

ASSAM ELECTRICITY GRID CORPORATION LIMITED

Regd. Office: 1st floor, Bijulee Bhawan, Paltanbazar, Guwahati-781001

CIN: U40101 AS2003SGC007238

web: www.aegcl.co.in



Bidding Document

**Supply of Earthing system materials, hardware fittings, clamps, connector,
bay steel structures etc. with F&I**

DEPUTY GENERAL MANAGER

TEZPUR T&T CIRCLE

AEGCL, TEZPUR-784154

Tender Cost: ₹ 1000.00

EMD: ₹17,500.00

BID NO: AEGCL/DGM/TTC/TEZ/T-20/2024/255

Date: 28.10.2024

For & on behalf of the **Managing Director, AEGCL, the Deputy General Manager, Tezpur T&T Circle, AEGCL, Kunderbari, Depota**, invites tenders in prescribed form, from reputed Firms/Contractors/Manufacturers 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 Cost In INR	Time of completion In Days
1	Supply of Earthing system materials, hardware fittings, clamps, connector, bay steel structures etc. with F&I	8,65,935.00	60 days from the issue of the work order

1.0 Cost of Bidding Document:

Bidder must 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 AEGCL, 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.**

2.1 Key Dates: -

- a. Bid Document available date: **10:00 hrs of 28.10.2024**
- b. Bid Submission Start Time & date: **11:00 hrs of 28.10.2024**
- c. Bid Submission end time & date: **11:00hrs of 19-11-2024**
- d. Techno-Commercial Bid Opening time: **12:00hrs of 19-11-2024**

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.

4.0 Bid Security:

4.1 All bids must be accompanied by a bid security amounting to **Rs. 17,500.00** only in the form of Bank Guarantee/Demand Draft from any Nationalized Bank payable at Guwahati in favour of **AEGCL, Bijulee Bhawan, Paltanbazar, Guwahati-01.**

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 15 (fifteen) days’ time.

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 prevailbid

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 initialed by the person signing the bid.

5.3 A bid submitted by a JV shall be signed to be legally binding on all partners.

- 5.4 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed 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** 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 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 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 2,60,000.00** 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 **2,60,000.00** and
- (2) the overall cash flow requirements for this contract and its current works commitment.

9.0 Experience:

9.1 Experience on similar nature of works under contracts in the role of manufacturers,

contractor, subcontractor, or management contractor for at least the last 7(Seven) years prior to the bid submission deadline. Bidder may be manufacturer of the offered products or a firm/company having authorization from a manufacturer. In case the bidder is not a manufacturer of the offered products, bidder must submit manufacturer's authorization

9.2 Participation as manufacturer, contractor Experience having successfully completed similar works during last 7 years ending last day of the month before the one in which applications are invited should be either of the following:

- (a) Three (3) similar completed works costing not less than **3,47,000.00**.
- (b) Two (2) similar completed works costing not less than **4,33,000.00**
- (c) One (1) similar completed works costing not less than **6,93 ,000.00**

9.3 The Bidder must have experience of executing work of similar nature previously. The bidder must submit experience and completion certificate for scrutiny by AEGCL. 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 *Bid Clause. 6.0*, Eligibility, Cl. No. 7.0, Financial Capability, Cl. No. **8.0.**, Experience 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.

10.6 The following methodology will be practiced for identification and treatment of the Abnormally Low Bids (ALB) in this tender process of AEGCL:

(i) Absolute Approach is to be considered when there is fewer than five substantially responsive bidders and if the bid price is 20% or more below AEGCL's cost estimate then AEGCL's tender evaluation committee should clarify the Bid price with the bidder to determine whether the Bid is Abnormally low.

(ii) Relative approach is to be considered when there are at least 5(five) nos. of substantially responsive bids and the lowest bid price is 20% or more below AEGCL's cost estimate. In this approach, first the Average bid price is determined and then by deducting the standard deviation from the Average bid price, potentially ALB may be determined.

(iii) In case of an ALB, the tender evaluation committee/appropriate authority of the respective tenders shall undertake the following three stage review process which is as below:

- To identify ALB as per the steps mentioned in SI no. 10.6.(i) and 10.6.(ii), whichever is applicable.
- To seek and analyses the clarifications from the abnormally low Bidder in terms of resource inputs and pricing, including overheads, contingencies, and profit margins. In that respect, the committee may refer to guideline of World Bank, AIIB, ADB etc. prescribed for ALB.
- To decide whether to accept or reject the bid.
- On acceptance of the bid, whether Additional Performance Security is to be imposed on the bidder supplemented by adequate justification.

