

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



Bidding Document

For

Supply of 132Kv CVT and 33kV PT for replacement of defective metering equipments at 132kV Nagaon GSS, AEGCL

**DEPUTY GENERAL MANAGER
TEZPUR T&T CIRCLE**

AEGCL, TEZPUR-784001

Tender Cost: ₹1000.00

EMD: ₹22,000.00

For & on behalf of the **Managing Director, AEGCL, the Deputy General Manager, Tezpur T&T Circle, AEGCL, Kunderbari, Depota** invites suppliers/Manufacturers with sound technical and financial capabilities for the following work. A single stage two envelop 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	Name and address of Consignee
1	Supply of 132kV CVT and 33kV PT for replacement of defective metering equipments at 132kV Nagaon GSS, AEGCL	10,97,929.00	60 days from the date of issue of work order	The AGM, Nagaon T&T Division, AEGCL

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 AEGCL, Bijulee Bhawan, Paltanbazar, Guwahati-1, payable at Guwahati.	
2.0	Bidding Address:	
2.1	Tender papers can be purchased on application in plain paper from the Deputy General Manager, Tezpur T&T Circle, AEGCL, Tezpur. Key Dates:- a) Bid Document available date: 10:00hrs of 05-09-2025 b) Bid Submission Start Time & date: 11:00hrs of 05-09-2025 c) Bid Submission end time & date: 11:00hrs of 25-09-2025 d) Techno-Commercial Bid Opening time: 13:00hrs of 25-09-2025	
3.0	Validity of Bids and Bids Prices:	
3.1	Bids shall remain valid for a 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	Bidders shall give a breakdown of the prices in the manner and detail called for in the Price Schedules. Schedule No. 1: Supply of goods. Schedule No. 2: F&I against supply.
4.1	All bids must be accompanied by a bid security amounting to Rs. ₹22,000.00 only in the form of Bank Guarantee/Demand Draft from any Nationalised 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 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	<p>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:</p> <p>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.</p>
6.1.2	<p>The inner and outer envelopes shall:</p> <ul style="list-style-type: none"> (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	<p>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:</p> <ul style="list-style-type: none"> 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	<p>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.</p> <p>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:</p> <ul style="list-style-type: none"> (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 3,29,400.00 calculated as total certified payments received for contracts in progress or completed, within the last 3 (Three) Years.
8.3	<p>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:</p> <ul style="list-style-type: none"> (1) the following cash-flow requirement, INR 3,29,400.00 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.
9.2	<p>Participation as manufacturer, contractor 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:</p> <p>(a) Three (3) similar completed works costing not less than Rs. 4,39,200.00 (b) Two (2) similar completed works costing not less than Rs. 5,49,000.00 (c) One (1) similar completed works costing not less than Rs. 8,78,400.00</p>
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 <i>Bid Clause</i> No. 7.0 , Eligible Bidders, Cl. No. 8.0 , Financial Capability, Cl. No. 9.0. , 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	<p>The following methodology will be practised for identification and treatment of the Abnormally Low Bids (ALB) in this tender process of AEGCL:</p> <p>(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.</p> <p>(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.</p> <p>(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:</p> <ul style="list-style-type: none"> • To identify ALB as per the steps mentioned in SI no. 10.6.(i) and 10.6.(ii), whichever is applicable. • To seek and analyse 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. <p>(iv) In case of acceptance of ALB with Additional Performance Security:</p> <ul style="list-style-type: none"> • If any abnormally low bid is accepted with additional performance security, it is

	<p>to be noted that the total performance security should not exceed 20% of the total contract value.</p> <ul style="list-style-type: none"> • 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 <i>after the due date and time</i> 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	Non-attendance 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. (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	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 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 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 bidder is a partnership Firm.
15.3.3	In case the bidder is a partnership Firm, the work experience, solvency and turn over shall be in the name of partnership Firm only.
15.3.4	Upto date GST Return, Bank solvency and Annual turn over for last three years
15.3.5	GST registration No.
15.3.6	Registered Power of attorney, if any.
15.3.7	I T Return for last three Years
15.3.8	Audited Balance Sheet , Profit and Loss statement for last three years
15.3.9	The Bidder must be a CVT and PT manufacturer. If not, the Bidder shall provide Manufacturer’s authorisation
15.3.10	GTP of the 132kV CVT and 33kV PT offered
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 bidder considered for award of contract directly if the rates were not unreasonably high.
17.0	TECHNICAL REQUIREMENTS
17.1	Intent of specification
	<p>This section of the specification deals with the technical information & criteria for-</p> <p>Supply of 4 nos. of 132kV CVT and 3 nos. of 33kV PT for replacement of defective metering equipments at 132kV Nagaon GSS, AEGCL</p> <p>The Contractor's proposal shall be based on the use of materials complying fully with the requirements specified herein.</p>
18.0	<p>Scope</p> <p>The work involves design, engineering, manufacture, assembly, inspection, testing at manufacturer’s works before dispatch, packing, supply, including insurance during transit, delivery at site as specified</p>

