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-20/2020/105, Dated: 15.05.2020

Bidding Document

For

Erection, testing and commissioning of 33KV bay at 132KV Shankardevnagar GSS for 33KV Hojai Feeder

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

Tender Cost: ₹ 1000.00
EMD: ₹29000.00

BID NO: AEGCL/DGM/TTC/TEZ/T-20/2020/105 **Date:15/05/2020**

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	Bid Security In INR	Time of completion In Days (From site handing over date)
1	Erection, testing and commissioning of 33kV bay at 132 KV Shankardevnagar GSS for 33KV Hojai Feeder	**29,000.00**	**180 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 upto 5th June, 2020.** 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-784001.
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. 1(a): F&I against supply.

Schedule No.2: Erection, Testing and Commissioning including construction of foundation.

Schedule No.3: Grand Total

4.0 Bid Security:

4.1 All bids must be accompanied by a bid security amounting to **Rs. 29,000.00** 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 **6th June, 2020.**

6.2.2 Subsequently, the bids will be opened publicly at **13.00 Hours (IST)** of **8th June, 2020.**

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 4,50,000.00** 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 4,50,000.00** 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 **6,00,000.00.**
(b) Two (2) similar completed works costing not less than **7,50,000.00.**
(c) One (1) similar completed works costing not less than **12,00,000.00.**

9.2 Similar work implies the works related to **Construction of substation bays and related work.** 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 work involves design, engineering, manufacture, assembly, inspection, testing at manufacturer's works before dispatch, packing, supply, including insurance during transit, delivery at site of various equipment and materials including substation steel structures as specified in subsequent Clauses and Sections. Erection, testing and commissioning activities are also within the scope of this bidding document including construction of foundation and other associated civil and electrical works including integration to Siemens SAS for completion of the project. It is not the intent to specify completely herein all details of design and construction of the equipment and accessories. However, the equipment and accessories shall conform in all respects to high standards of engineering, design and workmanship and be capable of performing in continuous operation up to the bidder's guarantees in a manner acceptable to the Purchaser. The Purchaser will interpret the meaning of drawings and specifications and shall be entitled to reject any work or material, which in his judgment is not in full accordance therewith.

The major items of works included in the scope of this specification are listed below:-

i) Design & supply of all substation switchgears, control gears and protection equipment as per this bidding document.

ii) Supply of substation/ equipment mounting steel structure, power cables etc. as specified.

iii) Construction of foundation and associated civil and electrical works for completion of the project.

17.2 Supplier to inform himself fully

17.2.1 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 acknowledge that no additional allowances except as otherwise provided therein will be levied.

17.2.2 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

17.3 Conformity with Indian Electricity rules & other local regulations:

17.3.1 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.

17.3.2 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.

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

17.4 Engineering Data:

17.4.1 The furnishing of engineering data by the Supplier shall be in. accordance with the Bidding Document. The review of these data by the Purchaser will cover only general conformance of the data to the specifications and not a thorough review of all dimensions, quantities and details of the materials, or items indicated or the accuracy of the information submitted. This review by the Purchaser shall not be considered by the Supplier, as limiting any of his responsibilities and liabilities for mistakes and deviations from the requirements, specified under these specifications.

17.4.2 All engineering data submitted by the Supplier after review by the Purchaser shall or part of the contract document.

17.5 Drawings and Documents for approval:

17.5.1 The supplier shall submit all drawings and documents of all equipment to be supplied, including drawings of foundation, steel structure and any other drawings that may be required for successful completion of the project and get it approved by the Purchaser (AEGCL).

17.5.2 In addition, the following sub clauses shall also apply in respect of Contract Drawings.

17.5.3 All drawings submitted by the Supplier including those submitted at the time of Bid shall be with sufficient detail to indicate the type, size, arrangement, dimensions, material description, Bill of Materials, weight of each component break-up for packing and shipment, fixing arrangement required, the dimensions required for installation and any other information specifically requested in these specifications.

17.5.4 Each drawing submitted by the Supplier shall be clearly marked with the name of the Purchaser, the specification title, the specification number and the name of the Project. All titles, noting, markings and writings on the drawing shall be in English. All the dimensions should be to the scale and in S.I. units.

17.5.5 The drawings submitted for approval to the Purchaser shall be in quadruplicate. One print of such drawings shall be returned to the Supplier by the Purchaser marked "approved/approved with corrections". The Supplier shall there upon furnish the Purchaser additional prints as may be required along with one reproducible in original of the drawings after incorporating all corrections.

