

ASSAM ELECTRICITY GRID CORPORATION LIMITED

Regd. Office: 1st Floor, Bijulee Bhawan, Paltan Bazar, Guwahati – 781001

CIN: U40101AS2003SGC007238

Ph:- 0361-2739520/Fax:-0361-2739513 Web: www.aegcl.co.in



BID IDENTIFICATION NO: AEGCL/DGM/LAC/TT/TLS-69/2026/907; Dated: 15-09-2026

Bidding Document
For

**Supply, erection, testing and commissioning of 220V, 350 AH battery bank at 220kV
Rangia GSS, AEGCL.**

**DEPUTY GENERAL MANAGER,
LOWER ASSAM T&T CIRCLE, AEGCL
NARENGI, GUWAHATI-26.**

SECTION - 1
INSTRUCTION TO BIDDER

1.1.0 SCOPE OF BID :-

1.1.1. The **Deputy General Manager, Lower Assam, T&T Circle, AEGCL** on behalf of **Assam Electricity Grid Corporation Ltd**, hereinafter referred to as AEGCL or Purchaser invites sealed 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.

a) **NAME OF WORK :-** Supply, erection, testing and commissioning of 220V, 350 AH battery bank at 220kV Rangia GSS, AEGCL.

b) **ESTIMATED VALUE FOR THE WORK :-** Rs. 9,59,736.00 (Rupees Nine Lakh Fifty-Nine Thousand Seven Hundred and Thirty-Six) only including taxes.

c) **Fund: O&M HQ (LAR) fund for FY 2026-27**

d) **Key Dates: Refer to NIT.**

e) **Bidding address :-**

O/o The Deputy General Manager
Lower Assam, T&T Circle, AEGCL,
Narengi, Guwahati-26
[e-mail: dgmmtc.guwahati@aegcl.co.in]

f) **Interested bidders may purchase the tender documents from the office of The Deputy General Manager, Lower Assam, T&T Circle, AEGCL, Narengi, Guwahati-26 during office hours.** Bidders may obtain further information from the office of the Deputy General Manager, Lower Assam T&T Circle, AEGCL, Narengi, Guwahati - 781026, Assam.

g) **Cost of Bidding :-** The bidder shall bear all costs associated with the preparation and submission of its bid and AEGCL will in no case be responsible or liable for those costs. **The cost of the tender paper is Rs.1000/- (Rupees One Thousand) only to be pledged in favour of "AEGCL, Guwahati" (in the form of A/C payee DD/Bankers Cheque).**

1.2.0 BIDDING PROCEDURE :-

Two envelope bidding procedure will be adopted. Bidders are to submit two sealed envelopes simultaneously, one containing the technical & Commercial proposal, Part-I (Technical & Commercial Bid) and the other containing the price proposal Part-II (Price Bid), enclosed together in one sealed envelope. Initially, only the Part-I bids shall be opened. Part-I proposals submitted by bidders, which do not conform to the specified requirement, may be rejected as deficient bids. The Part-II (Price Bid) proposals of technically qualified bidders will be opened at a date and time, which will be informed to all the qualified bidders of Part-I.

1.3.0 SCOPE OF WORK :-

1.3.1 The brief description of the scope of work covered under this bidding document is furnished below:

- a. Design, manufacture and supply of reputed make of 220V, 350Ah, VRLA battery bank (110 cells) with stand and all other fittings and accessories at 220 KV Rangia GSS, AEGCL as per bid specification and price schedule.
- b. Erection, Testing and Commissioning of the 220V, 350Ah, VRLA battery bank at 220 KV Rangia GSS, AEGCL as per price schedule.

- c. Loading at manufacturer's works, transportation and delivery at the substation site, including unloading at destination site.
 - d. Freight & Transit Insurance, storage at site and site insurance of all materials at site shall be in the scope of the contractor.
 - e. Arrangements of any permits required for transportation and movement of supplied materials. However, AEGCL shall assist as far as practicable in the process.
- 1.3.2 The Bill of Quantities for indicative purposes is furnished in Price Schedules.
- 1.3.3 The bidder on its own responsibility may visit and examine the Site of Works and its surroundings and obtain information that may be necessary for preparing the bid. Any permits or licenses that may be required to execute the works should also be obtained by the contractor.
- 1.3.4 **The items mentioned in these Annexure shall only be used while quoting the bid prices. Any other items not specifically mentioned in the specification but which are required for installation, testing, commissioning and satisfactory operation of the equipment as per Indian Standards/IE Rules/IE Act and concerned authority regulations are deemed to be included in the scope of the specification and no deviation in this regard shall be accepted.**
- 1.3.5 **No modifications/additions/ deletions shall be made by the bidder to the items and quantities given in these schedules.**
- 1.3.6 **TIME OF COMPLETION:** The successful bidder will be expected to complete the works within **5 (Five) months from the date of acceptance of NOA/ techno-commercially clear order. However, the work to be completed as per the following work schedule:**

SI No	Description of work	Time schedule
1	Supply work (as per BoQ)	4 (Four) months from the date of drawing approval
2	Erection work (as per BoQ)	1 (One) month from date of handover of site

1.4.0 ELIGIBILITY CRITERIA OF THE BIDDER:

- 1.4.1 A Bidder may be a private entity or a government-owned entity or any combination of such entity 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.
- 1.4.2 In case of a **Joint Venture (JV)** :-
 When the bidder is a Joint Venture (JV) of two or more firms as partners, all partners shall be jointly and severally liable. The JV shall legally authorize one of the partners as the lead partner for the purpose of submitting the bid, incur liabilities; receive payments and instructions on behalf of the others. A copy of the notarized JV agreement, executed on non-Judicial stamp paper, shall be submitted with the bid. However, in case of successful bid, the agreement shall be signed by all the partners, so as to be legally binding on all the partners. All the partners of the Joint Venture shall be jointly and severally liable for the execution of the contract in accordance with the contract terms
- 1.4.3 A 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.
- 1.4.4 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.

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

1.5.0 FINANCIAL CAPABILITY

- 1.5.1 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. Wherever necessary the Employer may make enquiries with Bidder's bankers.

- 1.5.2 **Average Annual Turnover** : Minimum average annual turnover 50% of the total estimated value calculated as total certified payments received for contracts in progress or completed, within the last 3 (Three) Years.

- 1.5.3 Financial Resources: Bidder needs 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 cash-flow requirement of atleast 70% of the work value and
- (2) the overall cash flow requirements for this contract and its current works commitment.

- 1.5.4 Bidder must keep GST liabilities up to date and non-payment of GST liabilities and non-filing of relevant GST return more than 3 (three) months shall be reckoned as GST defaulter and this may be considered a cause for disqualification of a bidder and the bid may be rejected.

- 1.5.5 The Contractor must furnish their Bank Solvency Certificate to show the bidder's financial position indicating the amount by concerned authority in necessary format as per their banks

1.6.0 EQUIPMENT CAPABILITIES

- 1.6.1 The bidder should have assured access to supply of equipment as per bid and shall demonstrate that he or his supplier has capable of, manufacture & supply of such material. Bidders are required to demonstrate that based on known commitments the materials will be available for use in the proposed contract.

- 1.6.2 **Bidder may be manufacturer of the offered products or a firm/company having authorisation from a manufacturer. In case the bidder is not a manufacturer of the offered products, bidder must submit manufacturer's authorisation using for that purpose Form-MA provided in Section-3 Bidding forms.** Offered product's manufacturer must have least Five years of experience in design, manufacture and supply of 33kV or above rating surge arresters. The offered product's manufacturer must have supplied such equipment which are in successful operation for atleast three years. Bidder shall submit copy of orders and performance certificates to establish its eligibility.