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	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).
22.0	Employer Supervision
22.1	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.
22.2	<p>The scope of the duties of the Employer, pursuant to the contract, will include but not be limited to the following.</p> <ul style="list-style-type: none"> a) Inspect, accept or reject any material and work under the Contract. 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) Issue certificate of acceptance and/or progressive payment and final payment certificate.
23.0	Packing:
	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.
	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.
	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.
	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.
	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.
24.0	Inspection & Inspection certificate:
	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.
	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.
	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.
	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.
25.0	Materials handling and storage:
	<p>(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.</p> <p>(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.</p> <p>(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.</p> <p>(d) All items shall be handled very carefully to prevent any damage or loss. The materials stored shall be properly protected to prevent damage.</p> <p>(e) All the materials stored in the open or dusty location must be covered with suitable weatherproof and flameproof covering material wherever applicable.</p> <p>(f) The Employer will verify the storage facilities arranged by the contractor and dispatch clearance will be provided only after Employer is satisfied.</p>
26.0	<p>TYPE TEST REPORTS</p> <p><i>Equipment, which have never been tested for critical performance, shall not be accepted. In such cases ,a promise or agreement by a bidder to have the equipment tested after award of a contract is not acceptable.</i></p> <p><i>All bids must be accompanied by the full Type Test Certificates of equipment offered. Such type test certificates shall be acceptable only if:-</i></p>

27.0	<ol style="list-style-type: none"> 1. Tests are conducted in an independent and well known testing laboratory, or 2. Tests are conducted in manufacturer's own laboratory. In this case <ol style="list-style-type: none"> (i) the laboratory must have ISO9000 (or its equivalent) series certification; and (ii) tests have been witnessed by technically qualified representatives of earlier clients or purchaser. <p><i>Test reports to be acceptable must be related directly to the materials offered. Test reports for higher class of equipment are acceptable with commitment to perform the type tests free of any charge on the particular equipment(s) after the award of contract.</i></p> <p><i>Type Test Reports older than five (5) years on the date of Technical bid opening shall not be accepted.</i></p> <p>GENERAL TECHNICAL REQUIREMENTS FOR 132KV CAPACITIVE VOLTAGE TRANSFORMER:</p> <p>The Guaranteed Technical Particulars of the various items shall be furnished by the Bidders in the prescribed Schedules of this Section with the Technical Bid. The Bidder shall also furnish any other information 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 whatsoever shall be given to the bidder offering better/more stringent values than those required as per specification except where stated otherwise.</p> <ol style="list-style-type: none"> a. The CVT shall operate satisfactorily in system with high X/R ratio. (Tp=100 ms.). b. The CVT transformer tanks along with top metallic part shall be galvanized and painted to required shade. c. Impregnation details along with tests and checks to ensure successful completion of impregnation cycle shall be furnished for AEGCL's approval. d. Bellows, if used to cater for expansion of insulating oil, shall be tested in accordance with relevant standards. The details shall be subject to the approval of the AEGCL. e. The CVT shall be capacitor voltage type with electromagnetic units and shall be suitable for carrier coupling. f. All windings of voltage transformer secondaries shall be protected by HRC cartridge type fuses. The secondary terminals of the CVTs shall be terminated to stud type non-disconnecting terminal blocks in the individual phase secondary boxes via the fuse. Fuse ratings shall be clearly mentioned. g. CVTs shall be suitable for high frequency (HF) coupling, required for power line carrier communication. The carrier signal must be prevented from flowing into potential transformer (EMU) circuit by means of a RF choke/reactor, suitable for effectively blocking the carrier signal over the entire carrier frequency range i.e. 40 to 500 KHZ. Details of the arrangement shall be furnished along with the bid. HF terminal of the CVT shall be brought out through a suitable bushing and shall be easily accessible for connection to the coupling devices of the carrier communication equipment, when utilized. The bushing shall be fully protected against rain and vermin so as to avoid the possibility of short circuits to earth. An earthing link with fastener shall be provided for HF terminal. Test tap for Tan-delta and capacitance shall be provided.
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27.1

- h. The electromagnetic unit, comprising compensating reactor, intermediate transformer and protective and damping devices should have a separate terminal box with all secondary terminals, brought out.
- i. The accuracy of three secondary windings (0.2/3P/3P) shall be maintained throughout the entire burden range preferably in the frequency range of 48 HZ to 51.5 HZ on all the three windings without any adjustment during operation. Preference will be given to such bidders who can offer for maintaining the above accuracy class in the frequency range i.e. 48 HZ to 51.5 HZ up to the above specified burden values.