17.6 Inspection & Inspection certificate:

17.6.1 The Purchaser, his duly authorized representative and/or outside inspection agency acting on behalf of the Purchaser shall have, at all reasonable times, access to the premises and works of the Supplier and their sub-Supplier(s)/sub-vendors and shall have the right, at the reasonable times, to inspect and examine the materials and workmanship of the product during its manufacture.

17.6.2 All routine and acceptance tests whether at the premises or works of, the Supplier or of any Sub-Supplier, the Supplier except where otherwise specified shall carry out such tests free of charge. Items

such as labour, materials, electricity, fuel, water, stores apparatus and instruments as may be reasonably demanded by the Purchaser/inspector or his authorized representative to carry out effectively such tests in accordance with the Contract shall be provided by the Supplier free of charge.

17.6.3 If desired by the Purchaser, the Supplier shall also carry out type tests as per applicable Standards for which Purchaser shall bear the expenses except in cases where such tests have to be carried out. The Supplier is required to quote unit rates of type test charges in a separate Schedule (if such schedule is provided in the Bidding Document) in pursuance to this Clause. However, these type test charges shall not be taken into account in comparing Price Bid.

17.6.4 The inspection by Purchaser and issue of Inspection Certificate thereon shall in no way limit the liabilities and responsibilities of the Supplier in respect of the agreed Quality Assurance Programme forming a part of the Contract.

17.6 Tests:

17.6.1 The type, acceptance and routine tests and tests during manufacture to be carried-out on the material and equipment shall mean as follows:

i) Type Tests shall mean those tests, which are to be carried out to prove the process of manufacture and general conformity of the material to this Specification. These tests shall be carried out on samples prior to Commencement of commercial production against the order. The Bidder shall indicate his schedule for carrying out these tests.

ii) Acceptance Tests shall mean those tests, which are to be carried out on samples taken from each lot offered for pre-dispatch inspection, for the purposes of acceptance of that lot.

iii) Routine Tests shall mean those tests, which are to be carried out on the material to check requirements, which are likely to vary during production.

iv) Tests during Manufacture shall mean those tests, which are to be carried out during the process of manufacture and end inspection by the Supplier to ensure the desired quality of the end product to be supplied by him.

v) The norms and procedure of sampling for these tests will be as per the Quality Assurance Programme to be mutually agreed to by the Supplier and the Purchaser

17.6.2 The standards and norms to which these tests will be carried out are specified in subsequent Sections of this Specification. Where a particular test is a specific requirement of this Specification, the norms and procedure of the test shall be as specified or as mutually agreed to between the Supplier and the Purchaser in the Quality Assurance Programme.

17.6.3 For all type and acceptance tests, the acceptance values shall be the values specified in this Specification or guaranteed by the Bidder or applicable Standards, as applicable.

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.

(a) Interpretation of all the terms and conditions of these Documents and Specifications.

(b) Review and interpretation of all the Contractors drawings, engineering data etc.

(c) 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.

(d) Inspect, accept or reject any equipment, material and work under the Contract, in accordance with the Specifications.

(e) 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 Specification for Design and Fabrication of Substation Steel Structures:

23.1.1 Scope:

This section covers the design parameters and specification for fabrication and galvanising, of steel structures, bolts & nuts, tower accessories etc for Substations covered under this Bid Document.

23.1.2 Materials:

23.1.2.1 Structural steel:

The structures shall be of structural steel conforming to any of the grade, as appropriate, of IS 2062 (latestedition) Steel conforming IS 8500 may also be used. Medium and high strength structural steels with known properties conforming to any other national or international standards may also be used.

23.1.2.2 Bolts:

Bolts used shall conform to IS12427 or bolts of property class 4.6 conforming to IS 6639 may also be used. High strength bolts, if used (only with steel conforming to IS 8500) shall conform to property class 8.8 of IS3757. Foundation Bolts shall conform to IS 5624. Step bolts shall conform to IS 10238

23.1.2.3 Nuts:

Nuts shall conform to IS 1363 (Part 3). The mechanical properties shall conform to property class 4 or 5 as the case may be as specified in IS 1367 (Part 6) except that the proof stress for nuts of property class 5 shall be as given in IS 12427. Nuts to be used with high strength bolts shall conform to IS 6623.

23.1.2.4 Washers:

Washers shall conform to IS 2016. Heavy washers shall conform to IS 6610. Spring washers shall conform

to type B of IS 3663. Washers to be used with high strength bolts and nuts shall conform to IS 6649.

