Rowta GSS.	15,12,283.00	45 days

1.0 Cost of Bidding Document:

Bidder has to pay Non-Refundable tender document cost of **Rs.1000.00 (Rupees One Thousand) only in the form of A/C payee Demand draft (Non-refundable) pledged in favour of the "Assam Electricity Grid Corporation Limited, Bijulee Bhawan, Paltanbazar, Guwahati-1", Payable at Guwahati.**

2.0 Bidding Address:

Tender papers can be purchased on application in plain paper from the **Deputy General Manager, Tezpur T&T Circle, AEGCL, Tezpur on all working days from 17.08.19 to 30.08.19.** For submission of bids and other clarifications if any, the address is:

**O/o the Deputy General Manager,
Tezpur T&T Circle, AEGCL,
Near Dhanuanagar Petrol Pump,
Sonitpur, Tezpur, Assam-787001.
Ph no. 03712-221794.**

3.0 Validity of Bids and Bids Prices:

- 3.1 Bids shall remain valid for the period of 180 days after the bid submission deadline date prescribed by AEGCL. In exceptional circumstances, prior to the expiration of the bid validity period, AEGCL may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a bid security shall also be extended for a corresponding period.
- 3.2 Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its bid.
- 3.3 Bidders shall quote for the entire scope of supply and services on a "single responsibility" basis such that the total bid price covers all the Supplier's obligations mentioned in or to be reasonably inferred from the bidding document in respect of the design, manufacture, including procurement, delivery, and completion of the entire scope.
- 3.4 Bidders shall give a breakdown of the prices in the manner and detail called for in the Price Schedules.

Schedule No. 1: Supply of goods

Schedule No.2: F&I against supply.

Schedule No.3: Erection, Testing and Commissioning including other civil works.

Schedule No.4: Grand Total

4.0 Bid Security:

- 4.1 All bids must be accompanied by a bid security amounting to **Rs. 31,000.00** only in the form of Demand Draft from any Nationalised Bank payable at Guwahati in favour of the **“Assam Electricity Grid Corporation Limited, Bijulee Bhawan, Paltanbazar, Guwahati-1”, Payable at Guwahati.**
- 4.2 If a bid security is specified, any bid not complying then his bid shall be rejected by the Employer as non-responsive.
- 4.3 The bid security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required performance security.
- 4.4 The bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder’s furnishing of the performance security.
- 4.5 The bid security may be forfeited:
a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder.
b) if the successful Bidder fails to:
(i) sign the Contract with in the specified period.
(ii) furnish a performance security within specified period.
- 4.6 The Bid Security of a JV shall be in the name of the JV that submits the bid. If the JV has not been legally constituted at the time of bidding, the Bid Security shall be in the names of all future partners as named in the letter of intent.
- 4.7 If a bid securing declaration is not executed in accordance with the above, AEGCL will declare the Bidder ineligible to be awarded a contract by the AEGCL for the period of time stated in the Form of Bid Securing Declaration.

5.0 Format and Signing of Bid:

- 5.1 The Bidder shall prepare one original of the Technical Bid and one original of the Price Bid comprising the Bid and clearly mark it —ORIGINAL - TECHNICAL BID and —ORIGINAL - PRICE BID.

In addition, the Bidder shall submit three copies of the bid, in the number specified and clearly mark each of them —COPY. In the event of any discrepancy between the original and the copies, the original shall prevail.
- 5.2 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified in the Bid Document and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid where entries or amendments have been made shall be signed or initialled by the person signing the bid.
- 5.3 A bid submitted by a JV shall be signed so as to be legally binding on all partners.
- 5.4 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialled by the person signing the bid.

6.0 Submission and Opening of Bids:

6.1 Submission, Sealing and Marking of Bids:

- 6.1.1 Bidders may submit their bids by mail or by hand. When so specified in the Bid Document, bidders shall have the option of submitting their bids electronically. Procedures for submission, sealing and marking are as follows:
Bidders submitting bids by mail or by hand shall enclose the original and each copy of the Bid,

including alternative bids, if permitted in accordance with above, in separate sealed envelopes, duly marking the envelopes as —ORIGINAL and —COPY. These envelopes containing the original and the copies shall then be enclosed in one single envelope.

- 6.1.2 The inner and outer envelopes shall:
- (a) bear the name and address of the Bidder;
 - (b) be addressed to the Bidding Authority.
 - (c) bear the specific identification of this bidding process indicated in the Bid Document
- 6.1.3 The outer envelopes and the inner envelopes containing the Technical Bid shall bear a warning not to open before the time and date for the opening of Technical Bid.
- 6.1.4 The inner envelopes containing the Price Bid shall bear a warning not to open until advised by the AEGCL.
- 6.1.5 If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the bid.

6.2 Deadline for Submission of Bids vis-à-vis Bid Opening:

- 6.2.1 Bids must be received by the AEGCL at the address and no later than **17.00 Hours (IST) of 30.08.19.**
- 6.2.2 Subsequently, the bids will be opened publicly at **13.00 Hours (IST) of 31.08.19.**

- 6.3 AEGCL may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document, in which case all rights and obligations of the AEGCL and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

7.0 Eligible Bidders:

- 7.1 A Bidder may be a private entity or a government-owned entity or any combination of such entities with the intent to enter into an agreement supported by a letter of intent or under an existing agreement in the form of a joint venture, consortium, or association (JV). In the case of a JV:
- a) all partners shall be jointly and severally liable, and
 - b) the JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the partners of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution.
- 7.2 A Bidder, and all partners constituting the Bidder, shall have Indian nationality. A Bidder shall be deemed to have the nationality of a country if the Bidder is a national or is constituted, incorporated, or registered and operates in conformity with the provisions of the laws of Republic Of India. This criterion shall also apply to the determination of the nationality of proposed subcontractors or suppliers for any part of the Contract including related services.
- 7.3 AEGCL considers a **conflict of interest** to be a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations, and that such conflict of interest may contribute to or constitute a prohibited practice under Anticorruption Policy of Government of India and Government Of Assam. In pursuance Anticorruption Policy's requirement that Employer as well as bidders, suppliers, and contractors observe the highest standard of ethics. AEGCL will take appropriate actions if it determines that a conflict of interest has flawed the integrity of any procurement process.
- Consequently all Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to be in a conflict of interest with one or more parties in this bidding process if, including but not limited to:
- (a). they have controlling partners in common; or
 - (b). they receive or have received any direct or indirect subsidy from any of them; or
 - (c). they have the same legal representative for purposes of this bid; or
 - (d). they have a relationship with each other, directly or through common third parties, that

puts them in a position to have access to information about or influence on the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or

- (e). a Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which it is involved. However, this does not limit the inclusion of the same subcontractor, not otherwise participating as a Bidder, in more than one bid; or
- (f). a Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the plant and services that are the subject of the bid.

7.4 A firm that is under a declaration of ineligibility by the AEGCL or any Government Entity or PSU at the date of the deadline for bid submission or thereafter i.e. on or before contract signing date shall be disqualified.

7.5 Bidders shall provide such evidence of their continued eligibility satisfactory to the AEGCL, as the Employer shall reasonably request.

7.6 In case a prequalification process has been conducted prior to the bidding process, this bidding is open only to prequalified Bidders.

8.0 Financial Capability:

8.1 Bidder will require to submit along with the bid the audited balance sheets and other legal financial statements acceptable to AEGCL, for the last 3 (three) years to demonstrate the current soundness of the Bidders financial position and its prospective long term profitability. As a minimum, an Applicant's net worth calculated as the difference between total assets and total liabilities should be positive.

8.2 **Average Annual Turnover** : Minimum average annual turnover **INR 4,65,000.00** calculated as total certified payments received for contracts in progress or completed, within the last 3 (Three) Years.

8.3 **Financial Resources**: Bidder need to demonstrate access to, or availability of, financial resources such as liquid assets, unencumbered real assets, lines of credit, and other financial means, other than any contractual advance payments to meet:

- (1) the following cash-flow requirement, **INR 4,65,000.00** and
- (2) the overall cash flow requirements for this contract and its current works commitment.

