

**BIDDING DOCUMENT  
FOR**

**“Geotechnical Investigation for construction of 2 nos. of Grid Substations at Dhing &  
Chabua under AEGCL”**



**(E Tender)**

BID IDENTIFICATION NO: AEGCL/MD/Tech-1082/Soil Investigation/AIIB Phase-II/2023/Dhing-Chabua/Bid

**May '2023**

**Source of Fund: AIIB STATE SHARE**

**ASSAM ELECTRICITY GRID CORPORATION LIMITED**

Price: ₹ 500/-

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# Section -1

## Instructions to Bidders

This section specifies the procedures to be followed by Bidders in the preparation and submission of their Bids. Information is also provided on the submission, opening, and evaluation of bids and on the award of contract.

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## Section 1 – Instructions to Bidders

### 1.1.0 General

#### 1.1.1. Scope of Bid

1.1.1.1. In support of the Invitation for Bids indicated in the Bid Data Sheet (BDS), the **Chief General Manager (PP&D)** on behalf of **Assam Electricity Grid Corporation Limited (AEGCL)** (hereinafter referred to as "the Purchaser" or "AEGCL"), issues this Bidding Document for Services incidental thereto as specified in Section 3 (Employer's Requirements). The name and identification nos. of this Competitive Bidding are provided in the Bid Data Sheet (BDS) attached as Appendix to ITB-1 of this Section.

1.1.1.2. Unless otherwise stated, throughout this Bidding Document definitions of terms shall be as prescribed in **Section 5** (Special Conditions of Contract).

#### 1.1.2. Eligible Bidders

1.1.2.1. Subject to meeting the Qualifying Requirements, a Bidder may be a firm or company. When the bidder is a firm, the names and address of the partners should be indicated and a copy of the certificate of registration with the concerned Registrar of firms should be enclosed with the Bid.

1.1.2.2. When the bidder is a Company, the company registration document along with Memorandum of Association should be submitted.

1.1.2.3. When the bidder is an individual carrying on business in a firm's name, the tender should be submitted by the owner of the firm, who may describe himself as carrying on business in the firm's name.

1.1.2.4. **JV is not allowed for this tender.**

### 1.2.0 Contents of Bidding Document

#### 1.2.1. Sections of Bidding Document

1.2.1.1. The Bidding Document consists of following six Sections, and should be read in conjunction with any Addenda issued in accordance with ITB **Clause** 1.2.3.

Section 1 - Instructions to Bidders (ITB) with Appendix-1 and Appendix-2

Section 2 - Bidding Forms (BDF)

Section 3 - Purchaser's Requirements (PRQ)

Section 4 - "General Conditions of Supply and Erection of AEGCL"

(This section is supplied separately)

Section 5- Special Conditions of Contract (SCC)

1.2.1.2. The Invitation for Bids issued by the Purchaser is not part of the Bidding Document.

1.2.1.3. The Purchaser is not responsible for the completeness of the Bidding Document and its addenda, if they were not obtained directly from the source stated by the Purchaser in the Invitation for Bids.

1.2.1.4. The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Document. Failure to furnish all information or documentation required by the Bidding Document may result in the rejection of the bid.

#### 1.2.2. Clarification of Bidding Document, Site Visit

1.2.2.1. A prospective Bidder requiring any clarification of the Bidding Document shall contact the Purchaser through e-mail or in writing at the Purchaser's address indicated in the **BDS**. The Purchaser 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 Purchaser's response shall be in writing / e-mail with copies to all Bidders who have acquired the Bidding Document in accordance with **ITB Clause 1.2.1.3**, including a description of the inquiry but without identifying its source. Should the Purchaser deem it necessary to amend the Bidding Document as a result of a request for clarification, it shall do so following the procedure under **ITB Clause 1.2.3** and **ITB Clause 1.4.2.2**.

### 1.2.3. Amendment of Bidding Document

1.2.3.1. At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Document by issuing addenda.

1.2.3.2. 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 the Purchaser in accordance with **ITB Clause 1.2.1.3**.

1.2.3.3. To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Purchaser may, at its discretion, extend the deadline for the submission of bids, pursuant to **ITB Clause 1.4.2.2**.