(iv) In case of acceptance of ALB with Additional Performance Security:

- If any abnormally low bid is accepted with additional performance security, it is to be noted that the total performance security should not exceed 20% of the total contract value.
- The additional performance security shall be treated as part of the original performance security and shall be valid for a period similar to that applicable for defect liability period of the contract.
- Non submission of the additional performance security shall constitute sufficient ground for rejection of the bid and similar assessment shall then be initiated for next ranked bidder if that bidder is also identified as ALB.

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 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 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.

(1) 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 Sales Tax, 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 must 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 been 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 work contract, 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:

15.3.1	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	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.
15.3.3	In case the tenderer is a partnership Firm, the work experience, solvency and turn over shall be in the name of partnership Firm only.
15.3.4	GST registration No., Latest Bank solvency
15.3.5	Registered Power of attorney, if any.
15.3.6	I T Return for last three Years
15.3.7	Profit and Loss and Audited Balance Sheet for last three years
15.3.8	All other information and documents such as type test reports, design drawings of the bay steel structure etc., as required in the Technical Specification

16.0 Negotiation with successful bidder:

	The AEGCL reserve the right to negotiate 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.
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17.0 TECHNICAL REQUIREMENTS

17.1 Intent of specification

This section of the specification deals with the technical information & criteria for
“Supply of Earthing system materials, hardware fittings, clamps, connector, bay steel structures etc. with F&I”
 The Contractor's proposal shall be based on the use of materials complying fully with the requirements specified herein.

18.0 Scope

	<p>The major scopes of work are as follows: -</p> <p>a) Supply, delivery of Earthing system materials, hardware fittings, clamps, connector, bay steel structures(except equipment mounting structures for 132kV) etc. with F&I as mentioned in the bid</p> <p>b) Design of bay steel structures except equipment mounting structures for 132kV</p> <p>c) Transportation and movement of supplied materials up to the site and arrangements of any permits required for transportation of supplied materials. However, AEGCL shall assist as far as practicable in the process.</p> <p>d) Transit insurance shall be in the scope of the contractor.</p> <p>The works to be executed shall be as per the bid and items mentioned in the Price Bid and as per the directions of the site engineer.</p>
19.0	Contractor to inform himself fully
19.1	The Contractor 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.
19.2	The Employer shall not be responsible for any misunderstanding or incorrect information obtained by the Contractor other than information given to the Contractor in writing by the Purchaser
20.0	Conformity with Indian Electricity rules & other local regulations:
20.1	The Contractor 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.
20.2	The materials 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.
20.3	The Contractor shall also comply with the Minimum Wages Act 1948 and the payment of Wages Act (both. Of the Government of India and State of Assam) and the rules made there under in respect of any employee or workman employed or engaged by him or his Sub-Contractor.
20.4	All registration and statutory inspection fees, if any, in respect of his work pursuant to this Contract shall be to the account of the Contractor. However, any registration, statutory inspection fees lawfully payable under the provisions of the statutory laws and its amendments from time to time during erection in respect of the Substation Works, ultimately to be owned by the Employer, shall be to the account of the Employer. Should any such inspection or registration need to be re-arranged due to the fault of the Contractor or his Sub-Contractor, the additional fees to such inspection and/or registration shall be borne by the Contractor.
20.5	In case of any conflict between the standards and this specification, this specification shall govern.
21.0	Drawing and Documents

21.1	All necessary drawings and documents required for design of bay steel structures except equipment mounting structures for 132kV for completion of the project is to be submitted by the contractor for approval. The drawings and documents are to be approved by AEGCL.
21.2	<p>Guaranteed Technical Particulars</p> <p>The Guaranteed Technical Particulars of the various items in the price bid 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.</p> <p>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.</p>
22.0	Employer Supervision
22.1	<p>The scope of the duties of the Employer, pursuant to the contract, will include but not be limited to the following.</p> <ol style="list-style-type: none"> a) Witness or authorize his representative to witness works at site. b) Inspect, accept, or reject any material and work under the Contract. c) Issue certificate of acceptance and/or progressive payment and final payment certificate. d) Review and suggest modification and improvement in completion schedules from time to time. e) Issue completion certificate.
23.	Packing:
23.1	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.
23.2	The Supplier shall include and provide for securely protecting and packing the materials to avoid loss or damage during transport by air, sea, rail, and road.
23.3	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.
23.4	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.
23.5	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.
24.	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 dispatch clearance will be provided only after Employer is satisfied.