9.0 Experience:

9.1 Experience having successfully completed similar works during last 7 years ending last day of the month previous to the one in which applications are invited should be either of the following:

- (a) Three (3) similar completed works costing not less than **6,20,000.00**
- (b) Two (2) similar completed works costing not less than **7,75,000.00**
- (c) One (1) similar completed works costing not less than **12,40,000.00**

9.2 Similar work implies the works related to **Erection, Testing and Commissioning and associated works of Transformers at Sub-stations**. Each of such project/ works should consist of completion certificate as per Clause 9.1.

10.0 Evaluation Criteria:

10.1 Evaluation will be done on the basis of Clause No. 7.0, 8.0 and 9.0 and in accordance with the **Annexure I** to be duly filled in, signed and submitted by the bidder.

10.2 Price Bid of only **Responsive Techno-Commercial Bidders** will be opened.

10.3 **Arithmetical Error**, if observed while in Price Bid evaluation, same will only be corrected.

- 10.4 **Any post bid correction request will NOT BE ENTERTAINED.**
- 10.5 **Price Bid Envelope of the Non-responsive Techno Commercial Bidders will be returned** to the respective bidders against submission of a written request by the bidder.
- 11.0 Late Bid:**
- 11.1 Any bid submitted ***after the due date and time*** will be rejected without any prejudice.
- 11.2 AEGCL will not be responsible for any Postal and/or Courier Delay in delivering the bid. The same received after the scheduled closing date and time will be rejected without any prejudice.
- 11.3 Bidding through EMAIL WILL NOT BE ACCEPTED.
- 12.0 Clarification:**
- 12.1 A prospective Bidder requiring any clarification of the Bidding Document shall contact the AEGCL in writing at the AEGCL's address indicated in the BDS or raise his enquiries prior to 7 (seven) days of closing of the bid. The Employer will respond to any request for clarification, provided that such request is received no later than seven (7) days prior to the deadline for submission of bids. The AEGCL's response shall be in writing with copies to all Bidders who have acquired the Bidding Document including a description of the inquiry but without identifying its source. Should AEGCL deem it necessary to amend the Bidding Document as a result of a request for clarification, it shall do so.
- 12.2 The Bidder is advised to visit and examine the site where the work is to be Carried out and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for the provision of plant and services. The costs of visiting the site shall be at the Bidder's own expense.
- 12.3 The Bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
- 12.4 The Bidder's designated representative is invited to attend a pre-bid meeting, if provided for in the BDS. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 12.5 The Bidder is requested, as far as possible, to submit any questions in writing, to reach the AEGCL not later than one week before the pre-bid meeting if there is provision of Pre Bid Meeting.
- 12.6 Minutes of the pre-bid meeting, including the text of the questions raised, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Bidders who have acquired the Bidding. Any modification to the Bidding Document that may become necessary as a result of the pre-bid meeting shall be made by AEGCL exclusively through the issue of an Addendum but not through the minutes of the pre-bid meeting.
- 12.7 Nonattendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.
- 13.0 Amendment of Bidding Document:**
- 13.1 At any time prior to the deadline for submission of bids, the Employer may amend the Bidding Document by issuing addenda.
- 13.2 Any addendum issued shall be part of the Bidding Document and shall be communicated in writing to all who have obtained the Bidding Document from AEGCL.

- 13.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, AEGCL may, at its discretion, extend the deadline for the submission of bids.
- 14.0 Preparation of Bids by the Bidders:**
- 14.1 Cost of bidding:** The Bidder shall bear all costs associated with the preparation and submission of its Bid, and AEGCL shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 14.2 **Language of Bid:** The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and AEGCL, shall be written in the English and / or Assamese language.
- 14.3 Bid Prices and Discounts:**
- 14.3.1 Unless otherwise specified in the Bid Document and/or AEGCL's Requirements, bidders shall quote for the entire plant and services on a —single responsibility basis such that the total bid price covers all the Contractor's obligations mentioned in or to be reasonably inferred from the bidding document in respect of the including procurement and subcontracting (if any), delivery, construction, installation and completion of the Work. This includes all requirements under the Contractor's responsibilities for completing the work and where so required by the bidding document, the acquisition of all permits, approvals and licenses, etc.; the operation, maintenance and training services and such other items and services as may be specified in the Bidding Document, all in accordance with the requirements of the General Conditions. Items against which no price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed to be covered by the prices for other items.
- 14.3.2 Bidders are required to quote the price for the commercial, contractual and technical obligations outlined in the bidding document. If a Bidder wishes to make a deviation, such deviation shall be listed. The Bidder shall also provide the additional price if any, for withdrawal of the deviation.
- 14.3.3 Bidders shall give a breakdown of the prices in the manner and detail called for in the Price Schedules. Where no different Price Schedules are included in the Bidding Document, bidders shall present their prices in the following manner:
(a) Separate numbered Schedules shall be used for each of the following elements.
(i) The total amount from each Schedule shall be summarized in a Grand Summary giving the total bid price(s) to be considered.
- 14.3.4 The price of the work shall be quoted as the Base Price or EXW Price
- 14.3.5 GST and all other taxes (as applicable) payable on the work should be indicated separately. In case of failure to indicate so AEGCL will consider such taxes are included in the Offered Price.
- 14.3.6 Whenever forest produces like sand, stone, timbers etc are used in the work the contractor have to furnish documentary proof that requisite royalty on such produces has been paid to the concerned Department.
- 14.3.7 When the work being "work contract" which is one and individual and which involves no separate contract for the sale of materials, the contractor shall have not be entitled to get any VAT and or any other taxes, levies reimbursed from the AEGCL for the supply of the materials.
- 14.3.8 Taxes like GST, income tax etc. which need to be deducted at source as per the prevailing law of the land, will be deducted at source.
- 14.3.9 The Prices shall be FIXED and FIRM:** The Bided Price should on Fixed Price basis, prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected.

15.0 Additional Requirements:

- 15.1 Detailed list of tools, plants, equipment's and machinery available with the tenderer along with their value (A copy of approved assessor's certificate to be enclosed or affidavit), if applicable.
- 15.2 Name, qualifications of the technical supervisors and staff under the employment of the tenderer and organization on hand and proposed to be engaged for the subject work (Authenticated by a Chartered Accountant or sworn through affidavit), if applicable.
- 15.3 Other facilities available with the tenderer not covered hither to.
- 15.3.1 Bidders(s) knowledge from actual personal investigation of the resources of the region or District (S) in which he/they offers the work.
- 15.3.2 Copy of Contract labour license.
- 15.3.3 The Bidder shall furnish copy of their PAN Card. The card must be in the name of firm, in case the tenderer is a partnership Firm.
- 15.3.4 In case the tenderer is a partnership Firm, the work experience, solvency and turn over shall be in the name of partnership Firm only.
- 15.3.5 GST registration No. and valid labour license.
- 15.3.6 Registered Power of attorney, if any.
- 15.3.7 Audited balance sheet and IT return for last three (3) years.
- 15.3.8 The contractor must possess a valid Electrical License of 33 kV and above issued by the competent authority.

16.0 Negotiation with successful bidder:

The AEGCL reserve the right to hold negotiations with lowest who should be lowest, valid, eligible and technically acceptable tenderer considered for award of contract directly if the rates were not unreasonably high.

17.0 Technical Specifications:

17.1 Scope of Work

- 17.1 The major items of works included in the scope of this specification are listed below:-
- i) Erection, Testing and commissioning and other associated works of 50 MVA transformer at Rowta GSS.
 - ii) Supply of materials.