Constructional Features:

- a. The 132KV CVT shall be suitable for mounting on support structure of lattice type structures.
132KV CVT shall be suitable for mounting on support structure of lattice type structures.
- b. Access to secondary terminals shall be possible without any danger of access to high voltage circuit.
- c. CVTs shall be hermetically sealed units.
- d. **A protective surge Arrester/spark gap shall be provided to prevent break down of insulation by incoming surges and to limit abnormal rise of terminal voltage of shunt capacitor/primary winding, tuning reactor/RF choke etc. due to short circuit in transformer secondaries. Surge arrester shall be provided in the secondary winding also.**
- e. The CVT secondary terminals shall brought out into a weatherproof terminal box for ease of access. The terminal box shall have an IP rating of not less than IP 55. The terminal box shall be provided with a removable gland plate at the bottom and shall be suitable for accepting the required number of PVC insulated PVC sheathed, 10 core 2.5 mm² standard copper conductor cable.
- f. All terminals shall be clearly marked to facilitate connection of secondary wiring.
- g. Secondary fuses or MCBs shall be provided on or adjacent to each CVT, located such that they are accessible while the primary is live and shall be provided with labels indicating their function and their phase colours. CVT secondary circuits shall be complete in themselves and shall be earthed at one point only. A separate earth link shall be provided for each secondary winding and shall be located at the CVT. Primary earthing links should be provided.
- h. To prevent ferro resonance, suitable damping devices shall provide for connection to the CVT secondaries.
- i. CVTs shall meet the requirements, given in this section of the specification.
- J. The creepage and flashover distances of the high voltage insulator shall be suitable for the outdoor service conditions, specified in the GTP.
- k. The bidder in the offer is to state the suitable precautions/methods, adopted during design stage of the CVT to avoid the un-desirable effects due to ferro resonance phenomena. The precautions/methods include lower level of working flux density in EMU, greater utilization of the linear portion of the magnetization curve, providing an air gap in the magnetic circuit, connecting a suitable damping resistance permanently across the secondary etc.
- l. It should be stated in the bid offer regarding the steps taken in the design stage for elimination/minimization of the influence of the transient response on the behaviour of high-speed relays.
- M. It shall be ensured by the bidder in the offer that the connection of carrier, frequency coupling device across the CVT will not affect the designated accuracy class of the CVT windings.
- N. The capacitor divider unit shall comply to IS: 9348/1979.
- o. It shall also be complied in the offer through a calculation sheet, proving that the designated accuracy class of the CVT (both metering and protection) are not affected by extreme temperatures, to be encountered in service conditions (Max. ambient temperature 50° C and minimum -0° C).The terminal connectors should be suitable for 'ACSR' Conductor as per site requirement.

27.1.1	TESTS:
27.1.2	<p>Type Tests:</p> <p>The offered 132KV capacitive voltage transformer should have been subjected to the following type tests in a Government approved(NABL) Test Laboratory. The bidder shall furnish type test reports along with the offer. These tests must not have been conducted earlier than five years from the date of opening of the bid. For any change in the design/type already type tested and the design/type offered against this specification, the AEGCL reserves the right to demand repetition of some or all type tests/special tests without any extra cost to AEGCL in the presence of AEGCL's representative at the cost of the supplier.</p>
27.1.3	<p><u>For 132kV CVT.</u></p> <p><u>Type Tests/Special Tests for 132kV CVT:</u></p> <ul style="list-style-type: none"> a) Lightning Impulse voltage test on complete CVT unit. b) Power frequency over-voltage test on complete CVT unit. c) Partial discharge test. d) Radio interference voltage test/Corona Extinction Test f) Temperature rise test on complete CVT unit. g) Ferro resonance test on the complete CVT unit. h) Transient response tests/ Fast transient test. i) Determination of Temperature Co-efficient test. j) High frequency capacitance and equivalent resistance measurement test (as per IEC-358) k) Stray capacitance and stray conductance test (as per IEC-358). l) Accuracy tests. m) Thermal stability test. n) Thermal Co-efficient test (as per IEC-358) p) Seismic withstand test. q) IP-55 test on secondary Terminal Box. r) Magnetization and internal burden tests. s) Effectiveness of sealing tests. t) Mechanical Terminal load test on Bushing. u) Dielectric loss angle test (Tan Delta Test). v) Switching impulse withstand test w) Critical impulse withstand voltage of insulator housing <p>N.B: 1. The dielectric type tests shall be carried out on the same design and type of CVT. 2. After the CVT is subjected to the dielectric tests, it shall be subjected to all routine tests as per relevant standards. 3. The ratio errors, phase displacements before, during and after the temperature rise test on complete CVT unit shall be determined with stipulated burdens and the same should comply with the designated accuracy class for each winding of the CVT.</p>
27.1.4	<p>Routine Tests:</p> <p>The following routine tests shall be conducted on each CVT in the presence of AEGCL's representative for which no charges will be payable by AEGCL.</p> <ul style="list-style-type: none"> (a) Verification of terminal markings. (b) Power frequency withstand tests on primary windings/capacitor voltage divider for CVT (c) Partial discharge measurement for 132kV CVT. (d) Power frequency withstand tests on secondary windings/Low voltage terminal of the capacitor divider for 132kV CVT. (e) Power frequency withstand tests between sections. (f) Determination of errors on complete CVT. (g) Measurement of Insulation resistance. (h) Oil leakage test.