25.0

Galvanised Steel

- a) Steel conductors above ground level shall be galvanised according to IS:2629.
- b) The minimum weight of the zinc coating shall be **610 gm/sq.m for normal area and 900 gm/sq.m for coastal area as specified in Section-Project** and minimum thickness shall be 86 microns.
- c) The galvanised surfaces shall consist of a continuous and uniformly thick coating of zinc, firmly adhering to the surfaces of steel. The finished surface shall be clean and smooth and shall be free from defects like discoloured patches, bare spots, unevenness of coating, spelter which is loosely attached to the steel globules, spiky deposits, blistered surfaces, flaking or peeling off etc. The presence of any of these defects noticed on visual or microscopic inspection shall render the material liable to rejection.

Tests

In accordance with stipulations of the specifications galvanised steel shall be subjected to four one minute dips in copper sulphate solution as per IS : 2633.

26.0

SCOPE

This specification provides for supply of earthing system materials, hardware fittings, clamps etc. for 132kV Side, clamps and connectors, bay steel structures and its design as described hereinafter.

26.1

TECHNICAL SPECIFICATIONS OF EARTHING SYSTEM MATERIALS

Sl No.	Description		
1	Main Earthing Conductor to be buried in ground	65mm x 12 mm	GI Flat

2	Conductor above ground & earthing leads (for equipment)	65mm x 12 mm	GI Flat
3	Conductor above ground & earthing leads (for columns & aux. structures)	65mm x 12 mm	GI Flat
4	Earthing of indoor LT panels, Control panels and outdoor marshalling boxes, MOM boxes, Junction boxes & cable trenches etc	50mm x 6 mm	GI Flat
5	Rod Earth Electrode	40mm dia, 3000 mm long	Mild Steel

26.2

Equipment and Structure Earthing(as and where required as per the price bid):

- i) Earthing pads shall be provided for the apparatus/equipment at accessible position. The connection between 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.
- ii) Whether specifically shown in drawings or not, steel/RCC columns, metallic stairs etc. shall be connected to the nearby earthing grid conductor by two earthing leads. Electrical continuity shall be ensured by bonding different sections of hand-rails and metallic stairs.
- iii) Metallic pipes, conduits and cable tray sections for cable installation shall be bonded to ensure electrical continuity and connected to earthing conductors at regular interval.
- iv) Metallic conduits shall not be used as earth continuity conductor. Metallic conduits shall be earthed with GI wire of suitable size.
- v) Wherever earthing conductor crosses or runs along metallic structures such as gas, water, steam conduit, etc. and steel reinforcement in concrete it shall be earthed.
- vi) Earthing conductor shall be buried 2000 mm outside the switchyard fence. All the gates and every post of the fence shall be connected to earthing grid. The stone spreading shall also be done 2000 mm outside switchyard fence. The criteria for stone spreading shall be followed in line with requirement specified elsewhere in the specification.
- vii) Flexible earthing connectors shall be provided for the moving parts.
- viii) A continuous ground conductor of 16 SWG GI wire shall be run all along each conduit run. The conductor shall be connected to each panel ground bus. All junction boxes, receptacles, switches, lighting fixtures etc. shall be connected to this 16 SWG ground conductor.
- ix) 50mm x 6mm GI flat shall run on the top tier and all along the cable trenches and the same shall be welded to metallic inserts holding the cable trays/ racks. All racks shall welded to the inserts. Further this flat shall be earthed at both ends and at an interval of 30 mtrs.
- x) For 400kV, 220kV and 132kV, Each Surge Arrester shall be directly connected to two numbers perforated pipe electrodes with test link in treated earth pit (as per IS); each Voltage Transformer shall be directly connected to one number perforated pipe electrodes with test link in treated earth pit (as per IS); which in turn shall be connected to main earth mat. For 33kV, Each Surge Arrester, Voltage Transformer shall be directly connected to one number perforated pipe electrodes with test link in treated earth pit (as per IS) which in turn shall be connected to main earth mat.
- xi) Lightning Mast and Towers with Peak shall be directly connected to two numbers perforated pipe electrodes with test link in treated earth pit (as per IS) which in turn shall be connected to main earth mat. Connection from earthing terminal to pipe electrode shall be done by 65x12mm GI Flat.
- xii) Each earthing lead from the neutral of the Transformer/Reactor shall be directly connected to two numbers perforated pipe electrodes with test link in treated earth pit (as per IS) which in turn shall be connected to main earth mat. The pit shall be filled