23.1.2.5 Galvanisation:

Structural members, plain and heavy washers shall be galvanized in accordance with the provisions of IS 4759. Spring washers shall be hot dip galvanized as per service grade 4 of IS 4759 or IS 1537.

23.1.2.6 Other materials:

Other materials used in the construction of the supporting structures shall conform to appropriate Indian Standards wherever available.

24.0 Design materials:

Switchyard structures such as columns, beams and equipment mounting structures shall be designed as per actual site requirement. The drawings are to be submitted for approval prior to supply/execution.
Note: Structures with earth peak shall assume to have four earth wires for design purpose in normal condition.

24.1 Spans:

Following Spans shall be considered in design of all structures as applicable:-
a). Line gantries (structures to terminate lines):
(i) For 33 KV Switchyard: 50 Meter, wind & weight span.
b). All other Structures
(i) For 33 KV Switchyard: 20 Meter, wind & weight span.

24.2 Deviation angle:

The design of line gantries shall only be checked for a maximum deviation angle of 300 from normal at centre of gantries to Dead End Tower.

24.3 Conductors and shield wires:

24.3.1 The Conductor shall conform to IS: 398 (latest edition) except where otherwise specified herein.
The details of the ACSR Moose, ACSR Zebra and ACSR Panther conductors are tabulated below:

	DESCRIPTION	ACSR 'MOOSE'	ACSR 'ZEBRA'	ACSR 'PANTHER'
1	Code name	MOOSE	ZEBRA	PANTHER
2	Number of strands & size	Al: 54/ 3.53 mm	Al: 54/ 3.18 mm	Al: 30/ 3.00 mm
		St: 7/ 3.53 mm	St: 7/ 3.18 mm	St: 7/ 3.00 mm
3	Overall diameter	35.05 MM	28.62 mm	21.00 mm
4	Breaking load	136.38 KN	130.32 kN	130.32 kN
5	Weight of conductor	2004 Kg/KM	1621 kg / km	974 kg / km
6	Co-efficient Of Linear Expansion	23x10-6 /0C	19.35x10-6 /0C	19.35x10-6 /0C
7	Number of strand			
	Steel centre	1	1	1
	1st Steel Layer	6	6	6
	1st Aluminium Layer	12	12	12
	2nd Aluminium Layer	18	18	18
	3rd Aluminium Layer	24	24	-
8	Sectional area of Aluminium	528.50 mm2	428.90 mm2	212.10 mm2
9	Total sectional area	597.00 mm2	484.50 mm2	261.50 mm2
10	Calculated d.c. resistance at 20 C	0.05552 ohm/km	0.06869 ohm/km	0.1400 ohm/km
11	Ultimate tensile strength	161.2 kN	130.32 kN	89.67

24.3.2 For protection against direct lightning G.I. wires of size 7/3.66 mm conforming to IS 2241 shall be considered for all switch yards.

24.4 Design Drawings:

24.4.1 The relevant drawings for all the towers, beams and equipment mounting structures shall be furnished by the Supplier to the Purchaser which shall include structural/fabrication drawings, Bill of Materials including nuts and bolts.

24.4.2 The structural drawings, Bill of materials and shop fabrication drawings for all the structures shall be submitted in four copies and will be finally approved by the Purchaser. The fabrication shall be taken up from the approved shop drawings. The overall responsibility of fabricating structure members correctly lies with the Supplier only and the Supplier shall ensure that all the members can be fitted while erecting without any undue strain on them.

24.5 Accessories:

24.5.1 Step Bolts:

Each column/tower shall be provided with step bolts conforming to IS: 10238 of not less than 16mm diameter and 175mm long spaced not more than 450mm apart and extending from 2.5 meters above the ground level to the top. Each step bolt shall be provided with two nuts on one end to fasten the bolt securely to the tower and button head at the other end to prevent the feet from slipping away. The step bolts shall be capable of withstanding a vertical load not less than 1.5 KN.

24.5.2 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.

24.5.3 Earth wire Clamps Attachment:

24.5.3.1 Suspension Clamp

The detailed drawing shall be submitted by the Supplier for Purchaser's approval. The Supplier shall also supply U-bolts, D-shackles wherever required.

24.5.3.2 Tension Clamps

Earth-wire peaks of tension towers shall be provided with suitable plates to accommodate the shackle of tension clamps. The Supplier shall also supply the U-bolts wherever required and take Purchaser's approval for details of the attachments before the mass fabrication.