17.2 QUALIFICATION REQUIREMENTS FOR ERECTION, TESTING & COMMISSIONING

- 17.2.1 The bidder should have carried out erection, testing, commissioning of and test charging of at least two nos. of 132 kV or above class transformers at 132 kV of above switch yard of sub stations satisfactory during last five years before date of submission of the bid.
- 17.2.2 The bidder should arrange requisite tools and tackles including adequate capacity hydraulic crane having suitable adjustable boom length for erection of bushing, radiators, conservator, and other associated costly equipments.
- 17.2.3 The bidder should have team of trained personnel and skilled labour force and supervising engineers to carry out erection, commissioning, testing and test charging work including laying of control cables and wiring of OLTC gear scheme and inter connection of RTCC panel with D.M., of OLTC., wiring of cooler control scheme and cooling fans including automatic operation of cooler control etc.

17.3

ERECTION OF TRANSFORMER

(i) Erection includes entire vacuum by proper capacity of vacuum pump, for not less than 48 hours, or more if required as per the instruction of engineer in charge.

(ii) Oil may be supplied in tanker/steel drums, which should be properly sealed during transportation and storage. Seal shall be verified and opened by AEGCL representative before filling in transformer. Contractor should have enough storage capacity for handling oil. Filling the oil from tank/drums to the transformer shall be through 5000 ltrs. or more capacity high quality filter machine and filtration of the same shall be carried out to get desired BDV & PPM as per IS/IEC/specification.

(iii) Contractor has to replace all the gaskets by new ones if required by engineer –in –charge.

(iv) Erection shall include wiring of cooling fans, RTCC panels, terminations of alarm and trip contacts from buchholz relay, WTI, OTI, PRD to M.K. box and in turn to remote relay panel and RTCC panel in control room. Required cabling on the transformer as well as from transformer to control room shall also be included in scope of work. The testing and commissioning of OLTC as well as cooler control scheme shall be carried out as per instruction of engineer in charge.

(v) The contractor shall arrange nitrogen cylinder required at site for above work. In case of any breakage of any item, contractor has to follow up with insurance for the claims and amount for damage /breakage will be with held from contractor"s bill till the time claim is finalized by insurance company.

(vi) Minimum 10 Nos. of good skilled fitters, with 2 Nos. qualified supervisors and senior engineer having sufficient experience should be posted at site during the above work.

(vii) Contractor has to repaint the transformer tank with two coat of anti rusting good finish LTBS grey shade 631 of IS:5 by spray painting as per the direction of engineer in charge. Contractor is required to carry out all minor/major fabrication work of pipes and hangers if required at site as per direction of engineer in charge.

(viii) All tools and tackles, testing equipments listed here under are to be arranged by the contractor.

(ix) Contractor shall arrange required capacity of oil tanker at site.

(x) Any other items not mentioned above but required for successful completion of erection shall have to be arranged by the contractor.

17.4

TOOLS REQUIRD FOR ERECTION

- One or two mobile crane hydraulic of adequate capacity with long boom of 30 ft. bearing free vertical lifts suitable for lifting HV bushing.
- Steel/Manila/Nylon ropes and D shackle for lifting of 3-ton weight.
- 4000 or 6000 liters. / hr. capacity filter machine in excellent working condition. It must be capable of heating transformer oil up to 800 C and must be equipped with built in high vacuum pump and chamber filter elements.
- Following accessories should also be made available.
- Non-collapsible hose piping of size 40 mm to 80 mm with nipple and flange.
- Hosepipe should be of oil resistant 2" to 3" BSP suitably threaded for connecting hose pipes & provided with holes for fastening.
- 2 Nos. storage tanks for insulating oil of adequate capacity provided with 2 bottom drain cum filter valve and another 2□□ top valve.
- Two complete sets of ring and flat spanners of metric size up to 4 to 36.
- One complete set of Allen keys.
- One complete set of screw drivers.
- 1/4 " shackle 3-ply nylon rope of 15 mtr. Length.
- 4 nos. of flange each of 1", 2" to 3" BSP suitably threaded for connecting hose pipe & provided with holes for fastening.

- Multi stage vacuum pumping system capacity 250-500 mm cu/hr. & should be able to create absolute vacuum of 1 tor or 1.3 m bar or less having following accessories.
- Non return valve at inlet.
- GI pipe/non-collapsible pipes with flange for connecting vacuum pump to transformer main tank.
- Vacuum gauge for reading 0 to 50 mm along with flange for fitting at top of transformer of any suitable size 3/16" and 3/8" set in good quality.
- Oil testing kit in good working condition having 2.5mm and 4 mm guage for adjusting the gap, 2.5/5 KV megger motor driven and capable of reading up to 50000 M-OHM.
- 3 Ltrs. Of CTC.
- Hot air blower for drying out of bushing.
- Required nitrogen cylinder.
- Stainless steel bottles for samples.
- Gas cylinder with nozzle torch for gas cutting etc.
- Any other item required for successful completion of work.

17.5 Supplier to inform himself fully

17.5.1 The Supplier should ensure that he has examined the General Conditions, qualifying criteria, Specifications and Schedules and has satisfied himself as to all the conditions and circumstances affecting the contract price and fixed his price according to his own views on these matters and acknowledged that no additional allowances except as otherwise provided therein will be levied.

17.5.2 The Purchaser shall not be responsible for any misunderstanding or incorrect information obtained by the Supplier other than information given to the Supplier in writing by the Purchaser

17.6 Conformity with Indian Electricity rules & other local regulations:

17.6.1 The Supplier shall note that all substation works shall comply with the latest provisions of Indian Electricity Rules and with any other regulations. Local authorities concerned in the administration of the rules and regulation relating to such works shall be consulted, if necessary, in regard to the rules and regulations that may be applicable.

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

17.6.3 In case of any conflict between the standards and this specification, this specification shall govern.

17.7 Employer's supervision:

17.7.1 To eliminate delays and avoid disputes and litigation it is agreed between the parties to the Contract that all matters and questions shall be resolved in accordance with the provisions of this document.

17.7.2 The manufacturing of the product shall be carried out in accordance with the specifications. The scope of the duties of the Employer, pursuant to the contract, will include but not be limited to the following.

- Interpretation of all the terms and conditions of these Documents and Specifications.
- Review and interpretation of all the Contractors drawings, engineering data etc.
- Witness or authorize his representative to witness tests at the manufacturer's works or at site, or at any place where work is performed under the contract.
- Inspect, accept or reject any equipment, material and work under the Contract, in accordance with the Specifications.
- Issue certificate of acceptance and/or progressive payment and final payment certificate.

17.8 Guaranteed Technical Particulars:

The Guaranteed Technical Particulars of the various items shall be furnished by the Bidders. The Bidder shall also furnish any other information's as in their opinion is needed to give full description and details

to judge the item(s) offered by them.

The data furnished in Guaranteed Technical Particulars should be the minimum or maximum value (as per the requirement of the specification) required. A Bidder may guarantee a value more stringent than the specification requirement. However, for testing purpose or from performance point of view, the material shall be considered performed successfully if it achieves the minimum/maximum value required as per the technical specification. No preference what so ever shall be given to the bidder offering better/more stringent values than those required as per specification except where stated otherwise.

18.0 Packing:

18.1 All the materials shall be suitably protected, coated, covered or boxed and crated to prevent damage or deterioration during transit, handling and storage at Site till the time of erection. The Supplier shall be responsible for any loss or damage during transportation, handling and storage due to improper packing.

18.2 The Supplier shall include and provide for securely protecting and packing the materials so as to avoid loss or damage during transport by air, sea, rail and road.

18.3 All packing shall allow for easy removal and checking at site. Wherever necessary, proper arrangement for attaching slings for lifting shall be provided. All packages shall be clearly marked for with signs showing 'up' and 'down' on the sides of boxes, and handling and unpacking instructions as considered necessary. Special precaution shall be taken to prevent rusting of steel and iron parts during transit by sea.

18.4 The cases containing easily damageable material shall be very carefully packed and marked with appropriate caution symbols, i.e. fragile, handle with care, use no hook etc. wherever applicable.

18.5 Each package shall be legibly marked by the-Supplier at his expenses showing the details such as description and quantity of contents, the name of the consignee and address, the gross and net weights of the package, the name of the Supplier etc.