with Bentonite powder mixed with lomy soil at a ratio 1:10. The electrodes shall be buried in Cement Concrete pit with a ISI marked cast iron cover. Connection from earthing terminal to pipe electrode shall be done by 65x12mm GI Flat. The transformer body and all accessories associated with transformer/reactor like cooling banks, radiators etc. shall be connected to the earthing grid at minimum two points by 75x12mm GI Flat.

- xiii) Auxiliary earthing mat comprising of 40mm dia M.S. rods closely spaced (300mm x 300 mm) conductors shall be provided at depth of 300mm from ground level below the operating handles of the M.O.M. Box of the isolators and Earth Switch. M.O.M. boxes shall be directly connected to the auxiliary earthing mat. Flexible copper braid connection to be provided between MOM box and GI flat to take care of soil sagging. The size of auxiliary earthing mat shall be of 1500mmx1500mm for 400kV, 220kV and 132kV and 900mmX900mm for 33kV. Factory welded auxiliary earthmat is preferable.
- xiv) For Power Cable Metallic sheaths and armour of all multi core power cables shall be earthed at both equipment and switchgear end and with Link box as and when required. Sheath and armour of single core power cables shall be earthed at switchgear end only.
- xv) Metal parts of all equipment, other than those forming part of an electrical circuit, shall be connected directly to the main earth system at two points.
- xvi) Gate posts forming part of the substation fence shall be bonded together with below ground connections and the gates themselves shall be electrically bonded to the posts at two points through flexible braids.

26.3

Clamps

Supply of hardware fittings, clamps and connectors shall be *suitable as per BOQ attached.*

26.4

STANDARD :

Clamp conforms to the latest revision of the following IS :

- (i) IS – 5561 : Electric Power Connectors
- (ii) IS-2121 Part I & II : Conductor and earth wire accessories for overhead line.
- (iii) IS-2633 : Method for testing weight, thickness and uniformity of coating on hot dipped galvanized articles.
- (iv) IS-5082 : Wrought Aluminium and Aluminium Alloy section for electrical purpose.
- (v) IS-1285 : Wrought Aluminium and Aluminium Alloy Round Tube and hollow sections.
- IS-617 : Aluminium and aluminium alloy ingots and casting for general engineer

26.5

INSULATOR AND HARDWARE FITTINGS

General

The Hardware Fitting, shall conform to the following Indian Standards or equivalent International Standards, which shall mean latest revisions, amendments/changes adopted and published unless specifically stated otherwise in the specification.

- | | | |
|----|----------|---|
| 1. | IS: 209 | Specification for Zinc. |
| 2. | IS: 1327 | Method of Determination of Weight of Zinc Coating on Tin Plate. |
| 3. | IS: 1573 | Electroplated Coating of Zinc on Iron and Steel |
| 4. | IS: 2121 | Specification for Conductors and Earthwire |

- (Part-1) Accessories for Overhead Power Lines
Armour Rods, Binding Wires and Tapes for Conductors
- (Part-2) Mid-span joints and Repair Sleeves for Conductors
5. IS : 2486 Specification for Insulator Fittings for Overhead Power Lines With a Nominal Voltage Greater than 1 000 V
- (Part 1) General Requirements and Tests
6. IS:2629 Recommended Practice for Hot Dip Galvanizing of Iron and Steel
7. IS:2633 Method of Testing Uniformity of Coating on Zinc Coated Articles
8. IS:4826 Galvanized Coating on Round Steel Wires
9. IS : 6639 Hexagonal Bolts for Steel Structures
10. IS: 6745 Methods for Determination of Weight of Zinc Coating on Zinc Coated Iron and Steel Articles
11. IS : 8263 Method for Radio Interference Tests on High Voltage Insulators
12. IS : 9708 Specification for Stock Bridge vibration Dampers for Overhead Power Lines

26.6

TESTS

The insulator discs and hardware fittings shall be subjected to the tests before despatch, in accordance with the relevant standards.