25.0 Fabrication:

The fabrication of substation steel structures shall be in conformity with the following:

a. Except where hereinafter modified, details of fabrication shall conform to IS: 802 (Part-II) or the relevant international standards.

b. The tower structures shall be accurately fabricated to connect together easily at site without any undue strain on the bolts.

c. No angle member shall have the two leg flanges brought together by closing the angle.

d. The diameter of the hole shall be equal to the diameter of bolt plus 1.5mm.

e. The structure shall be designed so that all parts shall be accessible for inspection and cleaning. Drain holes shall be provided at all points where pockets of depression are likely to hold water.

f. All identical parts shall be made strictly inter-changeable. All steel sections before any work are done on them shall be carefully levelled, straightened and made true to detailed drawings by methods which will not injure the materials so that when assembled, the adjacent matching surfaces are in close contact throughout. No rough edges shall be permitted in the entire structure.

g. Minimum Thickness of Tower Members shall be as follows: -

ITEM	Minimum thickness (mm)
Leg members & main chords of beams in compression	5
Other members	4

26.0 Drilling and Punching:

26.1 Before any cutting work is started, all steel sections shall be carefully strengthened and trued by pressure and not by hammering. They shall again be trued after being punched and drilled.

26.2 Before any cutting work is started, all steel sections shall be carefully strengthened and trued by pressure and not by hammering. They shall again be trued after being punched and drilled.

26.3 Holes for bolts shall be' drilled or punched with a jig but drilled holes shall he preferred. The punching may be adopted for thickness up to 16mm. Tolerances regarding punch holes are as follows:
a) Holes must be perfectly circular and no tolerances in this respect are permissible.
b) The maximum allowable difference in diameter of the holes on the two sides of plates or angle is 0.8mm. I.e. the allowable taper in a punched holes should not exceed 0.8 mm on diameter.
c) Holes must be square with the plates or angles and have their walls parallel.

26.4 All burrs left by drills or punch shall be removed completely. When the tower members are in position the holes shall be truly opposite to each other. Drilling or reaming to enlarge holes shall not be permitted.

27.0 Erection mark:

Each individual member shall have erection mark conforming to the component number given to it in the fabrication drawings. The mark shall be marked with marking dies of 16mm size before galvanizing and shall be legible after galvanizing.

28.0 Galvanizing and Painting:

28.1 Galvanising of the various members of the structures shall be done only after all works of sawing, shearing, drilling, filling, bending and matching are completed. Galvanising shall be done by the hot dip process as recommended in IIS: 2629 or other such authoritative international standards and shall produce a smooth, clean and uniform coating of not less than 61 0 gm per square meter. The preparation for galvanising and the galvanising process itself must not affect adversely the mechanical properties of the treated materials. No manual Galvanization process will be accepted.

28.2 The outside surface shall be galvanised. Sample of galvanised materials shall be supplied to the galvanized test set out in IIS 729 or other such authorative international standards.

28.3 All assembly bolts shall be thoroughly hot dip galvanised after threading. Threads shall be of a depth sufficient to allow for the galvanized coating, which must not be excessive at the root of the threads, so that the nut shall turn easily on the completed bolts without excessive looseness. The nut threads shall not be galvanised, but oiled only.

29.0 Earthing:

To keep provision in the structures for earthling, holes shall be drilled on two diagonal opposite legs of the towers/columns/mounting structures. The holes shall be suitable for bolting 65 mm X 1 2 mm GI strips and shall be such that the lower hole is about 350 mm above the ground level, clear of the concrete muffing, for connecting the earthling strip.

30.0 Test and Test certificate:

30.1 Each consignment ready for transportation shall be offered to ASEB for inspection before dispatch giving a minimum time of not less than 30 days. Samples of fabricated structure materials shall be subjected to following tests: -
a) Steel: The structural steel shall conform to IS 226 and IS 8500, BS 4360-1068 or ISO / R 630 other such

authoritative international standards. Manufacturer's test certificate shall be submitted for all used steel.
b) Galvanising: The galvanising shall be as per IS 2633 or BS 729 other such authoritative international standards. Zinc coating over the galvanised surfaces shall not be less than 610 gm per square meter.
c) Bolts and nuts: Manufacturer's test certificate as per standard practice shall be submitted.