1.7.0 EXPERIENCE:

- 1.7.1 Experience in 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.

- 1.7.2 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:

- (a) Three (3) similar completed works costing not less than 40% of total estimated cost.
- (b) Two (2) similar completed works costing not less than 50% of total estimated cost.
- (c) One (1) similar completed works costing not less than 80% of total estimated cost.

- 1.7.3 **Bidder may be manufacturer of the offered products or a firm/company having authorisation from a manufacturer. In case the bidder is not a manufacturer of the offered products, bidder must submit manufacturer's authorisation using for that purpose Form-MA provided in Section-3 Bidding forms.** Offered product's manufacturer must have least Five years of experience in design, manufacture and supply of 33kV or above rating equipment as specified in this bid. The offered product's manufacturer must have supplied such equipment which are in successful operation for atleast three years. Bidder shall submit copy of orders and performance certificates to establish its eligibility.
- 1.7.4 The Bidder must have experience of executing work of similar nature previously in any Govt. organization/ PSU. The bidder must submit experience and completion certificate for scrutiny by AEGCL. Each of such project/ works should consist of completion certificate.
- 1.8.0 LITIGATION HISTORY**
Bidders shall submit details of all litigation, arbitration or other claims, whether pending, threatened or resolved in the last five years, with the exception of immaterial claims with a cumulative impact of not more than 10% of their total assets. The Employer may disqualify bidders in the event that the total amount of pending or threatened litigation or other claims represent more than 50% of their total assets.
- 1.9.0 DOCUMENTS COMPRISING THE BID**
- 1.9.1 The bid submitted by the bidder shall comprise two envelopes submitted simultaneously, one containing only the technical proposal and the other the price proposal.
- 1.9.2 **The Technical Bid submitted by bidders shall contain the following:**
- a) Bid Submission Sheet
 - b) Documentary evidence to establish that the Bidder meet the qualifying requirements in accordance with Clause 1.5.0.
 - c) Documents to be furnished as per Clause 1.9.3
 - d) The Bid Guarantee (Bid Security) in accordance with Clause 1.20.0 & its sub-clauses of this Section.
 - e) All Bidding Schedules properly filled up including Price Bid Schedules.
 - f) All other information and documents such as Guaranteed and Technical Particulars, type test reports, drawings, technical leaflets etc, as required in the Technical Specification
- 1.9.3 **To establish its eligibility and qualifications to perform the contract, the bidder shall provide along with the above-mentioned documents the following additional documents (mandatory) on qualifying requirements such as:**
- a) *Copies of original documents defining the constitution or legal status, place of registration, and principal place of business, written power of attorney of the signatory of the Bid to commit the Bidder.*
 - b) *Copies of valid Trade License issued by competent authority in the State of Assam or in the State where the bidder's business is registered.*
 - c) *Copies of valid Labour License issued by competent authority in the State of Assam or in the State where the bidder's business is registered.*
 - d) *Copies of valid Electrical License for working in 132kV and above Grid Substations issued by competent authority in the State of Assam or in the State where the bidder's business is registered.*
 - e) *Copies of PAN, GST Registration Certificate as per Goods & Services Tax laws, EPF.*
 - f) *Experience in works of a similar nature and volume as per clause no. 1.8.0, and details of works under way or contractually committed in AEGCL or any other Govt. entity/PSU who may be contacted for further information on those contracts. Total monetary value of similar work performed by the bidder should also be submitted.*

- g) *Qualifications and experience of key site management and technical personnel proposed for the Contract.*
 - h) *Reports on the financial standing of the Bidder, such as profit and loss statements and audited annual accounts certified by CA of the company for the last three years including IT return duly acknowledged by the tax department for the last three years.*
 - i) *Evidence of adequacy of working capital for this contract (access to line(s) of credit and availability of other financial resources).*
 - j) *Information regarding any litigation, current or during the last five years, in which the Bidder is involved, the parties concerned, and disputed amount.*
- 1.9.2 Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements.
- 1.9.3 Notwithstanding anything stated herein above, AEGCL reserves the right to assess the capacity and capability of the bidder to execute the work, should the circumstance warrant such assessment in the overall interest of AEGCL.

1.10.0 DOCUMENTS ESTABLISHING CONFORMITY OF THE GOODS AND SERVICES

- 1.10.1 The documentary evidence of the conformity of the goods and services to the Bidding Document may be in the form of literature, drawings and data, and shall furnish:
- a) A detailed description of the essential technical and performance characteristics of the goods and services, including the functional guarantees of the Goods, in response to the Specification;
 - b) A commentary on the Purchaser's Specification and adequate evidence demonstrating the substantial responsiveness of the plant and services to those specifications. Bidders shall note that standards for workmanship, materials and equipment designated by the Purchaser in the Bidding Document are intended to be descriptive (establishing standards of quality and performance) only and not restrictive. The Bidder may substitute alternative standards, brand names and/or catalog numbers in its bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions are substantially equivalent or superior to the standards designated in the Specification.

1.11.0 SITE VISIT

The interested bidders are advised to visit any grid substation of AEGCL and examine the site of works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid. The costs of visiting the Site shall be at the bidder's own expense.

1.12.0 CLARIFICATION ON BIDDING DOCUMENTS :-

- 1.12.1 A prospective bidder requiring any clarification of the bidding documents may notify AEGCL in writing at the following address-

Deputy General Manager, Lower Assam T&T Circle, AEGCL, Narengi, Guwahati-26

AEGCL will respond to any request for clarification which it receives earlier than **7 (seven)** days prior to the deadline for submission of bids.

- 1.12.2 Verbal clarification and information given by AEGCL or its employee(s) or representative (s) shall not in any way be binding on AEGCL.

1.13.0 AMENDMENT OF BIDDING DOCUMENTS

- 1.13.1 At any time prior to the deadline for submission of bids, the AEGCL may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by issuing addenda.

- 1.13.2 Any addendum thus issued shall be part of the bidding documents pursuant to Sub-Clause, and shall be communicated in writing or by fax to all purchasers of the bidding documents. Prospective bidders shall acknowledge receipt of each addendum by fax to AEGCL.

1.14.0 LANGUAGE OF BID

- 1.14.1 The bid, and all correspondence and documents related to the bid, exchanged between the bidder and AEGCL shall be written in the English language. Supporting documents and printed literature furnished by the bidder shall also be in English language.

1.15.0 BID FORM AND PRICE SCHEDULES

- 1.15.1 The Bidder shall complete the Bid Form and the appropriate Price Schedules furnished in the bidding documents in the manner and detail indicated therein.

1.16.0 BID PRICES

- 1.16.1 Bidders shall give a breakdown of the prices in the manner and detail called for in the **Schedules of Prices**.

- 1.16.2 In the Schedules, Bidders shall give the required details and a breakdown of their prices, including all taxes, duties, levies, and charges payable as of twenty eight (28) days prior to the deadline for submission of bids, as follows:

- (a) Plant and equipment (**Schedules of Prices**) shall be quoted on an EXW (ex-factory, ex-works, ex-warehouse or off-the-shelf, as applicable). All taxes and duties taxes as applicable and freight and insurance shall be indicated separately.

- 1.16.3 Price Adjustment: Prices quoted by the Bidder shall be FIRM during performance of the contract. Duties and Taxes shall be adjusted, except there is variation due to changes in legislation of the Country.