26.7

Requirement:

- a) The Contractor shall supply 4 disc tension insulator strings with all hardware fittings, clamps for 33kV bus of twin ACSR Panther
- b) The porcelain shall be sound, free from defects, thoroughly vitrified and smoothly glazed.
- c) Pins and caps shall be made of drop forged steel, duly hot dip galvanized as per IS 2629. These shall not be made by jointing, welding, shrink fitting or any other process.
- d) Security clips/split pins shall be made of good quality of stainless steel.
- e) The items of hardware fittings shall make complete assemblies which are necessary for their satisfactory performance. Such parts shall be deemed to be within the scope of this specification.
- f) The tenderer shall be responsible and satisfy himself that all the hardware included in strings are entirely suitable for the conductor

26.8

Disc Insulator Strings

Each insulator string shall consist of following numbers of Disc & parameters.

Sl no.	Description	No of Disc Insulator Unit for 33kV bus of twin ACSR Panther
1	No. of Disc, Tension String	4
2	Creepage Distance of complete String (min)	900 mm

4 disc tension insulator string assemblies shall be used for stringing 33kV bus of twin ACSR Panther. 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

26.9	<p>by the Supplier.</p> <p>Corona and RI Performance Sharp edges and scratches on all the hardware fittings shall be avoided. All surfaces must be clean, smooth, without cuts and abrasions or projections. The Contractor/Manufacturer must give suitable assurance about the satisfactory corona and radio interference performance of the materials offered by him.</p>
26.10	<p>Maintenance The hardware fittings offered shall be suitable for employment of hot line maintenance technique so that usual hot line operations can be carried out with ease, speed and safety. The technique adopted for hot line maintenance shall be generally bare hand method & hot stick method. The Bidder should clearly establish in the bid, the suitability of his fittings for hot line maintenance.</p> <p>Parameters Disc Insulators</p> <ul style="list-style-type: none"> a) Type : Ball and Socket b) Colour : Brown c) Surface : Glazed d) Locking Device : W or R type security clip e) Size of Disc : 255 mm x 145 mm f) Size of Pin Ball : 16 mm g) Creepage Distance :25 mm/kV h) Electro mechanical Strength : 70 KN i) Power frequency withstand test voltage : 75 KV Dry j) Minimum dry Impulse withstand : 125 KV peak Test voltage (+/- wave) k) Puncture Voltage : 1.3 X actual dry flash over voltage
26.11	<p>CLAMPS, CONNECTORS AND SPACERS</p> <ol style="list-style-type: none"> 1. Clamps and connectors shall conform to IS 2121 unless otherwise mentioned hereunder. 2. Clamps and connectors shall be made of materials listed below: - <ul style="list-style-type: none"> (i) For connecting ACSR: Aluminium alloy casting conforming to designation A6 of IS 617. (ii) For connecting GI Shield wire: Malleable iron casting. (iii) Expansion Connectors: Copper lamination to grade FRTP-2 of IS 191. (iv) Bolts, nuts, plain washers: Hot dip galvanised mild steel and spring washers for items (i), (ii) and (iii).
26.12	<p>Suspension Clamp Standard anchor shackle/twisted shackle for earth wire suspension clamp shall be supplied for attaching to the hanger plate of tower. At all suspension towers, suitable suspension clamps shall be used to support the required earth wire. The clamps shall be</p>

of either free center type or trunion type and shall provide adequate area of support to the earth wire. The groove of the clamp shall be smooth, finished in an uniform circular or oval shape and shall slope downwards in a smooth curve to avoid edge support and hence to reduce the intensity of bending moment on earth wire. There shall be no sharp point in the clamps coming in contact with earth wire. There shall not be any displacement in the configuration of the earth wire strands nor shall the strands be unduly stressed in final assembly during working conditions. The clamping piece and the clamp body shall be clamped by at least two U-bolts of size not less than 10 mm diameter having one nut and one 3 mm thick lock nut with washer on each of its limbs. Suspension clamps shall be provided with inverted type U-bolts. One limb of the U-bolt shall be long enough to accommodate the lug of the flexible aluminium bond. The Contractor shall supply all the components of the suspension assembly including shackles, bolts, nuts, washers, split pin etc. The total drop of the suspension assembly from the center point of the attachment to the center point of the earth wire shall not exceed 150 mm. The design of the assembly shall be such that the direction of run of the earth wire shall be same as that of the conductor. The complete assembly shall be guaranteed for slip and breaking strength of values indicated in the Standard Technical Particulars