30.2 **Test at supplier's premises:**

i. The Supplier shall fabricate one specimen structure of each type as soon as possible after placement of order and before starting the bulk fabrication of the structures ordered. It shall be assembled on a foundation as nearly similar as practicable to site and tested with suitable test loads as per specified broken wire condition, multiplied by the corresponding factor of safety to ensure that the design and fabrication complies with the requirements. Each structure shall be capable of withstanding the above-mentioned tests without any injury or any permanent deflection at any part. If any member is found to be weak or damaged the design should be suitably modified and the tower re-tested.

ii. After the first lot of the structures manufactured, the members forming one structure of each type shall be selected at random from the lots of similar member and assembled in exactly the same manner as to be done at site. The structure then shall be set on foundation as nearly similar as practicable to site and tested with equivalent test load for which the structure has been designed.

iii. No structure or any member thereof, which failed the test shall be supplied.

31.0 Switchyard illumination:

Brand: Havells LED
Specification: 90/60 W

32.0 Earthmate Extension and Grounding of Equipment:

32.1 (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 inturn 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 at1000mm 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-incharge.

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

32.2 Details of Earthing System

Sl. No.	Item	Size	Materials
1	Main Earthing Conductor to be buried in ground	65 mm x 12 mm	GI Flat
2	Conductor above ground & earthing leads (for equipment), Risers.	65 mm x 12 mm	GI Flat
3	Conductor above ground & earthing leads(for columns & aux. structures), Risers	65 mm x 12 mm	GI Flat
4	Earthing of indoor LT panels, Control panels and outdoor marshalling boxes, MOM boxes, Junction boxes& Lighting Panels etc.	50 mm x 6 mm	GI Flat
5	Rod Earth Electrode	40mm dia, 3000 mm long	Mild Steel
6	Pipe Earth Electrode (in treated earth pit) as per IS 3043.	40mm dia, 3000 mm long	GI Pipe
7	Earthing conductor along outdoor cable trenches	50mm x 6 mm	GS Flat

33.0 Firefighting system/Hydrant:

33.1 CO2 type fire extinguisher of capacity 4.5 kg should be provided. Fire bucket of capacity 9 litre should also be provided. All the offered extinguisher of different type shall be of reputed make & ISI marked.

34.0 ACSR Panther Conductor:

The specifications of ACSR Panther conductor is descriped in Clause. 24.3.

35.0 Power and control cables:

35.1 The cables covered by this specification shall be designed, manufactured and tested in accordance with following Indian Standards as well as relevant IEC's.

Sl. No.	**Standards**	**Title**
i.	IS : 5831	PVC Insulation and sheath of electric cables.
ii.	IS : 3961 (Part 2)	Recommended current ratings for cables of PVC insulated and PVC sheathed heavy duty cable.
iii.	IS : 8130	Conductor for insulated electric cables and flexible cord.
iv.	IS : 1885	Electric Cables.
v.	IS : 3975	Mild steel wire, formed wires and tapes for armouring of cables.
vi.	IS : 1554 (Part-I)	PVC Insulated (Heavy duty) electric cables.
vii.	IS : 10810	Methods of test for cables.
viii.	IS : 7098(Part-II)	Specification for cross-linked polyethylene insulated PVC sheathed cables for working voltages from 3.3KV to and including 33KV.
ix.	IS : 10418	Cable Drums for Electric Cables.

35.2 Criteria for selection of power and control cables:

a) Aluminium Conductor PVC insulated armoured power cables of 1.1 KV grade shall be used for various applications in switchyard area/control room.

b) For all control/protection/instrumentation purposes PVC insulated armoured control cables of minimum 2.5 sq.mm. size with stranded copper conductor shall be used.

c) AC input Cable to the Battery Charger shall be of PVC insulated, armoured, stranded Copper Cable. DC output Cables from the Charger as well as from the battery shall be of PVC insulated, armoured, stranded Copper Cable.

d) All connections for PT and D.C. Circuit to control and relay panel shall be made with not less than 2.5 sq. mm. copper control cable.

e) All connections of CT circuits to control and relay panel shall be made with not less than 4 sq. mm. copper control cable.

f) Separate cable shall be used for AC and DC.

g) For different cores of CT and PT separate cables shall be used.

h) However, if required from voltage/VA burden consideration additional cores or higher size shall be used.

i) Sizing of power cables shall be done keeping in view continuous current, voltage drop and short circuit current consideration. Cable size shall be such that the voltage drop between the current consuming devices and supply distribution board shall not exceed 3% of supply voltage.

j) At least one (1) core shall be kept as spare in each copper control cable of 4C, 5C or 7C size, whereas minimum no. of spare cores shall be two (2) for control cables of 10 core or higher size (maximum 19 core can be used). However for control cable to be used in CT circuits shall be colour coded.

k) For 2.5 sq. mm. control cables, all cores must be grey in colour and for 4 sq mm cable, colour code is to be maintained.