1.17.0 INSURANCE

The Bidder shall insure the Works/Materials (in transit and at the site) in accordance with the requirements of General Conditions of Contract. The Bidder shall provide details of the policies that he intends to take out as part of his Bid submission. **The bid price shall include all costs in pursuance of fulfilling insurance liabilities under the contract.**

1.18.0 BID VALIDITY

- 1.18.1 Bids shall remain valid for a period of **180 (One Eighty)** days after the date of opening of Technical Bids.
- 1.18.2 In exceptional circumstances, prior to expiry of the original bid validity period, AEGCL may request that the bidders extend the period of validity for a specified additional period. The request and the responses thereto shall be made in writing. A bidder may refuse the request without forfeiting its bid security. A bidder agreeing to the request will not be required or permitted to modify its bid, but will be required to extend the validity of its bid security for the period of the extension, and in compliance with Clause 1.19.0 in all respects.

1.19.0 BID SECURITY (EARNEST MONEY)

- 1.19.1 **The Bidder shall furnish, as part of its bid with the Technical Proposal, a bid security in the amount of Rs. 19,200.00 (Rupees Nineteen Thousand Two Hundred) only.**
- 1.19.2 For participation in the bidding procedure, participants must compulsorily pay the Bid Security / Earnest Money Deposit in the form of DD/Fixed Deposit/bank Guarantee/Banker's Cheque in favour of '**AEGCL, Guwahati**'. The bid security shall remain valid for 30 days beyond the original validity period for the bid, and beyond any period of extension subsequently requested.
- 1.19.3 Any bid not accompanied by an acceptable bid security shall be rejected as non-responsive.
- 1.19.4 The bid securities of unsuccessful bidders will be returned as promptly as possible, against written request from the unsuccessful bidders.

- 1.19.5 The bid security of the successful bidder will be returned when the bidder has signed the Contract Agreement and furnished the required performance security.
- 1.19.6 The bid security may be forfeited
- (a) if the bidder withdraws its bid, except as provided in Sub-Clause 1.24.1;
 - (b) if the bidder does not accept the correction of its bid price, pursuant to Sub-Clause 1.24. or
 - (c) in the case of a successful bidder, if it fails within the specified time limit to
 - (i) sign the Contract Agreement,
 - (ii) furnish the required performance security.
- 1.19.7 No interest shall be payable by AEGCL on the above bid guarantee.

1.20.0 ALTERNATIVE PROPOSALS BY BIDDERS

- 1.20.1 Bidders shall submit offers, which comply with the Bidding Documents, including the basic AEGCL's Requirements as indicated in the bidding documents. Alternatives will not be considered. The attention of bidders is drawn to the provisions of Clause 1.29.0 regarding the rejection of bids which are not substantially responsive to the requirements of the bidding documents.

1.21.0 FORMAT AND SIGNING OF BID

- 1.21.1 The bidder shall prepare one original and two copies of the bid proposal, clearly marking each one as: "ORIGINAL- BID PROPOSAL, etc as appropriate. In the event of discrepancy between the original and any copy, the original shall prevail.
- 1.21.2 The original and all copies of the bid shall be typed or written in indelible ink (in the case of copies, Photostats are also acceptable) and shall be signed by a person or persons duly authorized to sign on behalf of the bidder. All pages of the bid where entries or amendments have been made shall be initialed by the person or persons signing the bid.
- 1.21.3 The bid shall contain no alterations, omissions or additions, except those to comply with instructions issued by AEGCL, or as necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person or persons signing the bid.
- 1.21.4 The Bidders must submit the Bid Guarantee in separate sealed envelope, super-scribed as under:
"BID GUARANTEE (Name of the Package)"
- 1.21.5 The Bid must contain the name, residence and place of business of the person or persons making the Bid and must be signed and sealed by the Bidder with his usual signature. The names of all persons signing should also be typed or printed below the signature.
- 1.21.6 Bids by Corporation / Company must be signed with the legal name of the Corporation/Company by the President, Managing Director or by the Secretary or other person or persons authorized to Bid on behalf of such Corporation/Company in the matter.
- 1.21.7 A Bid by a person who affixes to his signature the word 'President', 'Managing Director', 'Secretary', 'Agent', or other designation without disclosing his principal will be rejected.
- 1.21.8 Satisfactory evidence of authority of the person signing on behalf of the Bidder shall be furnished with the Bid.
- 1.21.9 The Bidder's name stated on the proposal shall be exact legal name of the firm
- 1.21.10 Bids not conforming to the above requirements of signing may be disqualified.
- 1.21.11 If the outer envelope is not sealed and not marked as above, AEGCL will assume no responsibility for the misplacement or premature opening of the bid.
- 1.21.12 The Bid must be accompanied with requisite BID SECURITY in a separate sealed cover.

- 1.21.13 The Bidders have the option of sending the Bids by post/courier or in person. Bids submitted by Telex/Telegram/Fax will not be accepted. No request from any Bidder to AEGCL to collect the proposal from Airlines/Cargo Agents etc shall be entertained by AEGCL.

1.22.0 DEADLINE FOR SUBMISSION OF BIDS

- 1.22.1 Bids must be received by AEGCL at the address specified above no later than refer to NIT.
- 1.22.2 AEGCL may, at its discretion, extend the deadline for submission of bids by issuing an addendum in accordance with Clause 1.13.0, in which case all rights and obligations of AEGCL and the bidders previously subject to the original deadline will thereafter be subject to the deadlines extended.

1.23.0 LATE BIDS

- 1.23.1 Any bid received by AEGCL after the deadline for submission of bids prescribed in Clause 1.22.0 will be rejected and returned unopened to the bidder.

1.24.0 WITHDRAWAL OF BIDS

- 1.24.1 The bidder may withdraw its bid after bid submission, provided that written notice of the withdrawal is received by AEGCL prior to the deadline for submission of bids.
- 1.24.2 The bidder's withdrawal notice shall be prepared, sealed, marked and delivered with the envelopes additionally marked "WITHDRAWAL".
- 1.24.3 Withdrawal of a bid during the interval between the deadline for submission of bids and the expiration of the period of bid validity specified in Sub-Clause 1.18.0 may result in the forfeiture of the bid security pursuant to Sub-Clause 1.19.6.

1.25.0 OPENING OF BIDS

- 1.25.1 AEGCL will open the Technical Bids (Part-I) , in the presence of bidders' representatives who choose to attend; at the following location:
Deputy General Manager.
LA T&T Circle, AEGCL, Narengi
Guwahati-26

The bidders' representatives who are present shall sign a register evidencing their attendance.

- 1.25.2 Envelopes marked "WITHDRAWAL" shall be opened and read out first. Bids for which an acceptable notice of withdrawal has been submitted pursuant to Claus 1.24.0 shall not be opened.
- 1.25.3 The bidders' names, the Bid Prices, the presence or absence of Bid Security, and such other details as AEGCL may consider appropriate, will be announced and recorded by AEGCL at the opening. The bidders' representatives will be required to sign this record.

1.26.0 PROCESS TO BE CONFIDENTIAL

- 1.26.1 Information relating to the examination, clarification, evaluation and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process. Any effort by a bidder to influence AEGCL's processing of bids or award decisions may result in the rejection of the bidder's bid.

1.27.0 PRELIMINARY EXAMINATION OF BIDS AND DETERMINATION OF RESPONSIVENESS

- 1.27.1 Prior to the detailed evaluation of bids, AEGCL will examine the bids to determine whether they are complete and all documents as per Clause 1.9.0 are provided or not, whether the documents have been properly signed, whether the required security is included, and whether the bids are generally in order and provides any clarifications and/or substantiation that AEGCL may require pursuant to Clause 1.27.0.