26.13

Tension Clamp

At all tension towers suitable compression type tension clamps shall be used to hold the required galvanised steel earth wire. Anchor shackle shall be supplied which shall be suitable for attaching the tension clamp to strain plates. The clamps shall have adequate area of bearing surface to ensure positive electrical and mechanical contact and shall not permit any slip to the earth wire under working tension and vibration conditions. The angle of jumper terminal to be mounted should be 30 deg. with respect to the vertical line. The clamps shall be made of mild steel with aluminium encasing. The steel should not crack or fail during compression. The Brinell hardness of steel sleeve shall not exceed 200. The steel sleeve shall be hot dip galvanised. The aluminium encasing shall have aluminium of purity not less than 99.5%. Filler aluminium sleeve shall also be provided at the end. The complete assembly shall be so designed as to avoid undue bending in any part of the clamp and shall not produce any hindrance to the movements of the clamps in horizontal or vertical directions. The slip strength of the assembly shall not be less than 95% of the ultimate strength of the earth wire. The clamps shall be complete with all the components including anchor shackle, bolts, nuts, washers, split pin, jumper arrangement etc.

26.14

Spacers

Spacers shall conform to IS 10162. Spacers for bundle conductors (where specified) shall be provided at but not limited to the following locations:

- (i) At intervals not exceeding 2.5 meters in case of strung bus bars or other

26.15	<p>bundled strung conductors.</p> <p>(ii) At one meter interval in case of jumper connections. No magnetic material shall be used in fabrication of spacers except for the GI bolts and nuts.</p> <p>T Clamp, UPG clamp:</p> <ol style="list-style-type: none"> i. Standard Specification and tests shall be as per IS:5561. ii. For connecting ACSR conductor aluminium alloy casting conforming to designation A 6 of IS 617. iii. Bolts, nuts and washers shall be made of mild steel and hot dip galvanized as per IS 2629. Small fittings like spring washers, nuts etc. may be electrogalvanized. iv. The quality of HDG ferrous components shall be determined by the test given in IS:2633 and shall satisfy the requirement of that standard. v. The rated short time current shall be one of the standard values laid down in Indian Standards for the associated circuit breakers, Switches etc. vi. Current carrying capacity same as conductor full current rating. For two different conductors, conductor with smaller rating shall be considered. vii. No part of a clamp shall be less than 12 mm thick for fittings suitable up to size of ACSR Panther conductor, no part of a clamp shall be less than 15 mm thick for fittings suitable for ACSR Zebra conductor. viii. All sharp edges and corners shall be blurred and rounded off. ix. For bimetallic connectors, copper alloy liner of minimum thickness of 2 mm shall be cast integral with aluminium body. x. From outermost hole edge to nearest edge of any clamps and connectors the distance shall not be less than 10 mm.
27.0	<p>Supply and design of bay steel structures :</p> <p>This section covers the design parameters and specification for galvanizing, of steel structures, bolts & nuts, etc. covered under this Bid Document.</p> <p>The design is to be approved by the Design wing of AEGCL after work allotment.</p>
28.0	<p>MATERIALS</p> <p>Structural Steel</p> <p>The structures shall be of structural steel(Beam Type 'B1') conforming to any of the grade, as appropriate, of IS 2062 (latest edition) 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.</p> <p>Bolts</p> <p>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 IS 3757. Foundation Bolts shall conform to IS 5624. Step bolts shall conform to IS 10238</p> <p>Nuts</p>

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.

Washers

Washers shall conform to IS 2016. Heavy washers shall conform to IS 6610. Spring washers shall conform to type Bof IS 3663 Washers to be used with high strength bolts and nuts shall conform to IS 6649.

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.