35.3 Marshalling Kiosk

35.3.1 Each Kiosk shall be weather and dust proof and made of sheet steel having suitable thickness. This kiosk shall be used for supply of auxiliary AC Supply to isolators, breakers, switchyard lighting etc. There shall be sufficient reinforcement to provide level surfaces, resistance to vibrations and rigidity

during transportation and installation. BMK shall be made of sheet steel having 3mm thickness. However 2mm thick cold rolled sheet steel with powder coating is also acceptable Marshalling kiosk shall be provided with double hinged doors one at front & one at rear with padlocking arrangement. The distance between two hinges shall be adequate to ensure uniform sealing pressure against atmosphere. All doors, removable covers and plates shall be gasketed all around. All gasketed surfaces shall be smooth, straight and reinforced if necessary to minimise distortion and to make a tight seal. Ventilating Louvers, if provided shall have screen and filters. The screen shall be fine wire mesh made of brass.

All metal surfaces shall be subjected to treatment for anticorrosion protection. All ferrous surfaces shall be hot dip galvanised after fabrication. All steel conductors including those used for grounding shall also be galvanised according to IS:2629. Marshalling kiosk box shall be designed for entry of cable from bottom by means of weather proof and dust proof connections.

Design shall be such that there shall not be any interference between the wiring entering from below with any terminal blocks or accessories mounted inside the kiosk.

One no undrilled and removable type cable gland plate of sheet steel having minimum thickness of 3 mm. shall be provided along with necessary number of cable glands for entry of all the cable to the kiosk.

Earthing of the cabinet shall be ensured by providing two separate earthing pads. The earth wire shall be terminated on the earthing pad and secured. Earthing of hinged doors shall be done by using a separate earth wire.

35.3.2 Marshalling kiosk is to be provided with 'Elmex' /'Connect well' make terminal block, HRC fuse and link of suitable rating to be used for different circuits i,e interlocking circuits of Incomer 1 &11. Normally there will be one incoming supply from A.C. Distribution Board to each kiosk. Provision of second incoming supply shall be made through interconnection of incoming of two nos. nearby placed marshalling kiosk. All the incoming supply shall be terminated to the terminal block at the kiosk through Four Pole MCB of suitable rating. There shall be auto changeover scheme. The outgoing circuits from the kiosk shall be through either 4-Pole or 2 Pole MCB. Jam nut should be provided with shorting link. All terminal blocks shall be 1100V grade of continuous rating to carry the maximum expected current on the terminal.

The terminal blocks shall be fully enclosed with removable covers of transparent, non-deteriorating type plastic material. Insulating barrier shall be provided between the terminal block. The terminal blocks shall have locking arrangement to prevent its escape from the mounting rails.

At least 20% spare terminals with HRC fuse and link shall be provided in each kiosk and these spare terminals shall be uniformly distributed on all terminal rows. There shall be a minimum clearance of 250 mm. between the First / Bottom rows of terminal block and the associated cable gland plate. The clearance between two rows of terminal block shall be maintained as 150 mm. minimum.

35.3.3 The marshalling kiosk shall be placed at such a height that it becomes convenient for any person to work on terminal blocks. Placement position of marshalling kiosk is to be indicated in related drawing. All incoming and outgoing connections in the marshalling kiosk shall be properly marked with ferrules.

35.3.4 10 mm. wide unbreakable plastic plates bearing identification mark shall be fixed suitable under each circuit.

35.3.5 The rating of MCB, HRC fuse and link shall be such as it can maintain a co-ordination between itself and HRC fuse unit provided in the AC Distribution Board for local fault. The size of marshalling kiosk shall be determined as per requirement.

35.3.6 Suitable cable gland plate projecting at least 150 mm. above the base of Bay Marshalling Kiosk shall be provided along with proper blanking plates. Necessary number of cable glands shall be supplied and fitted on these blanking plates. The gland shall project at least 25 mm. above plate to prevent entry of moisture in cable crutch. Gland plate shall have provision for some future glands to be

provided for future requirements.
The Nickel plated gland shall be dust proof, screw on and double compression type and made of brass. The glands shall be provision for securing armour of the cable separately and shall be provided with earthing tag. The glands shall conform to relevant IS Standard.