- 1.27.2 A substantially responsive bid is one which conforms to all the terms, conditions and requirements of the bidding documents, without material deviation or reservation and includes the amendments and changes, if any. AEGCL may waive any minor non-conformity or irregularity in a Bid which does not constitute a material deviation or reservation, provided such deviation or reservation does not (i) affect in any substantial way the scope, quality or performance of the Works; (ii) limit in any substantial way, inconsistent with the bidding document, AEGCL's rights or bidder's obligations under the contract; or (iii) whose rectification would affect unfairly the competitive position of other bidder's presenting substantially responsive bids.
- 1.27.3 Any bids found to be non-responsive for any reason or not meeting the minimum levels of the performance or other criteria specified in the bidding documents will be rejected by AEGCL and not included for further consideration.

1.28.0 CLARIFICATION OF BID PROPOSALS AND CONTACTING AEGCL

- 1.28.1 To assist in the examination, evaluation and comparison of Bids, AEGCL may, at its discretion, ask any bidder for clarification of its bid. The request for clarification and the response shall be in writing or by mail, but no change in the price or substance of the bid shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by AEGCL in the evaluation of the bids in accordance with Clause 1.28.0.
- 1.28.2 Subject to Sub-Clause 1.28.1, no bidder shall contact AEGCL on any matter relating to its bid from the time of opening Bids to the time the contract is awarded. If the bidder wishes to bring additional information to the notice of AEGCL, it should do so in writing.
- 1.28.3 Any effort by the bidder to influence AEGCL in AEGCL's evaluation of price proposals, bid comparison or contract award decisions may result in the rejection of the bidder's bid.

1.29.0 CORRECTION OF ERRORS

- 1.29.1 Price Proposals determined to be substantially responsive will be checked by AEGCL for any arithmetic errors. Arithmetic errors will be rectified on the following basis. If there is a discrepancy between the unit rate and the total cost that is obtained by multiplying the unit rate and quantity, the unit rate shall prevail and the total cost will be corrected unless in the opinion of AEGCL there is an obvious misplacement of the decimal point in the unit rate, in which case the total cost as quoted will govern and the unit rate corrected. If there is a discrepancy between the total bid amount and the sum of total costs, the sum of the total costs shall prevail and the total bid amount will be corrected.
- 1.29.2 The amount stated in the Form of Bid for Price Proposal will be adjusted by AEGCL in accordance with the above procedure for the correction of errors and, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount of bid, its bid will be rejected, and the bid security may be forfeited in accordance with Sub-Clause 1.19.6 (b).

1.30.0 EVALUATION AND COMPARISON OF BID PROPOSALS

- 1.30.1 AEGCL will evaluate and compare only the bids determined to be substantially responsive in accordance with Clause 1.27.0.
- 1.30.2 For equipment and materials, the comparison shall be of the ex-factory price of equipment and materials offered (such price to include all costs as well as duties and taxes paid or payable on components and raw material incorporated); plus the cost of transportation, local taxes and duties, civil works, installation and other services required under the contract with due corrections as per Clause 1.29.0, AEGCL's comparison will also include the costs if any, resulting from application of the evaluation procedures described in Sub-Clause 1.30.4.
- 1.30.3 AEGCL will carry out a detailed evaluation of the bids in order to determine whether the bidders are qualified and whether the technical aspects are substantially responsive to the requirements set forth in the bidding documents. In order to reach such a determination, AEGCL will examine the information supplied by the Bidders and other requirements in the bidding documents, taking into account the following factors:

- (a) Qualification
 - (i) the determination will take into account the Bidder's financial and technical capabilities and past performance; it will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to Clause 1.5.0 as well as such other information as AEGCL deems necessary and appropriate; and
 - (ii) an affirmative determination will be a prerequisite for AEGCL to continue with the evaluation of the proposal; a negative determination will result in rejection of the Bidder's bid.
- (b) Technical
 - (i) overall completeness and compliance with AEGCL's Requirements; the technical merits of materials and equipments offered and deviations from AEGCL's Requirements; suitability of the facilities offered in relation to the environmental and climatic conditions prevailing at the site; quality, function and operation of any process control concept included in the bid;
- (c) Commercial
 - (i) Deviations and omissions from the contractual and commercial conditions as identified in the Bid.
 - (ii) compliance with the time schedule called for in the Bidding Document and evidenced as needed in a milestone schedule provided in the bid; and
 - (iii) the functional guarantees of the facilities offered against the specified performance criteria of the plant and equipment.

1.30.4 Pursuant to Sub-Clause 1.30.4, the following evaluation methods will be followed:

- (a) **Time Schedule:** The plant and equipment covered by this bidding are required to be shipped, installed and the facilities completed within the period specified in Sub-Clause
Bidders submitting bids which deviate from the time schedule specified will be rejected.
- (b) **Deviations from the Bidding Document:**
Bidders shall base their Bid price on the terms & conditions specified in the Bidding Documents.
Bids with material deviations and omissions shall be rejected.
- (c) **Functional Guarantee of the facilities:**
Bidders shall state the functional guarantees (e.g. guaranteed performance or ratings or efficiency) of the proposed Goods in response to AEGCL's Requirements (Technical Specifications). Goods, Plant and equipment offered shall have a minimum performance (functional guarantees/ratings) specified in the Technical Specifications to be considered responsive. Bids offering Goods, plant and equipment with functional guarantees less than the minimum specified shall be rejected.

1.30.5 Bid Evaluation Process for Abnormally Low Bids:

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

- (a) Identification:

For the identification of the Abnormally Low Bids, two approaches as applicable shall be adopted:

 - i. **Absolute Approach** 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 a statical comparison method which will be applied when there are more than five nos. of substantially responsive bids. A potential ALB is identified where the low Bid is more than one standard deviation below the average of substantially responsive bids received.
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.

(b) In case of ALB, the tender evaluation committee of the respective tenders shall undertake the following three stage review which are as follows:

- i. Identify ALB as per the step mentioned in Clause No.(a).(i) and 10.b).(ii) whichever is applicable.
- ii. Clarify and analyse the bidders resource inputs and pricing, including overheads, contingencies and profit margins. In that respect committee may seek the reference of the guidelines of World Bank, AIIB, ADB etc.
- iii. Decide whether to accept or reject the tender.

(c) Additional Performance Security in case of acceptance of ALB:

- i. If any abnormally low bid is accepted under point no. (b) (iii), after taking of additional performance security as per the assessment of the committee, however the total performance security should not have to exceed 20% of the total contract value.
- ii. The additional performance security shall be treated as part of the original performance security and shall be valid for a period coextensive with the applicable defect liability period of the contract.
- iii. Non submission of the additional performance security shall constitute sufficient ground to rejection of the bid and similar assessment shall be initiated for the next ranked bidder identified as ALB.

1.30.6 AEGCL reserves the right to accept or reject any variation or deviation. Variations, deviations, and other factors which are in excess of the requirements of the bidding documents or otherwise result in the accrual of unsolicited benefits to AEGCL shall not be taken into account in bid evaluation.

1.31.0 AWARD

1.31.1 AEGCL will award the Contract to the bidder whose bid has been determined to be substantially responsive to the bidding documents provided that such bidder has been determined to be qualified in accordance with the provisions of the Bid.

1.32.0 EMPLOYER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

1.32.1 Notwithstanding Clause 1.31.0, AEGCL reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for AEGCL's action. AEGCL is not bound to accept the offer of the lowest bidder.

1.33.0 NOTIFICATION OF AWARD

1.33.1 Prior to expiration of the period of bid validity prescribed by AEGCL, AEGCL will notify the successful bidder by fax, confirmed by letter, that its bid has been accepted. This letter (hereinafter and in the Conditions of Contract called the "Letter of Acceptance") shall name the sum which AEGCL will pay the Contractor in consideration of the execution, completion and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Conditions of Contract called "the Contract Price").