19.0 Construction Tools, Equipments etc.:

19.1 The Contractor shall provide all the construction equipment, tools, tackle and scaffoldings required for construction, erection, testing and commissioning of the works covered under the Contract including construction power water supply etc. He shall submit a list of all such materials to the Employer before the commencement of work at site. These tools and tackle shall not be removed from the site without the written permission of the Employer.

20.0 Materials handling and storage:

(a) All the supplies under the Contract as well as Employer supplied items (if any) arriving at site shall be promptly received, unloaded and transported and stored in the stores by the Contractor.

(b) Contractor shall be responsible for examining all the shipment and notify the Employer immediately of any damage, shortage, discrepancy etc. for the purpose of Employer's information only. The Contractor shall submit to the Employer every week a report detailing all the receipts during the week. However, the Contractor shall be solely responsible for any shortages or damages in transit, handling and/or in storage and erection at site. Any demurrage, and other such charges claimed by the transporters, railways etc., shall be to the account of the Contractor.

(c) The Contractor shall maintain an accurate and exhaustive record-detailing out the list of all items received by him for the purpose of erection and keep such record open for the inspection of the Employer.

(d) All items shall be handled very carefully to prevent any damage or loss. The materials stored shall be properly protected to prevent damage. The materials from the store shall be moved to the actual location at the appropriate time to avoid damage of such materials at Site.

(e) All the materials stored in the open or dusty location must be covered with suitable weatherproof and flameproof covering material wherever applicable.

(f) The Contractor shall be responsible for making suitable indoor storage facilities, to store all items/materials, which require indoor storage.

(g) The Contractor shall have total responsibility for all equipment and materials in his custody, stored,

loose, semi-assembled and/or erected by him at site. The contractor shall make suitable security arrangements including employment of security personnel to ensure the protection of all materials, equipment and works from theft, fire, pilferage and any other damages and loss.

(h) The Employer will verify the storage facilities arranged by the contractor and despatch clearance will be provided only after Employer is satisfied.

21.0 Contractor's material brought on to site:

21.1 The Contractor shall bring to Site all equipment, components, parts, materials, including construction equipment, tools and tackles for the purpose of the work under intimation to the Engineer. All such goods shall, from the time of their being brought vest in the Employer, but may be used for the purpose of the Works only and shall not on any account be removed or taken away by the Contractor without the written permission of the Engineer. The Contractor shall nevertheless be solely liable and responsible for any loss or destruction thereof and damage there to.

21.2 The Employers shall have a lien on such goods for any sum or sums, which may at any time, be due or owing to him by the Contractor, under in respect of or by reasons of the Contract. After giving a fifteen (15) days' notice in writing of his intention to do so, the Employer shall be at liberty to sell and dispose of any such goods, in such manner, as he shall think fit including public auction or private treaty.

21.3 After the completion of the Works, the Contractor shall remove from the Site under the direction of the Engineer the materials such as construction equipment, erection tools and tackles, scaffolding etc. with the written permission of the Engineer.

22.0 Commissioning Spares:

22.1 It will be the responsibility of the Contractor to provide all commissioning spares required for initial operation till the Employer declares the equipment as ready for commissioning. All commissioning spares shall be deemed to be included in the scope of the Contract at no extra cost to the Employer.

22.2 These spares shall be received and stored by the Contractor at least 3 months prior to the schedule date of commencement of commissioning of the respective equipment and utilized as and when required. The unutilised spares and replaced parts, if any, at the end of successful completion of performance and guarantee test shall be the property of the Contractor and he will be allowed to take these parts back at his own cost with the permission of Employer's Representative.

23.0 Supply of Materials

23.1 Insulator Strings and Conductor Clamps Attachments:

a) Single suspension and tension insulator string assemblies shall be used for stringing busbars For the attachment of Suspension Insulator string, a suitable strain plate of sufficient thickness for transferring the load to the tower body shall be provided. To achieve requisite clearances, if the design calls for providing extra D-shackles, link plate etc. before connecting the insulator string the insulator string the same shall be supplied by the Supplier.

b) At tension points strain plates of suitable dimensions placed on the beams, shall be provided for taking the hooks or D-shackles of the tension insulator strings. To achieve requisite clearances, if the design calls for providing extra D-shackles, link plate etc. before connecting the insulator string the same shall be supplied by the Supplier.

c) All the supply materials should conform to the latest IS standards.

23.2 Isolators

- Manufacture of Isolators of 132 kV and 33 kV class: ABB S&S/AREVA/SIEMENS/CGL

23.2.1 TECHNICAL SPECIFICATION OF ISOLATORS

23.2.2 SCOPE

- This section of the specification is intended to cover design specifications for manufacture and testing of 132kV and 33 KV gang operated Isolators with all fittings and accessories.
- The Isolators are for outdoor installation suitable for horizontally mounting on mounting

structures and for use at sub-stations.

- Isolators shall be supplied with Earth Switch as and where specified.
- The bidder shall offer ac motor operated Isolators and earth switches.

23.2.3 GENERAL

- The Isolators and accessories shall conform in general to IS 9921 (or IEC: 62271-102) except to the extent explicitly modified in specification.
- All isolating switches and earthing switches shall have rotating blades and pressure releasing contacts. All isolating and earth switches shall operate through 90° angle from closed position to fully open position.
- Complete isolator with all the necessary items for successful operation shall be supplied including but not limited to the following:
 - (i). Isolator assembled with complete base frame, linkages, operating mechanism, control cabinet, interlocks etc.
 - (ii). All necessary parts to provide a complete and operable isolator installation, control parts and other devices whether specifically called for herein or not.
 - (iii) The isolator shall be designed for use in the geographic and meteorological conditions.

23.2.4 DUTY REQUIREMENTS

- Isolators and earth switches shall be capable of withstanding the dynamic and thermal effects of the maximum possible short circuit current of the systems in their closed position. They shall be constructed such that they do not open under influence of short circuit current.
- The earth switches, wherever provided, shall be constructionally interlocked so that the earth switches can be operated only when the isolator is open and vice versa. The constructional interlocks shall be built in construction of isolator and shall be in addition to the electrical and mechanical interlocks provided in the operating mechanism.
- In addition to the constructional interlock, isolator and earth switches shall have provision to prevent their electrical and manual operation unless the associated and other interlocking conditions are met. All these interlocks shall be of failsafe type. Suitable individual interlocking coil arrangements shall be provided. The interlocking coil shall be suitable for continuous operation from DC supply and within a variation range as stipulated elsewhere in this specification.
- The earthing switches shall be capable of discharging trapped charges of the associated lines.
- The isolator shall be capable of making/breaking normal currents when no significant change in voltage occurs across the terminals of each pole of isolator on account of make/break operation.
- The isolator shall be capable of making/breaking magnetising current of 0.7A at 0.15 power factor and capacitive current of 0.7A at 0.15 power factor at rated voltage.