### 1.3.0 Preparation of Bids

#### 1.3.1. Cost of Bidding

1.3.1.1. The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

#### 1.3.2. Language of Bid

1.3.2.1. The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in the English language. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into the English language, in which case, for purposes of interpretation of the Bid, such translation shall govern.

#### 1.3.3. Documents Comprising the Bid

1.3.3.1. The Bid shall comprise two envelopes submitted simultaneously, one called the '**Technical Bid**' containing the documents listed in **ITB Clause 1.3.3.2** and the other the '**Price Bid**' containing the documents listed in **ITB Clause 1.3.3.3**, both envelopes must be submitted online through e-tendering portal <http://assamtenders.gov.in>.

1.3.3.2. The Technical Bid submitted by the Bidder shall comprise the following:

- (a) Letter of Technical Bid;
- (b) Bid Security, in accordance with **ITB Clause 1.3.8**;
- (c) Documentary evidence in accordance with **ITB Clause 1.3.5** establishing the Bidder's eligibility and qualifications to perform the contract if its Bid is accepted;
- (d) Documents as called for in **ITB Clauses 1.1.2.1, 1.1.2.2, and 1.1.2.3**;
- (e) Any other document required in the **BDS**.

1.3.3.3. The Price Bid submitted by the Bidder shall comprise the following:

- (a) Completed schedules as required, including Price Schedules, in accordance with **ITB Clauses 1.3.4** and **1.3.6**; and
- (b) any other document required in the **BDS**.

#### 1.3.4. Letter of Bid and Schedules

1.3.4.1. The Letters of Technical Bid and Price Bid, and the Schedules, and all documents listed under **ITB Clause** 1.3.3, shall be prepared using the relevant forms furnished in Section 2 (Bidding Forms). The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.

#### 1.3.5. Documents Establishing the Eligibility and Qualifications of the Bidder

1.3.5.1. To establish its eligibility and qualifications to perform the Contract in accordance with Appendix 2 of ITB (Evaluation and Qualification Criteria), the Bidder shall provide the information requested in the corresponding information sheets included in Section 2 (Bidding Forms).

#### 1.3.6. Bid Prices

1.3.6.1. Unless otherwise specified in the **BDS** and/or Section 3 (Purchaser's Requirements), bidders shall quote for the entire scope of services on a "single responsibility" basis such that the total bid price covers all the Bidder's obligations mentioned in or to be reasonably inferred from the bidding document in respect of completion of the entire scope.

1.3.6.2. Bidders are required to quote the price for the obligations outlined in the bidding document. No deviation in this regard normally, shall be accepted.

1.3.6.3. Bidders shall give a breakdown of the prices in the manner and detail called for in the Price Schedules included in Section 2 (Bidding Forms), given for reference.

In case of e-tender, the bidder shall fill up the Price schedules as provided in the online tender.

#### Schedule No. 1: SCHEDULE OF WORK

1.3.6.4. In the Schedules, bidders shall give the required details and a breakdown of their prices as called for in these Schedules.

1.3.6.5. The prices shall be either fixed or adjustable as specified in the **BDS**.

#### 1.3.7. Period of Validity of Bids

1.3.7.1. Bids shall remain valid for the period specified in the **BDS** after the bid submission deadline date prescribed by the Purchaser. A bid valid for a shorter period **shall be rejected** by the Purchaser as non-responsive.

1.3.7.2. In exceptional circumstances, prior to the expiration of the bid validity period, the Purchaser 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 is requested in accordance with **ITB Clause** 1.3.8, it shall also be extended for a corresponding period. A 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.

#### 1.3.8. Bid Security

1.3.8.1. The Bidder shall furnish as part of its bid, in original form, a Bid Security as specified in the **BDS**. The amount of Bid Security shall be as specified in the **BDS**.

1.3.8.2. The bid security shall be paid online in the e-tender portal.

1.3.8.3. 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.

1.3.8.4. The bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's furnishing of the performance security pursuant to **ITB Clause** 1.5.14.

1.3.8.5. The bid security may be forfeited:

- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid Form, except as provided in **ITB Clause**1.3.7.2 or
- (b) if the successful Bidder fails to:
  - (i) Submit acknowledge for the receipt of Work Order in accordance with **ITB Clause**1.5.12.1; or
  - (ii) Furnish a performance security in accordance with **ITB Clause** 1.5.13.