Other Materials

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

DESIGN PARAMETERS

29.0

The contractor shall consult with the site incharge at 132/33kV Sankardevnagar GSS and the Switchyard Bay steel structures such as beams (B1) shall be designed as per drawing provided by the contractor as per the site requirement. Note: Structures with earth peak shall assume to have four earth wires for design purpose in normal condition.

DESIGN DRAWINGS

29.1

The relevant drawings for the beam shall be furnished by the CONTRACTOR to the Purchaser which shall include structural/fabrication drawings.

Drilling and Punching

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.
2. Holes for bolts shall be drilled or punched with a jig but drilled holes shall be 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 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.
3. 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

30.0	<p>reaming to enlarge holes shall not be permitted.</p> <p>EARTHING</p> <p>To keep provision in the structures for earthing, 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 12 mm GII 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 earthing strip.</p>
31.0	<p>GUARANTEE</p> <p>All the cables shall be guaranteed against faulty material, defective design & poor workmanship for a period of 18 months from the date of commissioning. The materials becoming defective during the guarantee period shall be replaced free of cost and the defects arising out of the works shall be rectified free of charge without delay.</p>
32.0	<p>QUALITY ASSURANCE</p> <p>To ensure that the supply under the scope of this Contract whether manufactured or performed within the Contractor's works or at his Sub Contractor's premises or at site or at any other place of work are in, accordance with the specifications, the Contractor shall adopt suitable quality assurance programme to control such activities at all points necessary</p> <p>The Quality plan shall be mutually discussed and approved by the Employer. The Contractor shall be required to submit all the Quality Assurance Documents as stipulated in the Quality Plan at the time of Employers inspection of equipment/material. 2.8.2 The Employer or his duly authorized representatives reserves the right to carry out Quality Audit and quality surveillance of the systems and procedures of the Contractors/his vendors Quality Management and Control Activities.</p>
33.0	<p>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.</p>
34.0	<p>Liquidated Damage:</p>
34.1	<p>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:</p>
34.2	<p>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.</p> <p>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.</p>
34.3	<p>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.</p>

34.4	Contractual failure: - Refer clause No.27.1 of AEGCL's General Conditions of supply and erection 2009.
35.0	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.
36.0	Warranty:
36.1	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.
36.2	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 destination. The supplier will provide warranty for the works executed by them.
36.3	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.
36.4	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.
36.5	The term period of warranty shall mean the period of 18 months from the date of Taking Over of the Work by AEGCL. A Taking over Certificate (TOC) will be issued by the appropriate authority. The successful bidder should warrant the free replacement of any damaged/malfunctioning switchgear or measuring equipment and its accessories during the warranty period .
37.0	Safety:
37.1	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. COVID-19 rules must be strictly followed during the working period.
38.0	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.
39.0	Payment terms:

39.1	No advance/Mobilization advance shall be made in this contract.
39.2	Progressive payments for erection works
39.2.1	Within 60 (sixty) days from the date of submission of invoice against foundation, erection & civil works, not more than 80% (eighty percent) of the total verified invoice would be made. However, GST amount on Invoice would be paid 100% or as per Govt. Rules.
39.2.2	Maximum 4(four) Nos. of progressive erection Invoice/ Bill would be entertained during entire erection work.
39.2.3	The 1 st Progressive erection Invoice/Bill would be entertained on completion of 30% of total erection cost of the Project.
39.2.4	Minimum value of 2 nd and 3 rd invoice should be 20% of the total order value for the foundation, erection, and civil works.
39.2.5	Remaining 20% of the erection value would be paid on successful completion of 100% erection, testing and commissioning activities of the project, which should be certified by the Project Manager.
39.3	Payment will be made by 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
40	Performance security deposit:
40.1	The successful bidder shall have to deposit through a Bank Guarantee from a Nationalized or scheduled Bank of RBI in AEGCL's standard proforma on non-judicial stamp of appropriate value for an amount equivalent to 10% (ten percent) of the total value of the order as performance security, immediately within 10 (ten) days from the issue of the letter of intent/detailed orders (as the case may be), duly pledged in favour of AEGCL, Bijulee Bhawan, Paltanbazar, Guwahati-1 , and such security deposit shall be valid up to 30 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, Depota-784154 by the issuing Bank under registered post AD.
40.2	Please note that, if the selected Bidder / Firm fails to furnish the requisite performance security as stated above and signs the contract within the stipulated period, 10 percent security money will be deducted from the total Bill value.
40.3	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.
40.4	No interest shall be payable on such deposits.
41	Retention Money:
41.1	In addition to above performance security deposit, retention money will be retained by the