1.33.2 The notification of award will constitute the formation of the Contract.

1.34.0 SIGNING OF CONTRACT AGREEMENT

1.34.1 At the same time that it notifies the successful bidder that its bid has been accepted, AEGCL will send the bidder the Form of Contract Agreement incorporating all agreements between the parties.

1.34.2 Within **15 (fifteen) days** of receipt of the Form of Agreement, the successful bidder shall sign the Form and return it to AEGCL.

1.35.0 WARRANTY

- 1.35.1 The contractor warrants that all 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. The term period of warranty shall mean the period of 18 months from the date of the materials are received at site in good and acceptable condition. If during the period of warranty, any defect is found, the Contractor shall rectify all defects in design, materials and workmanship that may develop under normal use of the equipment upon written notice from the Purchaser who shall indicate in what respects the equipment is faulty. The rectification / free replacement must be carried out within a reasonable time period and at free of cost.
- 1.35.2 In the event of any emergency, where in the judgment of AEGCL, delay would cause serious loss or damages, repairs or adjustment may be made by the engineer or a third party chosen by the engineer without advance notice to the contractor and the cost of such work shall be paid by the contractor. In the event such action is taken by the engineer, the contractor will be notified promptly and he shall assist wherever possible in making necessary corrections. This shall not relieve the contractor of his liabilities under the terms and conditions of the contract.
- 1.35.3 If it becomes necessary for the contractor to replace or renew any defective portions of the works, the provision of this clause shall apply to portion of the works so replaced or renewed until the expiry of twelve (12) months from the date of such replacement or renewal.
- 1.35.4 The repaired or new parts will be furnished and erected free of cost by the contractor. If any repair is carried out on his behalf at the site, the contractor shall bear the cost of such repairs.
- 1.35.5 The acceptance of the equipment by the Employer shall in no way relieve the contractor of his obligation under this clause.
- 1.35.6 In the case of those defective parts, which are not repairable at site but are essential for the commercial operation of the equipment, the contractor and the engineer shall mutually agree to a programme of replacement or renewal, which will minimize interruption to the maximum extent in the operation of the equipment.

1.36.0 PERFORMANCE SECURITY (Contract Performance Guarantee)

- 1.36.1 As a Contract Performance Security, the successful Bidder, to whom the work is awarded, shall be required to furnish a Performance Guarantee from a Nationalized Bank, in the form attached with the Bidding Document (Section –5) in favour of the AEGCL. The guarantee amount shall be equal to ten percent (10%) of the Contract Price and it shall guarantee the faithful performance of the contract in accordance with the terms and conditions specified in these documents and specifications. The guarantee shall be valid up to 90 (ninety) days after the end of Warranty Period.
- 1.36.2 In case the bidder fails to submit the Performance Security in the form of Bank Guarantee, an amount equivalent to 10% of the Contract Price shall be retained as Security Deposits which shall be retained up to 90 (ninety) days after the end of Warranty Period
- 1.36.3 The performance guarantee shall cover additionally the following guarantees to the owner:
- a) The successful Bidder guarantees the successful and satisfactory operation of the equipment furnished and erected under the contract, as per the specifications and documents.
 - b) The successful Bidder further guarantees that the equipment/material provided and installed by him shall be free from all defects in design, material and workmanship and shall upon written notice from the Owner fully remedy must be guaranteed.
- 1.36.4. The Contract performance Guarantee will be returned to the Contractor without any interest at the end of warranty period and written request from the contractor.

1.37.0 TERMS OF PAYMENT

The terms of payment for the supply and erection work shall be as follows

- i. No advance payment shall be made in this contract.
- ii. No claim for interest shall be entertained by AEGCL

- iii. The price is firm and no price variation shall be applicable.
- iv. Maximum 2(two) Nos. of progressive Invoice/ Bill would be entertained during work.
- v. The 1st Progressive Invoice/Bill would be entertained for 80% of the total work value on completion of the entire supply work and acceptance of materials in full and good condition.
- vi. Remaining 20% of total work value would be made after completion of erection & commissioning works.
- vii. Final bill must contain the original site register.
- viii. Payment shall be released subject to receipt of specific fund. 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

1.38.0 CORRUPT OR FRAUDULENT PRACTICES

1.38.1 It is required that bidders/suppliers/contractors observe the highest standard of ethics during the procurement and execution of the contracts. In Pursuance of this Clause AEGCL;

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves and/or those close to them, or induce others to do so, by misusing the position in which they are placed, and it includes the offering, giving, receiving or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; and
 - (ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition;
- (b) will reject a proposal for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
- (c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract by AEGCL if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a contract.

1.39.0 PENALTY FOR DELAYED EXECUTION

In the event of delay in completing the work extending beyond the date of completion or beyond the extended date, if any, permitted by the Board, the contractor shall pay as agreed liquidated damage and not as a penalty a sum equal to 1% of the contract price under this contract for each week of delay or part thereof subject to a maximum of 10% of the contract price.

1.40.0 FORCE MAJEURE

Force Majeure shall be considered as any circumstances beyond the reasonable control of the party claiming relief, including but not limited to strikes lockout, civil commotion, riot, insurrection, hostilities, war, fire, flood, earthquake, delay in delivery of equipment or part thereof by AEGCL, would entitle contractor to extension of time.

1.41.0 SETTLEMENT OF THE DISPUTE & ARBITRATION

Any dispute arising out of the contract will first be discussed and settled bilaterally between the Assam Electricity Grid Corporation Limited and firms/ contractors. In case, the dispute cannot be settled bilaterally,

it will be referred to arbitration by an arbitrator to be appointed by the AEGCL, The contractor shall not stop the work during settlement of any arbitration case. All disputes arising out of the agreement so made shall be subjected to the jurisdiction of district court of Kamrup District.

SECTION - 2

PURCHASER'S REQUIREMENTS

2.1.0 SCOPE

The brief description of scope of scope covered under this Bidding Document is furnished below:

- a) Design, manufacture, supply and delivery of Battery Bank as per BoQ
- b) Erection, Testing and commissioning of Battery Bank at site as per BoQ
- c) Arrangements of any permits required for transportation and movement of supplied materials. However, AEGCL shall assist as far as practicable in the process.
- d) Transit insurance and insurance during storage at site till commissioning shall be in the scope of the contractor.

2.2.0 SERVICE CONDITIONS

Bidder should note the following climatic and other conditions prevailing in the location of work:

- a) Peak ambient day temperature in still air : 45°C
- b) Minimum night temperatures : 0°C
- c) Ground temperatures : 40°C
- c) Reference ambient day temperature : 45°C
- d) Relative Humidity a) Maximum : 100 %
 b) Minimum : 10 %
- e) Altitude : Below 1000 M above MSL
- f) Maximum wind pressure : As per IS: 802 latest code.
- g) Seismic Intensity : ZONE-V as per IS 1893.

2.3.0 TECHNICAL SPECIFICATION FOR 220V DC BATTERY

A. VALVE REGULATED LEAD ACID BATTERY

2.3.1 SCOPE:

(i) The scope covers the design, manufacture, assembly, testing at the manufacturer's works, delivery at site, installation, testing and commissioning of 220 V D.C. Maintenance free Valve regulated Lead Acid Battery and associated battery charger with provisions of both float and boost charging of battery along with necessary accessories, fittings, etc for 220kV sub-station.