### 1.3.9. Format and Signing of Bid

1.3.9.1. The Bidder shall upload one original of the Technical Bid and one original of the Price Bid comprising the Bid as described in **ITB Clause** 1.3.3

1.3.9.2. The uploaded Bid shall be 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 **BDS** 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 initialised by the person signing the bid.

### 1.4.0 Submission and Opening of Bids

#### 1.4.1. On-line submission of Bids

1.4.1.1. The Technical as well as Price Bid should be submitted **through online portal only**, in respective folders.

1.4.1.2. For Technical bid, all forms and supporting documents as required by ITB Clause 1.3.2 and duly signed and stamped as per ITB Clause 1.3.10 are to be uploaded to the e-tendering portal. The documents are to be uploaded in pdf format (as specified in the e-tender portal [www.assamtenders.gov.in](http://www.assamtenders.gov.in)).

1.4.1.3. The Price Bid must be submitted in the Price Schedule provided on the e-tendering portal as per the online format.

#### 1.4.2. Deadline for Submission of Bids

1.4.2.1. Bids shall be received **ONLINE only** on or before the date and time indicated in the **BDS**.

1.4.2.2. The Purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document in accordance with **ITB Clause** 1.2.3, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

#### 1.4.3. Late Bids

1.4.3.1. The e-tendering portal shall allow the bidders to submit bids up to the date and time specified in ITB Clause 1.4.2 as per Server Clock. Bidders are advised to submit their bids well in advance of the deadline for submission of bids to avoid any last-minute difficulties.

#### 1.4.4. Withdrawal, Substitution, and Modification of Bids

1.4.4.1. E-tendering portal shall allow modification of bids any time before the deadline for Bid Submission. A bidder may withdraw its bid, by sending a written notice duly signed by an authorized representative, and shall include a copy of the authorization in accordance with **ITB Clause** 1.3.9.1, Notices must be received by the purchaser prior to the deadline prescribed for submission of bids, in accordance with **ITB Clause** 1.4.2.



**1.4.4.2.** No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Technical Bid or any extension thereof.

#### **1.4.5. Bid Opening**

**1.4.5.1.** The Purchaser shall conduct the opening of Technical Bids through online process at the address, date and time specified in the BDS. The Bid Opening Committee shall open the bids received online in the presence of Bidders' designated representatives who choose to attend. The Price Bids will remain unopened until the specified time of their opening.

**1.4.5.2.** Only Technical Bids and alternative Technical Bids read out and recorded at bid opening shall be considered for evaluation. No bid shall be rejected at the opening of Technical Bids except for withdrawn bids.

**1.4.5.3.** The Purchaser shall prepare a record of the opening of Technical Bids that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal and alternate proposals and the presence or absence of a bid security or a bid securing declaration, if one was required. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record.

**1.4.5.4.** At the end of the evaluation of the Technical Bids, the Purchaser will invite bidders who have submitted substantially responsive Technical Bids and who have been determined as being qualified for award to attend the opening of the Price Bids. The date, time, and location of the opening of Price Bids will be informed in writing by the Purchaser. Bidders shall be given notice well in advance of the opening of Price Bids.

**1.4.5.5.** The Purchaser shall conduct the opening of Price Bids of all Bidders who submitted substantially responsive Technical Bids, in the presence of Bidders' representatives who choose to attend at the address, date and time specified by the Purchaser. The Bidder's representatives who are present shall be requested to sign a register evidencing their attendance.

**1.4.5.6.** Only Bid Prices and discounts read out and recorded during the opening of Price Bids shall be considered for evaluation. No Bid shall be rejected at the opening of Price Bids.

#### **1.5.0 Evaluation and Comparison of Bids**

##### **1.5.1. Confidentiality**

Information relating to the evaluation of bids and recommendation of contract award shall not be disclosed to Bidders or any other persons not officially concerned with such process.

**1.5.1.1.** Any attempt by a Bidder to influence the Purchaser in the evaluation of the bids or Contract award decisions may result in the rejection of its bid.

**1.5.1.2.** Notwithstanding **ITB Clause** 1.5.1.1, from the time of bid opening to the time of Contract award, if any Bidder wishes to contact the Purchaser on any matter related to the bidding process, it should do so in writing duly signed by an authorized representative.