<p>27.1.5</p>	<p>(i) Measurement of capacitance and dielectric dissipation factor before and after dielectric tests (as per IEC-358)</p> <p>(j) Power frequency tests on electromagnetic unit for 132kV CVT.</p> <p>(k) Any other test as per relevant national & international standards.</p> <p>(l) Creepage distance measurement test</p> <p>N.B.: Determination of errors shall be performed after the other tests. The standard reference CVT to be used during testing for determination of ratio error and phase angle error should of 0.05 accuracy class or better as per standard practice, presently adopted by AEGCL.</p> <p>INSPECTION:</p> <ol style="list-style-type: none"> 1. The AEGCL shall have access at all times to the works and all other places of manufacture, where the CVTs are being manufactured and the supplier shall provide all facilities for unrestricted inspection of the supplier's works, raw materials, manufacturer of all the accessories and for conducting the necessary tests. 2. The Supplier shall keep the AEGCL informed in advance of the time of starting and of the progress of manufacture of equipment in its various stages so that arrangement could be made for inspection at the discretion of the AEGCL. 3. No material shall be dispatched from its manufacture unless the material has been satisfactorily inspected, tested and dispatch clearance issued. However, the AEGCL reserves the right to alter the despatch schedule attached to this Specification. 4. The acceptance of any quantity of equipment shall in no way relieve the supplier of his responsibility for meeting all the requirements of this Specification and shall not prevent subsequent rejection, if such equipments are found to be defective. 5. Clear 15 (Fifteen) days' notice shall be given to this office for deputing officer(s) for inspection. The CVT shall be despatched only after the inspection is conducted by a representative of AEGCL and release order, issued from AEGCL after approval of Routine Test Certificates. The shop routine test certificates in triplicate for all the CVT along with the calibration certificates of all the meters and equipments to be used during testing (as per Annexure-B of the Specification) should be furnished along with the Inspection Offer. The Inspecting Officer will be authorised for inspection of the CVT subject to the condition that the routine test certificates and calibration certificates of the testing equipments/meters will be found to be in order. <p>27.1.6</p> <p>QUALITY ASSURANCE PLAN:</p> <ol style="list-style-type: none"> 1. The Bidder shall invariably furnish following information along with his offer. <ol style="list-style-type: none"> (i) Statement giving list of important raw materials, names of sub-suppliers for the raw materials, list of standards, according to which the raw materials are tested, list of tests, normally carried out on raw materials in presence of Bidder's representative, copies of test certificates. (ii) Information and copies of test certificates as in (i) above in respect of bought out items. (iii) List of manufacturing facilities available. (iv) Level of automation achieved and list of areas where manual processing exists. (v) List of areas in manufacturing process where stage inspections are normally carried out for quality control and details of such tests and inspection. (vi) Special features provided in the equipment to make it maintenance free. (vii) List of testing equipments, meters and test plant limitation, if any, vis-à-vis the type, acceptance and routine tests, specified in the relevant standards. These limitations shall be very clearly brought out in the offer. (viii) All the testing equipments, meters etc. should have been calibrated in a Government(NABL) approved laboratory. The Bidder must submit the list of testing equipments and meters test as per the Technical Specification. (ix) QAP shall include acceptance criteria against all parameters with relevant clause of standards <p>The Supplier shall within 30 days of placement of order submit the following information to</p>
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	<p>the Purchaser.</p> <ul style="list-style-type: none"> (i) List of raw materials as well as bought out accessories and the names of the materials as well as bought out accessories and the name of Sub-suppliers selected from those, furnished along with the offer. (ii) Type test certificates of the raw materials and bought out accessories. (iii) Quality Assurance Plan (QAP) with hold points for the AEGCLs possible inspection. The QAP and hold points shall be discussed between the AEGCL and the Supplier before the QAP is finalised. <p>The Supplier shall submit the routine test certificates of bought out items and raw materials at the time of acceptance testing of the fully assembled equipment.</p>
27.1.7	<p>DOCUMENT:</p> <p>The supplier shall furnish four sets of following drawings/documents along with his offer.</p> <ul style="list-style-type: none"> (a) General outline and assembly drawings of the Capacitive Voltage Transformers. (b) Sectional views showing: <ul style="list-style-type: none"> i) General constructional features. ii) Materials/gaskets/sealing used. iii) The insulation of the winding arrangements, method of connection of primary/secondary winding to the primary/secondary terminals etc. (c) Schematic drawing. (d) Rating & diagram plate as per relevant IEC/IS (e) Secondary Terminal Box. (f) Assembly Sectional view of Primary terminal/capacitor voltage divider (g) Assembly drawing for secondary terminal (h) The detailed dimensional drawing of Porcelain Housing such as ID, OD, thickness and insulator details such as height, profile of petticoats, angle of inclination and gap between successive petticoats, total creepage distance etc. (i) Sectional view of pressure release device. (j) Drawing showing details of Oil level. (k) All type test reports relating to the tests as specified in Clause-8.1 of the above. (l) Ratio and phase angle error curves for CVTS (m) Magnetization characteristic curves such as B-H curves and Sp. Loss vs. Flux density curves for core material used for EMU unit of CVT. (n) Sectional view of EMU unit of CVT. (o) Schematic diagram showing the working of CVT in PLCC.
28.0	<p>TEST REPORTS:</p> <ul style="list-style-type: none"> (i) Type test/special test reports shall be furnished to the AEGCL with the tender offer. (ii) Copies of acceptance test reports and routine test reports shall be furnished to the AEGCL. One copy will be returned, duly certified by the AEGCL and only thereafter shall the materials be despatched. (iii) All records of routine test reports shall be maintained by the supplier at his works for periodic inspection by the AEGCL. (iv) All test reports of tests conducted during manufacture shall be maintained by the supplier. These shall be produced for verification as and when required for by the AEGCL. <p>The necessary galvanization certificate for galvanized flanges, bolts, structures etc. for the base of the Capacitive Voltage Transformers shall be supplied without any extra cost to the AEGCL.</p>
28.1	<p>GENERAL TECHNICAL REQUIREMENTS FOR 33KV POTENTIAL TRANSFORMER:</p> <p>Standards :</p> <p>The Potential Transformers and accessories covered by this specification shall comply with the requirement of the latest edition of the following standards unless otherwise stated in this</p>