23.2.5 CONSTRUCTIONAL DETAILS

- All isolating switches and earthing switches shall have rotating blades and pressure releasing contacts. All isolating and earth switches shall operate through 90° angle from closed position to fully open position.
- **Contacts:**
- The contacts shall be self-aligning and self-cleaning and so designed that binding cannot occur after remaining closed for prolonged periods of time in a heavily polluted atmosphere.
- No undue wear or scuffing shall be evident during the mechanical endurance tests. Contacts and spring shall be designed so that readjustments in contact pressure shall not be necessary throughout the life of the isolator or earthing switch. Each contact or pair of contacts shall be independently sprung so that full pressure is maintained on all contacts at all time.
- Contact springs shall not carry any current and shall not lose their characteristics due to heating effects.
- The moving contact of double break isolator shall have turn-and-twist type or other suitable type of locking arrangement to ensure adequate contact pressure.
- **Blades:**

- All metal parts shall be of non-rusting and non-corroding material. All current carrying parts shall be made from high conductivity electrolytic copper/aluminium. Bolts, screws and pins shall be provided with lock washers. Keys or equivalent locking facilities if provided on current carrying parts, shall be made of copper silicon alloy or stainless steel or equivalent. The bolts or pins used in current carrying parts shall be made of non-corroding material. All ferrous castings except current carrying parts shall be made of malleable cast iron or cast-steel. No grey iron shall be used in the manufacture of any part of the isolator.
- The live parts shall be designed to eliminate sharp joints, edges and other corona producing surfaces, where this is impracticable adequate corona shield shall be provided. Corona shields/rings etc., shall be made up of aluminium/aluminium alloy.
- Isolators and earthing switches including their operating parts shall be such that they cannot be dislodged from their open or closed positions by short circuit forces, gravity, wind pressure, vibrations, shocks, or accidental touching of the connecting rods of the operating mechanism.
- The switch shall be designed such that no lubrication of any part is required except at very infrequent intervals i.e. after every 1000 operations or after 5 years whichever is earlier.
- **Insulators:**
- The insulator shall conform to IS: 2544 and/or IEC-60168. The insulators shall have a minimum cantilever strength of 600/400 Kg. for 145/33 kV insulators respectively.
- Pressure due to the contact shall not be transferred to the insulators after the main blades are fully closed.
- **Base:**
- Each isolator shall be provided with a complete galvanised steel base provided with holes and designed for mounting on a supporting structure.

23.2.6 EARTHING SWITCHES

- Where earthing switches are specified these shall include the complete operating mechanism and auxiliary contacts.
- The earthing switches shall form an integral part of the isolator and shall be mounted on the base frame of the isolator.
- The earthing switches shall be constructionally interlocked with the isolator so that the earthing switches can be operated only when the isolator is open and vice versa. The constructional interlocks shall be built in construction of isolator and shall be in addition to the electrical interlocks.
- Suitable mechanical arrangement shall be provided for de-linking electrical drive for mechanical operation.
- Each earth switch shall be provided with flexible copper/aluminium braids for connection to earth terminal. These braids shall have the same short time current carrying capacity as the earth blade. The transfer of fault current through swivel connection will not be accepted.
- The frame of each isolator and earthing switches shall be provided with two reliable earth terminals for connection to the earth mat.
- Isolator design shall be such as to permit addition of earth switches at a future date. It should be possible to interchange position of earth switch to either side.
- The earth switch should be able to carry the same fault current as the main blades of the Isolators and shall withstand dynamic stresses.

23.2.7 OPERATING MECHANISM

- The bidder shall offer motor operated Isolators and earth switches. Earth Switches of 36 kV shall only be manual operated.
- Control cabinet/operating mechanism box shall be made of aluminium sheet of adequate thickness (minimum 3 mm).
- A "Local/Remote" selector switch and a set of open/ close push buttons shall be provided on the control cabinet of the isolator to permit its operation through local or remote push buttons.
- Provision shall be made in the control cabinet to disconnect power supply to prevent local/remote power operation.

- Suitable reduction gearing shall be provided between the motor and the drive shaft of the isolator. The mechanism shall stop immediately when motor supply is switched off. If necessary a quick electromechanical brake shall be fitted on the higher speed shaft to effect rapid braking.
- Manual operation facility (with handle) should be provided with necessary interlock to disconnect motor.
- Gear should be of forged material suitably chosen to avoid bending/jamming on operation after a prolonged period of non-operation. Also all gear and connected material should be so chosen/surface treated to avoid rusting.

23.2.8 OPERATION

- The main Isolator and earth switches shall be gang operated.
- The design shall be such as to provide maximum reliability under all service conditions. All operating linkages carrying mechanical loads shall be designed for negligible deflection. The length of inter insulator and interpole operating rods shall be capable of adjustments, by means of screw thread which can be locked with a lock nut after an adjustment has been made. The isolator and earth switches shall be provided with "over center" device in the operating mechanism to prevent accidental opening by wind, vibration, short circuit forces or movement of the support structures.
- Each isolator and earth switch shall be provided with a manual operating handle enabling one man to open or close the isolator with ease in one movement while standing at ground level. Detachable type manual operating handle shall be provided. Suitable provision shall be made inside the operating mechanism box for parking the detached handles. The provision of manual operation shall be located at a height of 1000 mm from the base of isolator support structure.
- The isolator shall be provided with positive continuous control throughout the entire cycle of operation. The operating pipes and rods shall be sufficiently rigid to maintain positive control under the most adverse conditions and when operated in tension or compression for isolator closing. They shall also be capable of withstanding all torsion and bending stresses due to operation of the isolator. Wherever supported the operating rods shall be provided with bearings on either ends. The operating rods/ pipes shall be provided with suitable universal couplings to account for any angular misalignment.
- All rotating parts shall be provided with grease packed roller or ball bearings in sealed housings designed to prevent the ingress of moisture, dirt or other foreign matter. Bearings pressure shall be kept low to ensure long life and ease of operation. Locking pins wherever used shall be rustproof.
- Signalling of closed position shall not take place unless it is certain that the movable contacts, have reached a position in which rated normal current, peak withstand current and short time withstand current can be carried safely. Signalling of open position shall not take place unless movable contacts have reached a position such that clearance between contacts is at least 80% of the isolating distance.
- The position of movable contact system (main blades) of each of the Isolators and earthing switches shall be indicated by a mechanical indicator at the lower end of the vertical rod of shaft for the Isolators and earthing switch. The indicator shall be of metal and shall be visible from operating level.
- The Supplier shall furnish the following details along with quality norms, during detailed engineering stage.
 - (i) Current transfer arrangement from main blades of isolator along with milivolt drop immediately across transfer point.
 - (ii) Details to demonstrate smooth transfer of rotary motion from motor shaft to the insulator along with stoppers to prevent over travel

23.2.9 TEST AND INSPECTION

- The switches shall be subjected to the following type test in accordance to with IS: 9920.
 - i. Dielectric test (impulse and one minute) power frequency withstands voltage.
 - ii. Temperature rise test
 - iii. Rated off load breaking current capacity

- iv. Rated active load breaking capacity
- v. Rated line charging breaking capacity
- vi. Rated short time current
- vii. Rated peak withstand current
- viii. Mechanical and Electrical Endurance
 - The equipment shall be subjected to the following routine test.
- (i) Power frequency voltage dry test
- (ii) Measurement of resistance of the main circuit
- (iii) Operating test.
 - The porcelain will have pull out test for embedded component and beam strength of porcelain base

23.2.10 AUXILIARY SWITCHES

- All isolators and earth switches shall be provided with 220/110 volts, 6 Ampere auxiliary switches for their remote position indication on the control board and for electrical interlocking with other equipment. In addition to the auxiliary switches required for remote position indications and for their operation. There shall be six pairs of NO and six pairs of NC contacts for each isolating switch and three pairs of NO

23.2.11 CONNECTORS

- Each isolator shall be provided with appropriate number of bimetallic clamping type connectors as detailed in the schedule of requirement. The maximum length of jumper that may be safely connected or any special instruction considered necessary to avoid under loads on the post isolators should be stated by the bidder.

23.2.12 MOUNTING STRUCTURES

- All isolators and earthing switches shall be rigidly mounted in an upright position on their own supporting structures. Details of the supporting structures shall be furnished by the successful tenderer. The isolators should have requisite fixing details ready for mounting them on structures.

23.3 TECHNICAL DATA SHEET FOR ISOLATORS

Sl no	Particulars	Isolator class (33 kV)
1	Nominal system voltage, kV	33
2	Highest system voltage, kV	36
3	Rated frequency, Hz	50
4	Type of isolator	Double break, centre pole rotating
5	Rated continuous current, A	1250
6	Rated short time current, kA	25
7	Rated duration of short time current, (second)	1
8	Rated lightning impulse withstand voltage, kV (peak)	
(i)	To earth and between poles	170
(ii)	Across isolating distance	180
9	Rated 1 minute power frequency withstand voltage, kV (rms)	
(i)	To earth and between poles	70
(ii)	Across isolating distance	80
10	Minimum creepage distance of insulators, mm	31 mm/kV
11	Temperature rise	As per relevant IS.