35.3.7 The enclosure of marshalling kiosk shall provide with a degree of protection of not less than IP55 as per IS:13947.

35.3.8 LED illumination lamp with door switch shall be provided. A 230 V, A.C., 5A/15A combined socket and switch shall also be provided. Isolating arrangement with use of suitable rated HRC fuse for illumination lamp, Heater and combined socket and switch are to be provided at phase side. Suitably rated one no 2-pole MCB is to be provided for above circuit.

35.3.9 MCCB & MCB to be provided in Marshalling Kiosk, all Junction boxes shall be from one of the following manufacturer complying with technical specification & relevant IS & IEC a) M/s Siemens b) M/s L & T c) M/s ABB d) M/s Schneider

35.3.10 Two separate earthing of cabinet shall be ensured by providing two separate earthing pads. Earthing of hinged door shall be done by wing separate earth wire.

36.0 Civil works:

36.1 The civil works include construction of switchyard equipment foundations, cable trenches, covered storm drain, switchyard levelling, gravelling and PCC etc. should be done as per the directives of AEGCL.
The contractor should have knowledge of works related to 33 kV bay construction and the rate should be quoted accordingly.

36.2 Surface preparation and stone spreading including PCC specifications

36.2.1 Before taking up PCC base (pro 1:3:6) and stone filling, the area shall be thoroughly de-weeded including removal of roots and recovery of existing gravel.

36.2.2 The Contractor shall have to prepare the site by earth cutting or filling as per site condition to arrive at the required level as specified in Clause 33.2.6. Contractors are advised to visit relevant sites to assess the requirement of earthwork before quoting.

36.2.3 The surface of the switchyard area shall be maintained, rolled/ compacted to the lines and grades as decided by Engineer-in-Charge. De-weeding including removal of roots shall be done before rolling is commenced. Engineer-in-Charge shall decide final formation level so as to ensure that the site appears uniform devoid of undulations.

36.2.4 A base layer of PCC of 80 mm thickness with proportion of 1:3:6 shall be provided before spreading of crushed rocks. PCC base shall be done in panels of 4 m x 4 m with expansion gap of 25 mm between panels. The gap shall be filled with bitumen. Each panel shall be provided with four(4) numbers of PVC pipes (per panel) of 100 mm dia of length 450 mm for soaking of water. The pipes will be provided with gratings at the top and the same will be flushed with the PCC top.

36.2.5 Over the PCC layer, a surface course of minimum 100 mm thickness of broken stone shall be spread. For this purpose, the recovered gravel from the switchyard shall be used. Any additional quantity of gravel required to achieve 100mm thickness shall be supplied by the contractor.

36.2.6 The ground leveling activities should be done in such a manner that after construction of PCC and spreading of gravel as per specified requirements, clearance from the top of the gravel layer to the plinth should be a minimum of 300mm.

36.2.7 The Bidder should note that the price quoted shall be inclusive of cost of all activities for site

preparations, such as clearing the area, earth filling, earth cutting, levelling etc. It is advised that the Bidders should visit the concerned sites before finalising their bids.

36.3 Construction of Cable trenches

The cable trenches should be primarily of Brick masonry `supported with RCC pillars 250*250mm at an interval of 2500mm over 75 mm RCC base. In each pillar, 2 nos of MS flats of 50*6*200mm shall be suitably embedded to hold 2nos of cable racks. The cable trench wall inside the control room will be of 100mm thick RCC only. The top of the cable trench should be RCC to hold the RCC covers (as per the approved drawing, enclosed). For main power cables separate cable trench should be made. Cable trenches and pre-cast removable RCC covers (with lifting arrangement) shall be constructed using RCC of M15 grade.

37.0 Erection, Testing and Commissioning:

37.1 The erection, testing and commissioning of all 33 kV equipment including control and relay panel along with integration to the Siemens SAS should be done in the presence of authorized representative of AEGCL.

37.2 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.

38.0 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 ^{0}C

b) Minimum night temperatures : 0 ^{0}C

c) Ground temperatures: 40 ^{0}C

d) Reference ambient day temperature : 45 ^{0}C

e) Relative Humidity

i). Maximum : 100 %

ii). Minimum : 10 %

f) Altitude : Below1000 M above MSL

g) Maximum wind pressure : As per IS: 802

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

39.0 Contract Agreement:

39.1 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.

39.2 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.