	<p>specification :</p> <p>IS : 3156 Part (I-IV) : Specification for Voltage Transformer.</p> <p>IS : 4146 : Application guide for Voltage Transformers.</p> <p>IS : 2099 : Specification for Bushings for alternating voltages above 1000 Volts.</p> <p>IS : 5621 : Specification for porcelain hollow insulator.</p> <p>IS : 335 : Specification for Insulating Oil.</p> <p>IS : 3024 : Specification for Core Materials.</p> <p>IS : 8603 : Specification for Dimension for Porcelain Transformer Bushing for use in heavily polluted area.</p> <p>IS : 3347 : Specification for Dimension for Porcelain Transformer Bushing for use in normal and lightly polluted area.</p> <p>IS : 2633 : Specification for method for testing uniformity of coating on Zinc coated articles.</p> <p>IS : 5561 : Specification for Electrical Power Connectors.</p> <p>IS : 2147 : Specification for Degree of Protection</p> <p>DESIGN & CONSTRUCTION OF POTENTIAL TRANSFORMERS :</p> <ol style="list-style-type: none"> 1. The design features and construction details of Potential Transformers shall be in accordance with the requirement as stipulated hereunder :- 2. The Potential Transformers shall be complete in all respects and shall conform to the modern practice of design and manufacture. 3. The Potential Transformers shall be electromagnetic, outdoor type, single phase, oil filled, self cooled, having shaded porcelain bushing as per IS: 2099, suitable for operation under the service conditions without protection from sun, rain and dust. 4. The maximum temperature rise at 1.1 times rated primary voltages, rated frequency and rated burden, will be within the limits of relevant IS/IEC, considering ambient temperature 40 ° Celsius for design purpose. 5. The Potential Transformer shall be capable to withstand line discharge effect and also the ferro resonance effect. 6. The Potential Transformers shall be suitable for up right mounting on steel structures. Necessary flanges, bolts, clamps fittings etc. for base of P.T. are within the scope of the supplier. 7. The P.T. shall be complete with all accessories like Primary Terminals, Terminal Connectors, suitable for ACSR 'PANTHER' weather proof Terminal Box for secondary connection, lifting lugs, grounding terminals, oil sight glass, pressure relief device, filling and draining plugs and name plate. 8. The P.T. shall be oil immersed type provided with class A insulation. It shall be of hermetically sealed type construction to prevent air & moisture from entering the tank. 9. The core of the PTs shall be high grade non-aging, silicon laminated steel of low hysteresis loss and high permeability to ensure high accuracy at both normal and over voltages conforming to IS:3024. 10. PT Characteristics shall be such as to provide satisfactory performance for burdens ranging from at least 25% to 100% of rated burden over a range of at least 5% to 100% & 190% rated voltage in case of protective cores and a voltage range of 80% to 120% (0.8 pf lagging) in case of measuring cores.
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11.	<p>The P.T. secondary terminals shall be brought out through fuse of suitable rating in a weather proof terminal box for easy access. The primary neutral to be earthed through a detachable link separately in the secondary terminal box having a partition from the secondary terminals.</p> <p>PT Stud sizes shall be as follows :</p> <p>a) Primary Terminal : Primary Stud of the PT will be of plain solid round (threading is not required) with Tin Plated Electrolytic Copper having minimum Diameter of 16 mm (negative tolerance is not allowed) and minimum outside length of 80 mm.</p> <p>b) Secondary Terminal : M8 type with 70 mm long Nickel Plated Brass with suitable size along with suitable nuts & washers.</p>
28.2	<p>BUSHING :</p> <p>1. Porcelain bushing conforming to latest edition of IS:8603 & IS:3347 shall be used for the PT.</p> <p>2. Cast metal end caps for the bushing shall be of high strength & made of brass. They shall have smooth surface to prevent discharge taking place between the metal parts and porcelain as a result of ionisation.</p> <p>3. The insulation of bushings shall be co-ordinated with that of the Potential Transformer such that the flashover, if any will occur only external to the PT.</p> <p>4. Primary terminals shall be complete with suitable rigid type terminal connector suitable for PT Stud to ACSR Dog conductor.</p> <p>5. Each of the porcelain bushing/hollow insulator shall have Creepage distance for specified voltage class.</p> <p>6. Oil level gauge and convenient means of oil and nitrogen filling, sampling and draining of oil is to be provided in Tank.</p>
28.3	<p>INSULATING OIL :</p> <p>The insulating oil to be used for PT shall comply in all respect with the provisions of the latest edition of IS : 335.</p>
28.4	<p>GROUNDING TERMINALS :</p> <p>Two grounding terminals on diagonally opposite sides of adequate size suitable for Connecting MS Flat of size 50 mm. x 6 mm. shall be provided. HV Neutral Terminal earthing and body earthing should be marked distinctly and be physically well separated. The terminal of high voltage winding intended to be earthed shall be brought out through a bushing, insulated from case or frame to be earthed by a separate arrangement.</p>
28.5	<p>TERMINAL CONNECTORS :</p> <p>1. The primary terminal connector shall be made of Aluminium alloy.</p> <p>2. All castings of connectors shall be free from blow holes, surface blisters, cracks and cavities. All sharp edges or corners shall be rounded off.</p> <p>3. No part of the connectors shall be less than 10 mm. thick.</p> <p>4. All ferrous parts shall be hot dip galvanised conforming to IS:2633.</p>