	Engineer/Purchaser as per Bid Clause 33. The amount will be held by the Purchaser (AEGCL) till the work under the contract is completed and the completion certificate is issued.
41.2	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.
41.3	No interest shall be payable on such deposit.
42.0	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 be 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.
43.0	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.
44.0	Right to Reject:
	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

- (i) No of years the Firm/Contractor has been in operation under its present name.
- (ii) Details of work executed/being executed by the tenderer in the last three years.
- (iii) Testimonials from Clients Company on various works executed for the last three years.
(Details of works executed/under execution in the last three years including other department)

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**PRICE SCHEDULE**

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

Sl.No.	Item Description	Quantity	Unit	Rate(in Rs)	F&I (in Rs)	Amount
1	2	3	4	5	6	7=(5+6)*3
1	Supply of Earthing System Materials					
1.01	65 X 12 GI flat for extension of main earth mat,risers, equipment earthing, column earthing etc.	200	Mtr.			
1.02	50 X 6 GI flat Earthing conductor for earthing of indoor L.T and control panels, junction box, marshalling boxes, cable trenches etc.	100	Mtr.			
1.03	40 mm Dia. 3 mtr long M.S. rod earth electrode (driven) with test link for each tower with earth peak, LA s etc.	11	Nos.			
2	Hardware fittings, clamps etc for 132 kV side					
2.01	Single Tension Hardware Fittings ACSR Panther	15	Nos.			
2.02	Bolted type Tension Clamp Single Panther 132kV	15	Nos.			
2.03	Suspension Clamp for Single Panther ACSR/AAAC 132 kV	9	Nos.			
3	Clamps and Connectors					
3.01	T Clamp suitable for twin ACSR Panther Conductor to single ACSR Zebra	21	Nos.			
3.02	T Clamps for connection to 132kV Bus (Zebra to	12	Nos.			

	Panther)				
3.03	T Clamps for connection to 33kV Bus (Twin Panther to Panther)	18	Nos.		
3.04	T Clamps for connection to 33kV Bus (Panther to Panther)	15	Nos.		
3.05	Spacer Clamps (Panther)	10	Nos.		
3.06	UPG Clamp for Terminal connectors (Panther to Panther)	18	Nos.		
3.07	UPG Clamp for Terminal connectors (Zebra to Panther)	12	Nos.		
3.08	4 Disc tension Insulator Strings complete with all hardware fittings, clamps etc for 33 kV bus of twin ACSR Panther	18	Nos.		
3.09	Suspension clamp for single ACSR panther	6	Nos.		
4	Supply and Design of Bay Steel Structures except equipment mounting structures for 132kV				
4.01	Beam Type 'B1' (1 No.)	867.89	Kg		
Total:					
Say:					

Name of the Bidder: -

Signature of the Bidder/Firm

Full Name

Postal Address

Phone/Mobile No.

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 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	
	Bank Guarantee /Demand Draft	: Yes/No.
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 clause- 37)	: Yes/No
5)	Date of completion of supply/Erection. (Please specify the date of completion of supply/Erection as per specification)	: Yes/No
6)	'Security and performance guarantee' (Whether agreeable to accept as specified in Clause no- 34&35)	: Yes/No
7)	List of orders executed for similar works furnished	: Yes/No
8)	Performance certificate from the Govt/Govt undertaking furnished	: Yes/No
9)	Deviation from the specifications	

	a) Technical	: Yes/No
	b) Commercial	: Yes/No
10)	Information in respect of technical capability is furnished	: Yes/No
11)	Information in respect of financial capability certificate from the Banker is furnished as per Cl. No. 15.3.6 and 15.3.7	: Yes/No
12)	PAN card as per Cl. No. 15.3.2	: Yes/No
13)	GST registration no. as per Cl. No. 15.3.4	: Yes/No
14)	Registered Power of Attorney as per Cl.no. 15.3.5 enclosed.	: Yes/No

Name of the Bidder: -

Signature of the Bidder/Firm

Full Name

Postal Address

Phone/Mobile No.