Each battery shall have sufficient capacity considering continuous emergency and intermittent loads for the periods specified below and for all bays with the charger out of service:

- a) Continuous DC load for protection, control, indications, alarms and interlock for 10 hours.
- b) Emergency lighting loads for 10 hours.
- c) Intermittent DC load for closing and tripping operation of Circuit Breakers, Isolators and Earth Switches. This load shall be determined considering simultaneous tripping of breakers on bus-bar protection. Duration of intermittent load shall be considered as one minute when the battery has reached the end cell voltage. Battery shall be of 2X100% capacity and shall have 20% spare capacity with matching 2x 100% battery charger. Supplier shall furnish characteristic curve for satisfactory operation and maintenance of battery under service condition.

Bidder shall select number of cells, float & boost voltage to achieve following system requirement:

System Voltage During Float	Maximum Voltage During Float operation	Minimum Voltage available when no charger working and battery fully discharged upto 1.85V per cell.	Minimum no of cells.
220V	242V	198V	109

Bidder shall furnish calculation in support of selection of capacity as well as number of Cells, Float & Boost charger current / Voltages.

2.3.2. RATING OF BATTERY AND FUNCTION OF CHARGER:

D.C. Power Supply shall comprise a set of Battery (220V) of desired capacity, Dual Float cum Boost Battery Charger (minimum 60A) in parallel operation. In this mode the charger shall be required not only to continuously feed a variable load but also deliver trickle/boost charging current for the battery. Charger shall have 20% spare capacity. Battery will be capable of feeding the DC load requirement of the Sub-station in case of failure of the charger. Ampere-hour capacity of the battery shall be designed considering the current load and expected future load due to extension of the Sub-Station (if not specified, then minimum 3 nos of future bays are to be considered for each voltage class). A detailed design calculation for both battery & charger are to be submitted for approval.

2.3.3. TRICKLE / BOOST CHARGE VOLTAGE:

The trickle and Boost charge voltage per cell shall be as follows:

- a) 220V Battery Bank,
 - i) TRICKLE CHARGE: Per Cell Voltage 2.2 V to 2.25±0.02 V
 - ii) Boost charge voltage should vary between 2.23 to 2.3V/cell.

2.3.4. VOLTAGE / CURRENT REGULATION OF CHARGER:

Output voltage for float charging from battery charger shall be auto controlled by adjusting the firing angle of thyristor for float charger to keep the voltage variation within $\pm 1\%$ from no load to full load and AC supply voltage variation of $\pm 10\%$ and frequency variation of $\pm 3\%$ of 50 Hz. Manual control of output voltage shall also be possible through Auto/Manual selector switch.

The Boost / Quick charger shall be similar type as Float / Trickle charging equipment, but shall be provided with control arrangement for 'auto/manual' current regulation features with current adjustment setting up to 150%, necessary for quick charging. An automatic VOLTAGE controller for boost charging shall control the output VOLTAGE WITH CURRENT LIMIT AS LIMITED FOR RESPECTIVE BATTERY CAPACITY by adjusting the firing angle of the thyristor.

2.3.5. CLIMATIC CONDITIONS:

The equipment to be supplied against the specification shall be suitable for satisfactory continuous operation under the required climatic condition.

2.3.6. DESCRIPTION OF BATTERY:

2.3.6.1 Type:

The DC batteries shall be VRLA (Valve regulated Lead Acid) type & shall be Normal Discharge type and shall conform to IS 15549:2004/ IEC 60896-21 & 22:2004/ BS 6290- PART IV/ IEEE-1188 standard. These batteries are to be factory-filled, charged & shall be suitable for a long life under continuous float operations & occasional discharges. The 110V and 220V DC system is unearthed system. The offered battery shall be compact and shall require no maintenance. All safety equipment required for installation shall be provided by the manufacturer.

2.3.6.2 Constructional requirements:

The design of battery shall be as per field proven practices. Partial plating of cells is not permitted. Paralleling of cells externally for enhancement of capacity is not permitted. Protective transparent front covers with each module shall be provided to prevent accidental contact with live module/ electrical connections.

2.3.6.3 Plates:

Positive plates shall be made pasted type using high purity corrosion resistant alloy for deep discharge, durability, maintenance free, long life both in cyclic as well as in float applications. The Grids are of Semi Radial Squarish grid to reduce internal resistance and travel current in shorter time. Negative plates shall be heavy duty, durable flat pasted plate using lead alloy pasted Semi Negative Squarish Grid. Negative plates shall be designed to match the life of Positive plates & combination of positive & negative plates shall ensure long life, durability & trouble-free operation of battery. Computer controlled/ PLC operated in-house equipment should be deployed for preparation of lead oxide and paste to ensure consistency in paste quality & properties.

2.3.6.4 Containers:

The container material shall have chemical & electro-chemical compatibility & shall be acid resistant and shall conform to UL-94/ ASTM-D-2863 standard. The material shall meet all the requirements of liquid station lead-acid batteries and be consistent with the life of battery. The container shall be fire retardant and transparent. The porosity of the container shall be such as not to allow any gases to escape except from the regulation valve. The tensile strength of the material of the container shall be such as to handle the internal cell pressure of the cells in the worst working condition. Cell shall not show any deformity of bulge on the sides under all working conditions. The container shall be capable of withstanding the rigorous of transport, storage and handling. The containers shall be enclosed in a steel painted tray/rack with minimum earthing provision.

For identification, each cell/module shall be marked in a permanent manner to indicate the following information:

- (i) Cell Serial Number
- (ii) Positive & Negative, embossed on the cover
- (iii) Month & Year of Manufacturing

2.3.6.5 Cell Covers:

The cell covers shall be made of suitable material compatible with the container material and permanently fixed with the container by Hermetic Heat-Sealing technique. It shall be capable to withstand internal pressure without bulging or cracking. It shall also be fire retardant. Fixing of Pressure Regulation Valve & terminal posts in the cover shall be such that the seepage of electrolyte, gas escapes and entry of electro-static spark are prevented.

2.3.6.6 Separators:

The separators used in manufacturing of battery cells, shall be of glass mat or synthetic material having high acid absorption capability, resistant to sulphuric acid & shall have good insulating properties. Sufficient separator overlap & PVC shield protection in bottom edges of the plates is to be provided to prevent short circuit formation between the edges of adjacent plates. The design of separators shall ensure that there is no misalignment during normal operation & handling.

2.3.6.7 Pressure Regulation Valve:

Each cell shall be provided with a pressure regulation valve. The valve shall be self-re-sealable. The vent plug shall be made with suitable grade of fire-retardant plastic material. Each valve opening shall be covered with flame barrier capable of preventing the ingress of flame into the cell interior, when the valve opens & hydrogen/ oxygen gas mixture is released. The valve unit shall be such that it cannot be opened without a proper tool. The valve shall be capable to withstand the internal cell pressure specified by the manufacturer.

2.3.6.8 Terminal Posts:

Both the +ve & -ve terminals of the cells shall be capable of proper termination & shall ensure its consistency with the life of the battery. The terminals shall have lead plated adequate solid copper/ brass core cross-section to avoid overheating at maximum current load. The surface of the terminal post extending above the cell cover including bolt hole shall be coated with an acid resistant & corrosion retarding material. Terminal posts or any other metal part which is in contact with the electrolyte shall be made of the same alloy as that of the plates or of a proven material that does not have any harmful effect on cell performance. Both +ve & -ve posts shall be clearly and unambiguously identifiable.

2.3.6.9 Connectors, Nuts & Bolts, Heat Shrinkable Sleeves:

Where it is not possible to bolt the cell terminals directly to assemble a battery, separate non-corroding lead coated copper connectors of suitable size shall be provided to enable connection of the cells. Copper connections shall be suitably lead coated to withstand corrosion due to sulphuric acid/fumes at a very high rate of charge or discharge. Nuts & bolts for connecting the cells shall be made of copper, brass or stainless steel. Copper or brass nuts & bolts shall be effectively lead coated to prevent corrosion. Stainless steel bolts & nuts can be used without lead coating. All inter cell connectors shall be protected with heat shrinkable sleeves for reducing the environmental impact including a corrosive environment.