5.	Bi-metallic strips and sleeves, if require, shall be provided loose of about 2 mm. thickness as a part of connector.
6.	All current carrying parts of the connectors shall have minimum contact resistance.
7.	Connectors shall be corona controlled and shall conform to IS:5561.
8.	Connectors shall conform to type test as well as to routine test as per IS:5561.
9.	Connectors shall be suitable for connection with ACSR 'PANTHER' to PT terminal along with suitable nuts bolts & washers.
28.6	<p>SECONDARY TERMINAL BOX :</p> <p>All secondary terminals shall be brought out in a compartment on one side of each Potential Transformer for easy access.</p> <p>The exterior of this terminal box shall be hot-dip galvanized / painted with weather proof paint.</p> <p>The secondary terminal box shall be provided with a removable cable gland plate at bottom for mounting cable glands of 1.1 KV grade steel wire armored, PVC insulated PVC sheathed 4 core (4 sq.mm.) stranded copper conductor cables. The cable glands shall be included within the scope of supply. The number of cable glands are equal to number of cores in the PT.</p> <p>The terminal box shall be provided with a detachable cover plate in front so as to have easy access of secondary terminals. The cover shall have a sealing arrangement and shall be suitable to prevent ingress of moisture and rain water. The sealing arrangement shall be done by drilling holes in the tightening bolts of the cover. The degree of protection shall be not less than IP-55 as per IS- 2147.</p> <p>All terminals shall be clearly marked with identification number to facilitate connection to external wiring with sufficient space in between.</p>
28.7	<p>PAINTING :</p> <p>P.T. Tank wherever applicable, along with top metallic shall be either hot dip galvanized or painted. All steel surfaces shall be cleaned by sand blasting or chemical process as required to produce a smooth surface, free of scale, grease and dirt. Steel surfaces in contact with insulating oil shall be painted with heat resistant oil insoluble insulating varnish.</p> <p>External surfaces shall be given a coat of high quality red or yellow chromate primer and finished with two coats of synthetic enamel paints (Battleship gray as per IS:5) / Epoxy paint. The paints shall not scale off or crinkle or be removed by abrasion due to normal handling.</p>
28.8	DEVIATION : Normally the offer should be as per Technical Specification without any deviation. But any deviation felt necessary to improve performance, efficiency and utility of equipment must be mentioned in the Deviation Schedule with reasons duly supported by documentary evidence. Such deviations suggested may or may not be accepted by the AEGCL
28.9	<p>RATING PLATE / NAME PLATE PARTICULARS : The name plate shall be fixed in non detachable portion of the PT. It shall contain the following data engraved / painted on it :</p> <p>a . Name of the manufacturer.</p> <p>b . Purchase order reference.</p>

	<p>c . Electrical diagram of PT. d . Ratio, Class, Burden, HSV etc. e . Serial number f . Year of manufacturer g . Guarantee for Five Years h . Any other information as deem feet.</p> <p>The name plate diagram shall be submitted along with the drawing for approval.</p>
28.10	<p>DRAWINGS :</p> <p>The bidder shall submit to AEGCL the following tender purpose drawing drawings along with tender documents. The drawings in line with tender specification shall also to be submitted after issuance of order for approval :</p> <p>General outline dimension drawing of Potential Transformers furnishing front and side elevation top and bottom plan views, showing all accessories, mounting arrangement on steel structures, spacing and size of the bolts, details of expansion chamber, total and protective creepage distance of bushing, electrical diagram for primary and secondary windings with polarity mark, technical arrangement for secondary terminal box, size of primary terminals, grounding terminals and lifting lugs, quantity of insulating oil, net and shipping weight, shipping dimension, fixing hole centre dimensions etc.</p> <p>It should be noted that :</p> <ol style="list-style-type: none"> 1. All notes and legends of the drawings shall be furnished in English and all dimensions shall be marked in metric units. Purchase Order No. shall be mentioned in the drawings. 2. Equipment shall be manufactured as per approved drawings. 3. Terminal Connectors & Bushings. 4. Four sets of approved drawings shall be submitted for our record. One set of drawing to be sent to each Consignee.
28.11	<p>TYPE TESTS :</p> <p>Copies of following type test report as per latest IS / IEC, carried out within five (5) years, from due date of tender, from CPRI, NABL accredited/ government recognized test house or laboratory on tendered item of identical design shall be submitted along with tender documents as pre- requisites failing which their offer may not be technically acceptable.</p> <ol style="list-style-type: none"> a. High voltage Power frequency wet withstand voltage test. b. Lightning impulse voltage withstand test c. Temperature rise Test d. Determination of error. <p>Each Type Test Report shall comply with the following information with Test results :</p> <ol style="list-style-type: none"> a) Complete identification, date and serial no. b) Method of application where applied, duration and interpretation of each Test. <p>The Type Test Certificates should, however, bear the Logo of NABL accreditation.</p>
28.12	<p>TESTS AT FACTORY AND TEST CERTIFICATES</p> <p>Each PT shall comply with the requirements of Type Tests & Routine Test as specified in relevant IS 3156.</p> <p>All routine test at manufacturer's works on all PTs shall be carried out and Test Reports are to</p>