23.4 Post Insulators:

The Post Insulators should be as per conform to latest IS standards.

24.0 Earthmate Extension and Grounding of Equipment:

- 24.1 (a) The main earth mat of the entire switchyard is already in place.

- (b) All conductors buried in earth and concrete shall be GI. All conductors above ground level and earthing leads, cable trench earthing shall be of galvanised steel.
- (c) Light poles, junction boxes on the poles, cable and cable boxes/glands, lockout switches etc. shall be connected to the earthing conductor running along with the supply cable which in turn shall be connected to earthing grid conductor at a minimum two points
- (d) The metallic switchyard security fencing may not be connected to the substation main earth grid. The security fencing shall be earthed by running a separate 40 mm dia MS rod earthing conductor along the fence along with 40 mm dia rod electrodes of 3000 mm long at regular intervals and at each corner
- (e) Ineffective/damaged Equipment/Structure earthing identified for the substation equipments in coordination with the concerned Resident Engineer shall be properly earthed using electrodes and GI flats as required.
- (f) Placing of electrodes should be such that if the length of earth electrode is "l", the next electrode should be placed at "2l" distance from the 1st.
- (g) Security fencing should be separately earthed. At max, 4 no. of 40 mm dia rod electrodes of 3000 mm long electrodes may be used for the earthing of the fencing on each side.
- (h) Parts of the switchyard where earthing mat (main mesh) does not exist at present (if any) as identified by the concerned Resident Engineer or as per BoQ and necessary earthing activities to be undertaken.
- (i) Also, the proper earthing of Kiosks as per direction of the concerned Resident Engineer in the switchyard and depending on availability of earth-mat in that area of the switchyard, necessary earthing activities are to be carried out.
- (j) One number 40 mm dia, 3000 mm long earth electrode with test link, CI frame and cover shall be provided to connect each down conductor of surge arresters, capacitive voltage transformers, lightning masts and towers with peak.
- (k) For substation equipments, the connection between existing earthing pads and the earthing grid shall be made by two short earthing leads (one direct and another through the support structure) free from kinks and splices. In case earthing pads are not provided on the item to be earthed, same shall be provided in consultation with Purchaser.
- (l) All lighting panels, junction boxes, receptacles fixtures, conduits etc. shall be grounded in compliance with the provision of I.E. rules
- (m) Each earthing lead from the neutral of the power transformer/Reactor shall be directly connected to two pipe electrodes in treated earth pit (as per IS) which in turn, shall be buried in Cement Concrete pit with a cast iron cover hinged to a cast iron frame to have an access to the joints. All accessories associated with transformer/reactor like cooling banks, radiators etc. shall be connected to the earthing grid at minimum two points
- (n) Neutral points of systems of metallic enclosures and frame works associated with all current carrying equipment and extraneous metal works associated with electric system shall be connected to the existing earth mat.
- (o) Earthing connections with equipment earthing pads shall be bolted type. Contact surfaces shall be free from scale, paint, enamel, grease, rust or dirt. Two bolts shall be provided for making each connection. Equipment bolted connections, after being checked and tested, shall be painted with anti-corrosive paint/compound.
- (p) The 75x12mm GI flat shall be clamped with the equipment support structures at 1000mm interval.
- (q) Connection between equipment earthing lead and main earthing conductors and between main earthing conductors shall be welded type. For rust protections, the welds should be treated with red lead and afterwards coated with two layers bitumen compound to prevent corrosion.
- (r) All ground connections shall be made by electric arc welding. All welded joints shall be allowed to cool down gradually to atmospheric temperature before putting any load on it. Artificial cooling shall not be allowed.
- (s) All earthing activities shall conform to the Code of practice for Earthing IS: 3043 and as directed by the site-in-charge.

(t) Installation of Ground wire is to be done as instructed by Engineer-in-Charge.

25.0 Civil works:

25.1 The civil works include dragging of transformer, site preparation, dismantling etc. associated with the erection, testing and commissioning of transformer

26.0 Erection, Testing and Commissioning:

26.1 The erection, testing and commissioning of all equipments including control and relay panel should be done in the presence of authorized representative of AEGCL.

26.2 The pre-commissioning checklist will be further developed by the contractor and will seek approval prior to commencement of pre-commissioning tests from the DGM, MRT Circle, AEGCL. The tests will be witnessed and approved by him or by his authorized officers.

27.0 Service Conditions:

The materials supplied shall be suitable for operation under the following climatic and other conditions:

a) Peak ambient day temperature in still air: 45 °C

b) Minimum night temperatures : 0 °C

c) Ground temperatures: 40 °C

d) Reference ambient day temperature : 45 °C

e) Relative Humidity

i). Maximum : 100 %

ii). Minimum : 10 %

f) Altitude : Below 1000 M above MSL

g) Maximum wind pressure : As per IS: 802

h) Seismic Intensity: ZONE-V as per IS 1893.

28.0 Contract Agreement:

28.1 An agreement shall have to be drawn on non-judicial stamp of appropriate value with the Department by the selected Contractor in AEGCL's General Conditions of Supply and Erection 2009 of contract within specified period from the date of issue of the LOI/Work Order.

28.2 Wherever there is any variation in between the conditions of the AEGCL's General Conditions of Supply and Erection 2009 and the above terms & conditions, this bid conditions will supersede the conditions of the AEGCL's General Conditions of Supply and Erection 2009.

29.0 Liquidated Damage:

29.1 The date of completion of work shall be deemed to be the essence of the contract and shall not be completed no later than the date specified in the contract. In case of failure to complete the work within the stipulated period AEGCL shall be entitled to:

29.2 Recover an amount at the rate of 1% (One percent) of the Contract Price per week or part thereof of delay, subject to maximum of 10% (Ten percent) of the contract price as liquidated damage to AEGCL.

However, the payment of liquidated damages shall not in any way relieve the Contractor from any of its obligations to complete the works or from any other obligations and liabilities of the Contractor under the Contract.

29.3 To complete the balance work giving notice to the Contractor/Firm and to recover any extra expenditure incurred thereby for having to complete the work at a higher price at the risk and responsibility of the Contractor/Firm.

29.4 Contractual failure:- Refer clause No.27.1 of AEGCL's General Conditions of supply and erection 2009.

- 30.0 PERT Chart and/or BAR Chart:**
The successful bidder within 10 (ten) days before the contract is awarded will make out a detailed PERT Chart covering all activities along with detailed program chart on accepted scheme indicating various stages of execution, method of execution and completion of work in different stages keeping the period of completion in view and submit the same to the Engineer for the consideration and approval.
- 31.0 Insurance:**
The bidder shall arrange for any pay/cost of personnel accident insurance, medical treatment etc. in respect of their employees assigned to the works for all time and shall govern by Law of land.
- 32.0 Warranty:**
- 32.1 The Supplier/Manufacturer warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.
- 32.2 The Supplier/Manufacturer further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.
- 32.3 If during the Period Warranty any defect is found, the Purchaser shall give Notice to the Supplier/Manufacturer stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier/Manufacturer to inspect such defects.
- 32.4 If having been notified, the Supplier/Manufacturer fails to remedy the defect within a period of 15 (fifteen) days, the Purchaser may, following notice to the Supplier/Manufacturer, proceed to do such work, and the reasonable costs incurred by the Purchaser in connection therewith shall be paid to the Purchaser by the Supplier or may be deducted by the Purchaser from any amount due the Supplier or claimed under the Performance Security.
- 32.5 The term period of warranty shall mean the period of 18 (eighteen) months from the date of Taking Over of the Work by AEGCL. A Taking over Certificate (TOC) will be issued by the appropriate authority.
- 33.0 Safety:**
Each and every safety measures for MAN and MACHINE will be the sole responsibility of the Contractor without any prejudice. Compensation claim if any will also be the responsibility of the contractor without any prejudice. As the contract is Turnkey in nature hence AEGCL will not bear any responsibility towards such claim.
- 34.0 Pollution:**
Each and every measure should be taken to adhere to the standard norms to avert any occasion of Air Pollution, Water Pollution, Soil Pollution and Sound Pollution. In case of any deviation leading to any legal action the Contractor will be solely responsible without any prejudice.
- 35.0 Right of Way:**
Right of way issue if arises shall be arranged by the contractor coordinated by AEGCL and any type of compensation that may be necessary shall be paid by the contractor. The bidder on its own responsibility may visit and examine the Site of Works and its surroundings and obtain information that may be necessary for preparing the bid.
- 36.0 Payment terms:**
- 36.1 No advance/Mobilization advance shall be made in this contract.
- 36.2 100% payment would be admissible within six (6) weeks from the date of receipt of the plants/ materials /equipment at site in full and good condition less deduction of Retention Money as per terms and conditions stipulated in the Contract Agreement.