##### **1.5.2. Clarification of Bids**

**1.5.2.1.** To assist in the examination, evaluation, and comparison of the Technical and Price Bids, and qualification of the Bidders, the Purchaser may, at its discretion, ask any Bidder for a clarification of its bid. Any clarification submitted by a Bidder that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing. No change in the substance of the Technical Bid or prices in the Price Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the evaluation of the bids, in accordance with **ITB Clause** 1.5.8.

1.5.2.2. If a Bidder does not provide clarifications of its bid by the date and time set in the Purchaser's request for clarification, its bid may be rejected.

### 1.5.3. Deviations, Reservations, and Omissions

1.5.3.1. During the evaluation of bids, the following definitions apply:

- a) "Deviation" is a departure from the requirements specified in the Bidding Document;
- b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and
- c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.

### 1.5.4. Responsiveness of Technical Bid

1.5.4.1. The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself, as defined in **ITB Clause** 1.3.3.

1.5.4.2. A substantially responsive Technical Bid is one that meets the requirements of the Bidding Document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that,

- a) if accepted, would:
  - (i). affect in any substantial way the scope, quality, or performance of the plant and services specified in the Contract; or
  - (ii). limit in any substantial way, inconsistent with the Bidding Document, the Purchaser's rights or the Bidder's obligations under the proposed Contract; or
- b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive bids.

1.5.4.3. The Purchaser shall examine the technical aspects of the Bid submitted in accordance with **ITB Clause** 1.3.6, Technical Proposal, in particular to confirm that all requirements of Section 3 (Purchaser's Requirements) have been met without any material deviation or reservation.

1.5.4.4. If a bid is not substantially responsive to the requirements of the Bidding Document, it shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

### 1.5.5. Non-material Nonconformity

1.5.5.1. Provided that a Bid is substantially responsive, the Purchaser may waive any nonconformity in the bid that does not constitute a material deviation, reservation or omission.

1.5.5.2. Provided that a Bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformity in the Bid related to documentation requirements. Requesting information or documentation on such nonconformity shall not be related to any aspect of the Price Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

1.5.5.3. Provided that a Bid is substantially responsive, the Purchaser shall rectify nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component. The adjustment shall be made using the method indicated in **Appendix-2 of ITB (Evaluation and Qualification Criteria)**.

### 1.5.6. Detailed Evaluation of Technical Bids

1.5.6.1. The Purchaser will carry out a detailed technical evaluation of the bids not previously rejected as being substantially non-responsive, in order to determine whether the technical aspects are in compliance with the Bidding Document. In order to reach such a determination, the Purchaser will examine and compare the technical aspects of the bids on the basis of the information supplied by the bidders, taking into account the following:

- a) overall completeness and compliance with the Purchaser's Requirements; deviations from the Purchaser's Requirements; conformity of the goods and services offered with specified performance criteria; suitability of the goods and services offered in relation to the environmental and climatic conditions prevailing at the site; and quality, function and operation of any process control concept included in the bid. The bid that does not meet minimum acceptable standards of completeness, consistency and detail will be rejected for non-responsiveness;
- b) type, quantity and long-term availability of mandatory and recommended spare parts and maintenance services; and
- c) other relevant factors, if any, listed in **Appendix to ITB-2 (Evaluation and Qualification Criteria)**.

### 1.5.7. Eligibility and Qualification of the Bidder

1.5.7.1. The Purchaser shall determine to its satisfaction during the evaluation of Technical Bids whether a Bidder meets the eligibility and qualifying criteria specified in **Appendix to ITB-2 (Evaluation and Qualification Criteria)**.

1.5.7.2. The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to relevant **ITB Clause**.

1.5.7.3. **An affirmative determination shall be a prerequisite for the opening and evaluation of a Bidder's Price Bid. A negative determination shall result into the disqualification of the Bid, in which event the Purchaser shall not open the Price Bid of the Bidder.**

### 1.5.8. Correction of Arithmetical Errors

1.5.8.1. During the evaluation of Price Bids, the Purchaser shall correct arithmetical errors, if any on the following basis:

- a) where there are errors between the total of the amounts given under the column for the price breakdown and the amount given under the Total Price, the former shall prevail and the latter will be corrected accordingly;
- b) where there are errors between the total(sum) of the amounts of the different Schedule(s) and the amount given in terms of a Grand Total or Grand Summary, as the case may be the former shall prevail and the latter will be corrected accordingly; and
- c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetical error, in which case the amount in figures shall prevail subject to (a) and (b) above.