40.0 Liquidated Damage:

40.1 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:

40.2 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.

40.3 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.

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

41.0 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.

42.0 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.

43.0 Warranty:

43.1 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.

43.2 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.

43.3 If during the Period Warranty any defect is found, the Purchaser shall give Notice to the Supplier/Manufacture 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.

43.4 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.

43.5 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.

44.0 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.

45.0 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.

46.0 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.

47.0 Payment terms:

47.1 No advance/Mobilization advance shall be made in this contract.

47.2 100% 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.

47.3 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.

47.4 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.

47.5 Payment is subject to availability of specific fund.

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

47.7 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

48.0 Performance security deposit:

48.1 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** 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-784001** by the issuing Bank under registered post AD.

48.2 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, 10% security deposit will be deducted from the bill.

48.3 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.

48.4 No interest shall be payable on such deposits.

49.0 Retention Money:

49.1 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.

49.2 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.

49.3 No interest shall be payable on such deposit.

50.0 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.

51.0 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.

52.0 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 _____

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 _____

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 BID

Trunkey construction of 33kv Hojai Feeder Bay at Shankardevnagar GSS

(Erection, Testing and Commissioning including Civil works.)

Sl No	Particulars of Materials	Unit	Qty	Unit Price	Total Price
1	*2*	*3*	*4*	*5*	*6*
1	**Erection, testing & commissioning of Equipment including laying & terminating of LT power and control cables, connection of terminal clamp connectors as required and equipment earthing.**				
	(i) 33 kV Gang operated Vacuum Circuit Breaker	Set	1		
	(ii) 33 kV, 400-200/1-1 A, 2 core feeder CT including marshalling box.	Nos	3		
	(iii) 33KV PT including marshalling box	Nos	3		
	(iv) 33kV Isolator with Earth Switch	Set	1		
	(v) 33kV Isolator with out Earth Switch	Set	1		
	(vi) 33 kV Lightning Arrestor	Nos	3		
	(vii)) 33kV Post Insulator	Nos	2		
2	**Erection of equipment mounting structure including excavation, construction of foundation, backfilling, compacting and supply of all foundation materials and labour as per supervision of site engineer**				
	(i) 33 kV Gang operated Vacuum Circuit Breaker	Set	1		
	(ii) 33 kV, 400-200/1-1 A, 2 core feeder CT including marshalling box.	Nos	3		
	(iii) 33 KV PT including marshalling box	Nos	3		
	(iv) 33kV Isolator with Earth Switch	Set	1		
	(v) 33kV isolator without Earth Switch.	Set	1		
	(vi) 33 kV Lightning Arrestor.	Nos	3		
	(vii) 33kV Post Insulator	Nos	2		
3	**Erection of Lattice steel columns including construction of complete**				
	(i) Column:	Nos	2		
4	**Erection of Lattice Steel structures along with structure earthing**				
	(ii) Beam Type :	Nos	1`		
5	Installation, testing and commissioning of **33kV Feeder Control & Relay panel** including **Integration** to the existing SAS.	Nos	1		
6	Installation and testing of **3Ph, 4 wire, ABT compliant Energy Meter** (Class-0.2) in existing control panel	Nos	1		
7	**Construction of covered Cable trenches** including supply of all foundation materials and labour as per specification and drawing				

	(i) Type C	m	15		
	(ii) Type D	m	10		
8	**Providing 80mm thick 1:4:8 PCC base of switchyard** as per specification & Drawing including supply of all materials and labour.	sqm	80		
9	**Providing 100mm thick gravelling** on the switchyard including levelling etc as per directive of site engineer.	sqm	80		
10	**Installation of Switchyard illumination LED lights,** including necessary cabling and termination	Nos	5		
11	**Installation of Earthing system**				
	(i) Installation of Main Earth mat (65x12mm GI Flat) and connection to riser including painting of welding joints with bitumen paint	m	150		
	(ii) Installation 40 mm Dia 3mtr long M.S. rod earth electrode (driven) with test link including construction of covered earth pit and making necessary connections as required	No	3		
Total					

Name of the Bidder:-

Signature of the Bidder/Firm …….

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- 29)	: Yes/No
7)	'Performance security deposit and Retention money' (Whether agreeable to accept as specified in bid Clause no-30 & 31)	: 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 per Cl no.15.3.7	: Yes/No
20)	Valid Electrical license as per Cl no. 15.3.8	: Yes/No
21)	Warranty as per Cl no.43	: 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. ……..