36.3 For progressive payments:

1. Within 60 (sixty) days from the date of submission of invoice against erection, 80% (eighty percent) payment against foundation & erection and civil works would be made along with 100% GST
2. In total 4 (four) Nos. of progressive erection invoice/ bill would be entertained.
3. The 1st progressive erection invoice/ bill would be entertained on completion of 30% of total erection cost of the project.
4. Thereafter, erection invoice/ bill can be submitted on completion of 20% of the subsequent Foundation, erection, civil works.
6. Remaining 20% of the erection value would be paid on completion of 100% erection, testing and commissioning activities of the project duly certified by the Project Manager.

36.4 No claim for interest shall be entertained by AEGCL in respect of any money or balance which may be in AEGCL's hands owing to any dispute or difference or misunderstanding between the contractor and the AEGCL or due to the reason beyond the reasonable control of AEGCL.

36.5 Payment is subject to availability of specific fund.

36.6 TDS at actual will be deducted from the payable amount against each invoice/bill.

36.7 Bill will be routed through DGM, Tezpur (T&T) Circle, AEGCL, Dhanuwa Nagar, Tezpur.

The Bidder / Firm will have to be submitted the following Net Banking details.

- (a) Banker's Name & Branch
- (b) Account No
- (c) Banker's address
- (d) Banker's IFSC Code
- (e) Banker's RTGS Code

37.0 Performance security deposit:

37.1 The successful bidder shall have to deposit a performance Guarantee of 10% of the total contract value of the project through a **Bank Guarantee/ Demand Draft/ Fixed Deposit** from a Nationalized or scheduled Bank of RBI for a period of (18) eighteen months from the date of commissioning of the project and is to be submitted with acceptance of LOI before signing of the contract agreement. However, BG may be split up subject to the condition that BG would be extended from time to time to cover the warranty period. Moreover, before one month (30 days) of expiry of BG, renewal is to be done by the contractor if required, otherwise revocation would be done by AEGCL within claim period. The BG should be in AEGCL's standard proforma on non-judicial stamp of appropriate value duly pledged in favour of the **The Managing Director, AEGCL, Bijulee Bhawan, Paltanbazar, Guwahati-1**. The BG should remain valid up to 60 days beyond the warranty period of 18 (eighteen) months. The Bank Guarantee (BG) should be submitted to the **O/O the Deputy General Manager, Tezpur T&T Circle, AEGCL, Tezpur-787001** by the issuing Bank under registered post AD.

37.2 Please note that, if the selected Bidder / Firm fails to furnish the requisite performance security as stated above and sign the contract within the stipulated period, LOI/work order issued in favour of the Bidder/ Firm will automatically be Null & void.

37.3 If the bidder / firm fails or neglects to observe and perform any of his obligations under the contract, Purchaser (AEGCL) shall have the right to forfeit either in full or in part at his absolute discretion, the security deposit furnished by the Contractor/Firm.

37.4 No interest shall be payable on such deposits.

38.0 Retention Money:

38.1 In addition to above performance security deposit, 20% value of each progressive bill will be retained by the Engineer/Purchaser as Retention Money. The amount will be held by the Purchaser (AEGCL) till the

work under the contract is completed and the completion certificate is issued in pursuance to clause 25.0 of AEGCL's General Conditions of Supply and Erection 2009.

38.2 If the Firm/Bidder fails or neglects to observe and perform any of his obligations under the contract, the Purchaser (AEGCL) shall have the right to forfeit either in full or in part at his absolute discretion, the security deposit furnished by the supplier/contractor.

38.3 No interest shall be payable on such deposit.

39.0 Force Majeure Condition:

Force Majeure condition shall be considered as any circumstances beyond reasonable control of the party claiming relief, including but not limited to strikes, lockout, civil commotion, riot insurrection, hostilities, mobilization, war, fire, flood, earthquake, malicious damage or accidents could entitle contractor to extension time. Any such delay should intimated within 10 (ten) days from the beginning of such delay to consider/approved, any claim without prior information may not be considered under force Majeure.

40.0 Settlement of Dispute and Arbitration:

Any dispute arising out of the contract will be first settled bilaterally between AEGCL and Contractor. In case, dispute cannot be settled bilaterally, it will be referred to arbitration to be by an arbitrator appointed by AEGCL. The contractor shall not stop the work during settlement of any dispute. All disputes shall be subjected to the jurisdiction of District Court of Kamrup District.

41.0 Right to Reject:

The AEGCL reserves the right to reject any or all the bids without assigning any reason thereof and the AEGCL further reserves the right to split up the work order in favour of more than one Contractor. The AEGCL also reserves the right to reject the lowest or any other price without assigning any reason.

The clauses which are not appearing in this document (bid) will be as per The General Condition of Supply and Erection 2009 of AEGCL. The General Condition of Supply and Erection 2009 of AEGCL is available in the AEGCL's website www.aegcl.co.in under Acts, Rules and Policies Tab.

Letter of Technical Bid

[Bidder's Letterhead]

Date: _____

Tender No.: _____

Invitation for Bid No.: _____

To: _____

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Document, including Addenda No.: _____.
- (b) We offer to supply in conformity with the Bidding Document and in accordance with the completion/delivery schedule specified in the bid document, the following Goods and Related Services: _____
- (c) Our Bid shall be valid for a period of _____ days from the date fixed for the bid submission deadline in accordance with the Bidding Document, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (d) If our Bid is accepted, we commit to obtain a Performance Security in the amount of _____ percent of the Contract Price for the due performance of the Contract;
- (e) We are not participating, as Bidders, in more than one Bid in this bidding process;
- (f) We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed.
- (g) Our firm, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, has not been declared ineligible by AEGCL, APDCL or APGCL under the Employer's country laws or official regulations
- (h) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Name _____

In the capacity of _____

Signed _____

Duly authorized to sign the Bid for and on behalf of _____

Date _____

Form of Bid Security (Bank Guarantee)
(To be stamped in accordance with Stamp Act)
(The non-Judicial Stamp Paper should be in the name of issuing Bank)

Date: _____
Bid Reference No.: _____

WHEREAS, _____ [Name of Bidder] (hereinafter called "the Bidder") has submitted his bid dated _____ [Date] for the supply of _____ [Name of Contract] (hereinafter called "the Bid").

KNOW ALL MEN by these presents that We _____ [Name of Bank] of _____ [Name of Place] having our registered office at _____ (hereinafter called "the Bank") are bound unto _____ [Name of Purchaser] (hereinafter called "the Purchaser") in the sum of _____ 1 for which payment well and truly to be made to the said Purchaser the Bank binds himself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this ____ day of _____ 20__.