be submitted to O/O AGM, Nagaon T&T Division.

28.13

ACCEPTANCE TEST :

The following Acceptance tests shall be carried out at manufacturer's works on every lot offered for inspection as per relevant IS in presence of the AEGCL's and Contractors' representatives. Selection of samples for acceptance test as well as rejection and retesting shall be guided by relevant IS. In addition to above, all routine tests are also to be carried on the tendered items as per relevant IS. The entire cost of acceptance and routine test that to be carried out shall be treated as included in the quoted price of tendered items. (i) Visual checking and verification of dimension including verification of terminal marking and polarity. (ii) Determination of errors and other characteristics as per specification (iii) Power Frequency voltage withstand test on both primary & secondary winding.

28.14

MANDATORY PARTICULARS OF 33 KV O/D POTENTIAL TRANSFORMER

Description	Particulars	33 KV, Out Door, Single Phase, Oil Cooled Potential Transformer
Reference Standard		IS : 3156
Type		Dead tank
Rated voltage		33 KV
Highest voltage		36 KV
Frequency		50 Hz.
Basic Insulation Level Primary		36 KV / 70 KV / 170 KV(p) Secondary : 3 KV for 1 minute
Class of insulation		Class A
Creepage distance		900 mm (minimum)
Ratio		33000/ $\sqrt{3}$: 110/ $\sqrt{3}$ – 110/ $\sqrt{3}$ Volt
Class of accuracy		Core - I : 0.2, Core - II : 3P Burden Core - I : 100 VA, Core - II : 100 VA
Voltage factor		1.2 Continuous, 1.5 times for 30 Sec
Core identification		. Core - I : Metering, Core - II : Protection
Place of installation		Out Door, Structure mounted
Primary terminal connector		Rigid type suitable for PT Stud to Panther ACSR
Fixing hole dimension		330 mm both X & Y direction
Painting Paint shed		Battleship gray as per IS 5
Paint thickness		60 micron (minimum)
Secondary terminal box		IP 55
Suitability		Should be suitable for upright mounting on Steel Structure in outdoor Switch yard with matching to AEGCL's Standard base structure
Guarantee		5 (five) years from the date of last dispatch of any integral part of the equipment.

29.0

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

30.0	Liquidated Damage:
	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:
30.1	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.
30.2	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.
30.3	Contractual failure:- Refer clause No.27.1 of AEGCL's General Conditions of supply and erection 2009.
31.0	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.
32.0	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.
33.0	Warranty:
33.1	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.
33.2	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. The supplier will provide warranty for the works executed by them.
33.3	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.
33.4	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.
33.5	The term period of warranty shall mean the period of 18 months from the date of supply of materials. The successful bidder should warrant the free replacement of any damaged/malfunctioning equipment and its accessories during the warranty period .
34.0	Safety:
34.1	Each and every safety measures for MAN and MACHINE will be the sole responsibility of the

34.2	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.
35.0	COVID-19 rules must be strictly followed during the working period.
35.0	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.
36.0	Payment terms:
36.1	No advance/Mobilization advance shall be made in this contract.
36.2	Payment will be made by DGM, Tezpur (T&T) Circle, AEGCL, Kunderbari, Depota. The Bidder / Firm will have to be submitted the following Net Banking details. (a) Banker's Name & Branch (b) Account No (c) Banker's address (d) Banker's IFSC Code (e) Banker's RTGS Code
37	Performance security deposit:
37.1	The successful bidder shall have to deposit through a Bank Guarantee/Demand Draft 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, BijuleeBhawan, 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, Tezpur-784001 by the issuing Bank under registered post AD.
37.2	Please note that, if the selected Bidder / Firm fails to furnish the requisite performance security as stated above and signs the contract within the stipulated period, 10 percent security money will be deducted from the total Bill value.
37.3	If the bidder / firm fails or neglects to observe and perform any of his obligations under the contract, Purchaser (AEGCL) shall have the right to forfeit either in full or in part at his absolute discretion, the security deposit furnished by the Contractor/Firm.
37.4	No interest shall be payable on such deposits.
37.5	The supplier has to supply the materials to the consignee as mentioned in the bid. After receiving the consignment by the Silchar T&T Division, intimation to be given by the Silchar T&T Division to the AGM, Depota Division for processing of bill and the official transformation.
38	Retention Money:
38.1	In addition to above performance security deposit, retention money @ 20% of the total value of the order will be retained by the Engineer/Purchaser as per Bid Clause 34. The amount will be held by the Purchaser (AEGCL) till the work under the contract is completed and the completion certificate is issued.
38.2	If the Firm/Bidder fails or neglects to observe and perform any of his obligations under the contract, the Purchaser (AEGCL) shall have the right to forfeit either in full or in part at his absolute discretion, the security deposit furnished by the supplier/contractor.