More than one cable may be required to be connected to the battery terminals. Suitable arrangement for termination of multiple cables shall be provided so as to avoid extra load on the battery terminals.

Necessary insulating supports for termination of these cables on batteries shall also be supplied by the bidder.

All cell connectors shall be capable of continuously carrying the 30 min. discharge current of the respective batteries and shall be capable to carry 4KA for 1 sec. **The inter-cell connectors shall be capable to carry minimum 10KA for 1 sec.**

2.3.6.10 Flame Arrestors:

Each cell shall be equipped with a Flame Arrestor to defuse the Hydrogen gas escaped during charge & discharge. Material of the flame arrestor shall not affect the performance of the cell.

2.3.6.11 Battery Bank Stand:

All batteries shall be mounted in a suitable metallic stand/ frame. The frame shall be properly painted with the acid resistive paint & should have protection against harmful effects due to tropical environment. The suitable insulation shall be provided between stand/ frame and floor to avoid the grounding of the frame/ stand. The jointing of the frames should not leave crevices and ensure proper and tight fit.

Numbering tags for each cell shall be attached to the racks. Provision for clamping outgoing cables shall be kept.

2.3.7. CAPACITY REQUIREMENTS:

When the battery is discharged at 10-hour rate, it shall deliver 80% of Rated Capacity (corrected at 27°C) before any of the cells in the battery bank reaches 1.85 V/cell.

The battery shall be capable of being recharged from the fully exhausted condition (1.75 V/cell) within 10hrs up to 90% state of charge. All the cells in a battery shall be designed for continuous float operation at the specified float voltage throughout the life.

The capacity (corrected at 27°C) shall also not be less than Rated capacity & not more than 120% of Rated capacity before any cell in the battery bank reaches 1.75 V/cell. The battery voltage shall not be less than the following values, when a fully charged battery is put to discharge at a rate of 1/10th of the Rated Capacity:

- (a) After SIX minutes of discharge: 1.98V/cell
- (b) After SIX hours of discharge: 1.92V/cell
- (c) After EIGHT hours of discharge: 1.85V/cell
- (d) After TEN hours of discharge: 1.75V/cell

Loss in capacity during storage at an average ambient temperature of 35°C for a period of 6 months shall not be more than 60% and the cell/battery shall achieve 85% of its rated capacity within 3 charge/discharge cycles and full rated capacity within 5 cycles, after the storage period of 6 months. Voltage of each cell in the battery set shall be within 0.05V of the average voltage throughout the storage period. Ampere hour efficiency shall be better than 90% and watt-

hour efficiency shall be better than 80%. However, the battery to be manufactured and to be delivered at site in such a way that load can be connected with the battery within 15 days from date of installation, date of initial charging is to be mentioned on the battery.

2.3.8. EXPECTED BATTERY LIFE

The battery shall be capable of giving 1200 or more charge/discharge cycles at 80% Depth of Discharge at an average temperature of 27°C. Depth of Discharge is defined as the ratio of the quantity of electricity (in Ampere Hour) removed from a cell or battery on discharge to its rated capacity. The battery sets shall have a minimum expected life of 20 years at Float operation.

2.3.9. ASSOCIATED EQUIPMENTS & ACCESSORIES (For each set of battery):

a)	Best quality metallic stand/frame	as per Clause 18.6.
b)	Stand insulators	+5% extra
c)	Inter row connectors	Appropriate quantity
d)	Inter tier connectors	Appropriate quantity
e)	Centre-zero (3-0-3) volts DC Voltmeter	: 1 No
f)	Torque wrench/ Spanners	: 1 No
g)	Connection hardware, such as strips, bolts, nuts	(with 5% extra)
h)	Cable clamps with hardware	
g)	Connection hardware, such as strips, bolts, nuts	(with 5% extra)
i)	Cell numbering tags with fixing arrangement	
j)	Two sets of special tools and tackles for connecting terminals of the battery	
k)	Any other accessories not specified but required for satisfactory operation.	Free-standing portable eye wash equipment, etc.

2.3.10. TYPE TEST OF BATTERY:

The Bidder/ Supplier shall supply type tested battery as per IS 15549:2004/ IEC 60896-21 & 22 over the range of at least one capacity per design. The Bidder/ Supplier shall submit necessary evidences enclosed during detailed engineering.

Sr. No.	DESCRIPTION
1	Gas Emission
2	High Current Tolerance
3	Short Circuit Current & DC Internal resistance
4	Protection against Internal Ignition from External Spark source
5	Protection against Ground Short Propensity
6	Content & Durability of required marking
7	Material Identification
8	Valve Operation
9	Flammability Rating of Material

10	Intercell Connector Performance
11	Discharge Capacity
12	Charge Retention during Storage
13	Float Service with Daily Discharge for reliable mains power
14	Recharge behavior
15	Service Life at an operating temperature of 40°C for brief duration exposure Time
16	Impact of Stress Temperature of 60°C for brief duration exposure time with 3hrs discharge test
17	Abusive Over Discharge
18	Thermal Runaway Sensitivity
19	Low Temperature Sensitivity
20	Dimensional Sensitivity at Elevated Internal Pressure & Temperature
21	Stability against Mechanical abuse of units during installation

2.3.11. Routine Test:

- (i) Physical Examination Test
- (ii) Visual Inspection
- (iii) Dimensions, Mass & Layout
- (iv) Marking & Packing

2.3.12. ACCEPTANCE TEST OF BATTERY

- (i) Polarity Marking
- (ii) Verification of Dimensions
- (iii) Test of AH Capacity

LIST OF FACTORY & SITE TESTS FOR BATTERY

Sr. No	TEST	FACTORY TESTS	SITE TESTS
1	Physical Verification	YES	YES
2	Capacity Test on the cell at 1/10 th of Rated Capacity, corrected at 27°C	YES	
3	8hrs Charge & 15mins Discharge Test at Full Rated Load		YES

2.3.13. DOCUMENTATION

The successful bidder shall submit four sets of drawings for approval.

The following drawing shall be supplied with the tender: -

Outline drawings of all apparatus showing sufficient details to enable the purchaser to determine whether the design proposed can be installed satisfactorily or not. Wiring diagram of battery charger.

2.3.14 TECHNICAL PARAMETERS

TECHNICAL SPECIFICATION FOR 220V DC BATTERY

Sl. No	DESCRIPTION	PARTICULARS
1	Type	VRLA
2	Conforming Standards	IEC 60146, IEC 60478, IEC 60529, IEEE C57.12.01, ANSI C63.4, IEEE 446, NEMA 250, NEMA PE5, NFPA 70
3	System Voltage	415V AC +/- 10% for 220V, 110V DC Battery & 240V AC +/- 10% for 48V DC Battery
4	Name of the Manufacturer	To be furnished by Bidder
5	Location of the Factory	To be furnished by Bidder
6	Type & Model of charger	To be furnished by Bidder
7	Total Dimension of Float cum Boost Charger in mm	To be furnished by Bidder
8	Minimum thickness of sheet (mm)	To be furnished by Bidder
9	Charger Characteristics	To be furnished by Bidder
10	Type of Rectifier with Model	To be furnished by Bidder
11	Capacity of Battery Charger in Amps	As per requirement
12	Float/Trickle charger current in Amps	To be furnished by Bidder
13	Boost/Quick charger current in Amps	To be furnished by Bidder
14	Voltage Regulation of Float charger (%)	To be furnished by Bidder
15	Ripple content (%)	To be furnished by Bidder
16	Schematic & GA drawings submitted	Yes/No
17	List of Alarms	To be furnished by Bidder
18	Audible noise at any point 150 centimeters from any vertical surface	Not exceeding 65dBA
19	Any other relevant information	To be furnished by Bidder

Section - 4

General Conditions of Supply and Erection of AEGCL

This Section 'General Conditions of Supply and Erection of AEGCL' supplementary to Section -5 'Special Conditions of Contract' of this document and [can be downloaded from www.aegcl.co.in](http://www.aegcl.co.in). Whenever there is a conflict, the provisions in SCC or the other Sections of this bid document shall prevail over those in the 'General Conditions of Supply and Erection of AEGCL'.