THE CONDITIONS of this obligation are:

- 1) If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder in the Bid Submission Sheet, except as provided in the relevant Bid **Clause**;
- Or
- 2) If the Bidder refuses to accept the correction of errors in his Bid;
- Or
- 3) if the Bidder, having been notified of the acceptance of his Bid by the Employer during the period of Bid validity;
 - a) fails or refuses to execute the Form of Contract Agreement in accordance with the Instructions to Bidders, if required; or
 - b) fails or refuses to furnish the Performance Security, in accordance with the Instructions to Bidders;

We undertake to pay to the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or all of the three conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date ____ days after the deadline for submission of bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Purchaser, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE _____ SIGNATURE OF THE BANK _____

WITNESS _____ SEAL _____

(Signature, Name, and Address)

ANNEXURE: I

Following information is to be furnished in the 'Technical and Commercial bid' as first page.

(Please tick mark where necessary.)

1)	Earnest money (EMD)	:Submitted/Not submitted
	a) Amount of EMD	:Rs.
	b) Submitted in the form of	
2)	Validity of the offer	: days from the date of opening of 'Technical & Commercial Bid' & 'Price bid'.
3)	Nature of price offered	
	i) 'FIRM' Price	: Yes/No
4)	Terms of payment (Whether agreeable to accept payment as specified in bid clause- 36)	: Yes/No
7)	'Performance security deposit and Retention money' (Whether agreeable to accept as specified in bid)	: Yes/No
8)	Whether drawing etc. as per specification are furnished	: Yes/No
9)	List of orders executed for similar works furnished (As per bid clause 9)	: Yes/No
10)	Deviation from the specifications	
	a) Technical	: Yes/No
	b) Commercial	: Yes/No
11)	Information in respect of technical capability is furnished	: Yes/No
12)	Information in respect of Financial capability certificate from the Banker is furnished	: Yes/No
13)	Certificate as per Cl.no. 15.1 enclosed	: Yes/No
14)	Certificate as per Cl.no. 15.2 enclosed	: Yes/No
15)	Copy of Contract Labour License, Cl. No. 15.3.2	: Yes/No
16)	PAN card as per Cl. No. 15.3.3	: Yes/No
17)	GST registration no. and valid labour license as per Cl. No. 15.3.5 enclosed.	: Yes/No
18)	Registered Power of Attorney as per Cl.no. 15.3.6 enclosed.	: Yes/No
19)	Audited balance sheet and IT return for last three years as	: Yes/No

	per CI no.15.3.7	
20)	Valid Electrical license as per CI no. 15.3.8	: Yes/No
21)	Warranty as per CI no.32	: Yes/No

It is certified that the rates have been quoted as per terms and conditions laid down in the tender specification and without any deviation.

Name of the Bidder:-

Signature of the Bidder/Firm

Full Name

Postal Address

Phone/Mobile No.

Bidding Forms:
Name of work:

Bid Identification No:

General

- (i) Name of the Firm/Contractor:
- (ii) Full Address:
- (iii) Constitution of the Firm:
 - a) Whether Partnership or any type:

A) Experience: As per Bid Clause No.9

Sl. No.	Name of work & W/O No.	Worked Done Under	Value of Work	Specified date of completion	Present status/completed on

B) Financial Position

(i) Financial Turnover during the last three years (copies of Audited Annual report, Accounts or a statement duly certified by a chartered accountant and Income Tax return.

Year	Turn over

Any other details that the tenderer may like to furnish to substantiate their financial and technical ability to undertake this work and complete the same within stipulated period of completion.

Name of the Bidder:-

Signature of the Bidder/Firm
Full Name
Postal Address
Phone/Mobile No.

Price Proposal Submission Sheet

Date: _____

Tender No.: _____

Invitation for Bid No.: _____

To: _____

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Document, including Addenda No.: _____
- (b) We offer to supply in conformity with the Bidding Document and in accordance with the completion/delivery schedule specified Schedule of Supply & Erection, the following Goods and Related Services:

- (c) The total price of our Bid, excluding any discounts offered in item (d) below is:

- (d) The discounts offered and the methodology for their application are:

- (e) The following commissions, gratuities, or fees have been paid or are to be paid with respect to the bidding process or execution of the Contract:

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

Name _____

In the capacity of _____

Signed _____

Duly authorized to sign the Bid for and on behalf of _____

Date _____

PRICE BID

Schedule – 1 (Supply of Goods)

(To be submitted in the Part-II, 'Price bid' in sealed envelope in quadruplicate)

Sl no	Description	Unit	Qty	Unit Price exclusive of Taxes (Rs.)	Total Price exclusive of Taxes (Rs.)
1	2	3	4	5	6
A	Supply of equipments				
1	33 kV Motor operator isolator without Earth Switch with terminal connectors	Set	1		
2	33 kV Post insulator with terminal connector	No	2		
B	Supply of equipment structure with mounting and foundation bolts as required				
3	33 kV isolator without earth switch	Set	1		
4	33 kV Post insulator with terminal connector	No	2		
Total =					
Add GST @ 18 % =					
Grand Total =					

Name of the Bidder:-

Signature of the Bidder/Firm

PRICE BID

Schedule – 2 (F&I against supply)

(To be submitted in the Part-II, 'Price bid' in sealed envelope in quadruplicate)

SI no	Description	Unit	Qty	Unit Price exclusive of Taxes (Rs.)	Total Price exclusive of Taxes (Rs.)
1	2	3	4	5	6
A	Supply of equipments				
1	33 kV Motor operator isolator without Earth Switch with terminal connectors	Set	1		
2	33 kV Post insulator with terminal connector	No	2		
B	Supply of equipment structure with mounting and foundation bolts as required				
3	33 kV isolator without earth switch	Set	1		
4	33 kV Post insulator with terminal connector	No	2		
Total =					
Add GST @ 18 % =					
Grand Total =					

Name of the Bidder:-

Signature of the Bidder/Firm

PRICE BID

Schedule – 3 (Erection, Testing and Commissioning including other civil works.)

(To be submitted in the Part-II, 'Price bid' in sealed envelope in quadruplicate)

Sl no	Description	Unit	Qty	Unit Price exclusive of Taxes (Rs.)	Total Price exclusive of Taxes (Rs.)
1	2	3	4	5	6
1	Dismantling of existing 25 MVA transformer-II including de-termination of existing cable and terminal equipment connections.	Job	1		
2	Dragging of 25 MVA transformer-II and dragging of same to temporary storage site (Approx. 50.5 MT, 60 mtr)	Per MT per Mtr	3030		
3	Construction of fire protection wall for 50 MVA transformer (8 mtr x 7.5 mtr)	Nos	1		
4	Erection, testing and commissioning of 50 MVA transformer including associated fire protection scheme and laying and terminating all protection and control cables.	Nos	1		
5	Erection of equipment mounting structure including construction of foundation and supply of all foundation materials and structure earthing				
(i)	33 kV Isolator without Earth Switch	Set	1		
(ii)	33 kV Post Insulator	Nos	3		
6	Erection, testing, commissioning of equipment including equipment earthing				
(i)	33 kV Isolator without Earth Switch including laying and terminating of LT power and control cables as required.	Set	1		
(ii)	33 kV Post Insulator	Nos	3		
7	Dragging of 50 MVA transformer to the pad from storage site (Approx. 75 MT, 55 mtr)	Per MT per Mtr	4125		
8	Jumpering and terminal connections of different equipment with supply of required terminal connector	Job	1		
9	Materials for terminal connection for commissioning of the transformers such as lugs, cable glands, tie bends etc.	Lot	1		
10	Site preparation for 50 MVA transformer installation and dragging	Job	1		

Name of the Bidder:-

Signature of the Bidder/Firm

PRICE BID

Schedule – 4 (Grand Summary)

(To be submitted in the Part-II, 'Price bid' in sealed envelope in quadruplicate)

Sl no	Description	Total Price inclusive of Taxes (Rs.)
<i>1</i>	<i>2</i>	<i>3</i>
1	Schedule – 1 (Supply of Goods	
2	Schedule-2 (F&l against supply)	
3	Schedule – 3 (Erection, Testing and Commissioning including other civil works.)	
Grand Total including all taxes =		

Name of the Bidder:-

Signature of the Bidder/Firm