38.3	No interest shall be payable on such deposit.
39.0	Force Majeure Condition:
	Force Majeure condition shall be considered as any circumstances beyond reasonable control of the party claiming relief, including but not limited to strikes, lockout, civil commotion, riot insurrection, hostilities, mobilization, war, fire, flood, earthquake, malicious damage or accidents could entitle contractor to extension time. Any such delay should intimated within 10 (ten) days from the beginning of such delay to consider/approved, any claim without prior information may not be considered under force Majeure.
40.0	Settlement of Dispute and Arbitration:
	Any dispute arising out of the contract will be first settled bilaterally between AEGCL and Contractor. In case, dispute cannot be settled bilaterally, it will be referred to arbitration to be by an arbitrator appointed by AEGCL. The contractor shall not stop the work during settlement of any dispute. All disputes shall be subjected to the jurisdiction of District Court of Kamrup District.
41.0	Right to Reject:
	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

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

Schedule no. 1 and 1(a): Supply and F&I against supply of items

Sl. No.	Item Description	Unit	Qty	Rate (in Rs)	Unit F&I (Rs.)	Total Unit rate(Rs)	Total price (In Rs)
1	Supply of 132kV CVT complete with terminal connectors etc. as per specifications	Nos.	4				
	Supply of 33kV PT, 33/V3 ,110/V3/110/V3 Volt complete with all fittings and accessories including terminal connectors						
Total							
CGST @ 9%							
SGST@ 9%							
Total							

Rupees in words

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 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	
	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- 33)	: 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	: Yes/No
13)	PAN card as per Cl. No. 15.3.2	: Yes/No
14)	GST registration no. as per Cl. No. 15.3.4	: Yes/No
15)	Registered Power of Attorney as per Cl.no. 15.3.6 enclosed.	: Yes/No

Name of the Bidder:-

Signature of the Bidder/Firm

Full Name

Postal Address

Phone/Mobile No.

ANNEXURE-II**TECHNICAL REQUIREMENTS FOR 132kV CAPACITIVE VOLTAGE TRANSFORMER.***(To be filled in by Bidder and shall be furnished with the Technical Bid)***GTP-1**

Sl. No.	Particulars	132kV CVT
1	Type	
2	Nominal system voltage.	
3	Highest system voltage.	
4	Frequency.	
5	System earthing.	
6	Number of phases.	
7	(i) Number of secondary windings. (ii) Purpose of windings.	
8	Rated primary voltage.	
9	Rated secondary voltage.	
10	Ratio	
11	Rated burden.	
12	Accuracy class	
13	Rated voltage factor at rated frequency.	
14	Temperature rise at 1.2 times the rated primary voltage, rated frequency & rated burdens.	
15	Temperature rise at 1.5 times the rated primary voltage for 30 seconds, rated frequency & rated burden.	
16	One-minute power frequency dry/wet withstands test voltage for primary winding.	
17		
18	1.2/50 micro second impulse withstand test voltage for primary winding	
19	One-minute power frequency withstands test voltage for Secondary winding	
(i)		
(ii)	Between LV(HF) terminal & earth terminal	
20	Class of insulation.	
21	Material of the conductor of primary and secondary windings.	
22	Fault level	
23	Minimum creepage distance.	
24	Quality of oil.	
25	Radio interference voltage at 1.1 times maximum rated voltage at 1.0 MHZ.	
26	Partial discharge level.	
27	Seismic acceleration Horizontal – Vertical –	

28	Accuracy class of standard V.T. to be used during testing towards determination of ratio errors and phase angle errors for metering windings.	
29.	Capacitance (Pf)	

GTP-2

Sl. No.	Particulars	33kV PT
1	Name of the manufacturer	
2	Factory address	
3	Equipment	
4	Reference Standard	
5	Type	
6	Rated voltage	
7	Highest voltage	
8	Frequency	
9	Basic Insulation Level	
10	Class of insulation	
11	Creepage distance	
12	Ratio	
13	Class of accuracy	Core - I : , Core - II :
14	Burden	Core - I : , Core - II :
15	Voltage factor	
16	Core identification	Core - I : , Core - II :
17	Place of installation	
18	Material & size of Primary Stud	
19	Material & size of Secondary Stud	
20	Primary terminal connector	
21	Fixing hole centre distance	
22	Painting process	
23	Paint shade	
24	IP of Secondary Terminal Box	
25	Weight of oil	
26	Volume of oil	

27	Height of PT		
28	Total weight of PT		
29.	Guarantee		
30	Type Test Report	Tested at	Date of Test
	a. High voltage Power frequency wet withstand voltage test		
	b. Lightning impulse voltage withstand test		
	c. Temperature rise Test		
	d. Determination of error		