SECTION – 4

**BID SUBMISSION SHEET, BID FORMS AND
SCHEDULES**

1. Bid Submission Sheet

(To be submitted in Bidder's Letterhead)

Name of contract:

To,

The Deputy General Manager,
Lower Assam, T&T Circle, AEGCL,
Narengi, Guwahati-26

Sir:

We have examined the General Conditions of Contract, Technical Specification, Schedules, and Addenda Nos _____ (if any). We have understood and checked these documents and have not found any errors in them. We accordingly offer to execute and complete the said Works and remedy any defects fit for purpose in conformity with these documents and the enclosed Proposal (Price Offer)

We accept your suggestions for the appointment of the Dispute Adjudication Board, as set out in the Bidding Document.

We agree to abide by this Bid until _____ and it shall remain binding upon us and may be accepted at any time before that date.

If our bid is accepted, we will provide the specified performance security, commence the Works as soon as reasonably possible after receiving the notice to commence, and complete the Works in accordance with the above-named documents within the time stated in the Bidding Document.

Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.

We understand that you are not bound to accept the lowest or any bid you may receive.

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

Yours faithfully

Signature _____ in the capacity of _____ duly authorized to sign bids for and on behalf of

Address

2. Form-BG

Form of Bid Security (Bank Guarantee)

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

KNOW ALL MEN by these presents that We _____ [Name of Bank] of _____ [Name of Country] having our registered office at _____ (hereinafter called "the Bank") are bound unto _____ [Name of Employer] (hereinafter called "the Employer") in the sum of _____ for which payment will and truly to be made to the said Employer 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 his Bid during the period of bid validity specified in the Form of Bid:
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 Employer up to the above amount upon receipt of its first written demand, without the Employer having to substantiate its demand, provided that in its demand the Employer 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 180 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 Employer, 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)

3. Form-MA

Form of Manufacturer's Authorization (To be submitted in Manufacturer's Letterhead)

Bid No.:

To,

The Deputy General Manager,
Lower Assam, T&T Circle, AEGCL,
Narengi.Guwahati-26

WE *[insert: name of Manufacturer]* who are established and reputable manufacturers of *[insert: name and/or description of the Goods]* having production facilities at *[insert: address of factory]* do hereby authorize *[insert: name & address of Bidder]* (hereinafter, the "Bidder") to submit a bid the purpose of which is to provide the following goods, manufactured by us, and to subsequently negotiate and sign the Contract:

1. _____

2. _____

We hereby extend our full guarantee and warranty in accordance with **Clause 2.9.0** of the Special Conditions of Contract, for the above specified Goods supporting the Supply of specified Goods and fulfilling the Related Services by the Bidder against this Bidding Documents, and duly authorize said Bidder to act on our behalf in fulfilling these guarantee and warranty obligations. We also hereby declare that, we will furnish the Performance Guarantee in accordance with **SCC Clause 2.6.0**.

Further, we also hereby declare that we and, *[insert: name of the Bidder]* have entered into a formal relationship in which, during the duration of the Contract (**including related services and warranty / defects liability**) we, the Manufacturer or Producer, will make our technical and engineering staff fully available to the technical and engineering staff of the successful Bidder to assist that Bidder, on a reasonable and best effort basis, in the performance of all its obligations to the Purchaser under the Contract.

For and on behalf of the Manufacturer

Common Seal and Signature of the
authorised person:

Name:

Designation:

NOTE:

This MA should be signed by a person having either of the following-

- 1) Valid Power of attorney
- 2) Authorised by Managing Director
- 3) Member of Board of Directors

4. Guarantee Declaration

We declare that the ratings, specifications and performance figures of the various plants and equipments /material furnished by us in the Bid are guaranteed. We further declare that in the event of any deficiencies in meeting the guarantees in respect of the characteristics mentioned in Guaranteed Technical Particulars, of Technical Bid as established after conducting the factory test, you may at your discretion, reject or accept the equipment/material after assessing the liquidated damages as specified in relevant clause of Bid Document.

Date:	(Signature).....
Place:	(Printed Name).....
	(Designation).....
	(Common Seal).....

5. Self-Undertaking for Payment of Statutory Taxes

(To be submitted in bidder's letterhead)

To,

The Deputy General Manager,
Lower Assam, T&T Circle, AEGCL,
Narengi, Guwahati-26

Subject: Self-Undertaking regarding payment of statutory taxes before applying for tender

Tender/ Bid Reference No & Date: _____

1. I/ We have duly paid and cleared all statutory taxes, cess, dues, and levies payable to Local Authorities, Panchayats, Municipalities, State Government, and the Central Government up to the date of this tender submission and undertake to promptly discharge any such dues that may arise during the tenure of the contract.
2. I/ We shall be solely responsible for payment of all applicable taxes, including GST, duties, license fees, cess, and any other statutory liabilities arising in connection with the performance of the contract.
3. I/ We undertake to immediately inform the Procuring Entity of any statutory revision, demand, or default and shall bear complete responsibility for settlement of such dues, keeping the Procuring Entity fully indemnified against any liability in this regard.
4. I/ We hereby confirm that all notices, demands, or proceedings issued by any Tax Authority up to the date of this submission have been duly complied with and settled. Any outstanding demand has been disclosed to the Procuring Entity, and I/We undertake to settle the same before award of contract, keeping the Procuring Entity indemnified against any liability.
5. In case of any reduction in the rate or amount of GST, taxes, duties, or levies after the Notification of Award, the corresponding benefit shall be duly passed on to the Procuring Entity without delay.
6. This undertaking shall remain valid and binding for the entire duration of the tender evaluation and, if awarded, for the full tenure of the contract including any extensions, until its closure.
7. I/ We understand that at any stage, if it is found that any statement or document submitted is false/forged/invalid, the Procuring Entity has discretion to terminate the contract and proceed with alternate arrangements as per the tender's risk purchase clause if any.

I/ We declare that the above statements are true to the best of my/our knowledge and belief.

Authorized Signatory

Name: _____

Designation: _____

Firm/Company Name: _____

Date: _____

Place: _____

Company Seal: _____

6. (To be submitted in bidder's letterhead)

Certified that in discharging the outward tax liability by ITCs all the provisions of GST Acts, Rules and notifications made therein are complied with including the following provisions:

- Goods and services relating to ITCs have actually been received.
- ITCs has been availed strictly in compliance with provisions under Section 16(2) (aa).
- Tax relating to ITCs has actually been paid to the government.
- No ITCs, though reflected in GSTR2B, availed if it is restricted by Section 38(2)(b).
- No ITCs, though reflected in GSTR2B, availed if it is blocked by Section 17(5).
- No ITCs in excess of input goods and services utilized actually in the projects/ works, are utilized to discharge the liabilities.
- In no case, utilization of ITCs in discharging liabilities exceeds the upper limit as prescribed by contractee department.
- The above facts are true to the best of my knowledge.

Signature & seal of contractor