1.5.8.2. If the Bidder that submitted the lowest evaluated bid does not accept the correction of errors, its bid shall be **disqualified and its bid security may be forfeited**.

### 1.5.9. Evaluation of Price Bids

1.5.9.1. The Purchaser shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be used.

1.5.9.2. To evaluate a Price Bid, the Purchaser shall consider the following:

- a) the bid price, including taxes, as quoted in the Price Schedules;
- b) price adjustment for correction of arithmetical errors in accordance with **ITB Clause 1.5.8.1**; and
- c) the evaluation factors if any indicated in Appendix 2 (Evaluation and Qualification Criteria).

**1.5.10. Comparison of Bids**

**1.5.10.1.** The Purchaser shall compare all substantially responsive bids to determine the lowest evaluated bid.

**1.5.11. Purchaser's Right to Accept Any Bid, and to Reject Any or All Bids**

**1.5.11.1.** The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

**1.5.12. Issue of Work Order**

**1.5.12.1.** The Purchaser shall issue Work Order to the Bidder whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be eligible and qualified to perform the Work satisfactorily.

**1.5.13. Acknowledgement of Work Order**

**1.5.13.1.** Within **three (3)** days of receipt of the Work Order, the successful Bidder shall be required to submit an acknowledgement for the receipt of Work Order along with an affirmative declaration for submission of Performance Security in accordance with Clause 1.5.14.

**1.5.14. Security Deposit**

**1.5.14.1.** A security deposit of 10% shall be deducted from the invoices at the time of processing of bills, which will be returned only after completion of the warranty period.

**1.5.15. Warranty**

**1.5.15.1** The warranty period shall be counted as 3 months after successful completion and acceptance by AEGCL.

## APPENDIX TO ITB – 1

### Bid Data Sheet (BDS)

#### A. Introduction

ITB 1.1.1.1	The number of the IFB is: <b>AEGCL/MD/Tech-1082/Soil Investigation/AIIB Phase-II/2023/Dhing-Chabua/IFB Date:23.05.2023</b>
	The Purchaser is: <b>Assam Electricity Grid Corporation Limited.</b>
	<p style="text-align: center;">The name of the Bid is:  <b>“Geotechnical Investigation for construction of 2 nos. of Grid Substations at Dhing &amp; Chabua under AEGCL”</b></p> <p style="text-align: center;">Identification Number of the Bid is: <b>AEGCL/MD/Tech-1082/Soil Investigation/AIIB Phase-II/2023/Dhing-Chabua/Bid</b></p>

#### B. Bidding Document

ITB 1.2.2.1	<p>For <b>clarification purposes</b> only, the Purchaser’s address is:</p> <p><b>The Chief General Manager (PP&amp;D), AEGCL</b>  Street Address: <b>Bijulee Bhawan, Paltanbazar</b>  Floor/Room number: <b>First Floor</b></p> <p>City: <b>Guwahati</b></p> <p>PIN Code: <b>781001</b>  Country: <b>India</b>  Telephone: +91 361 2739520  Facsimile number: +91 361 2739513  Electronic mail address: <a href="mailto:cgm.ppd@aegcl.co.in">cgm.ppd@aegcl.co.in</a> (Subject: <b>Soil Investigation of 2 Nos. of GSS-Dhing &amp; Chabua</b>)</p> <p>Email from prospective bidders should have <b>“Subject”</b> of the email in the format as stated above.</p>
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#### C. Preparation of Bids

ITB 1.3.3.2(e)	Bidder shall submit documents as per Section-2 (Bidding forms). The registration certificate / GST/ Income tax certificate etc. of the contractor/ firm etc. participating as the bidder
ITB 1.3.6.5	The prices quoted by the Bidder shall be <b>FIXED for entire period of the Contract.</b>
ITB 1.3.7.1	The bid validity period shall be <b>180 (One Hundred and Eighty) days.</b>
ITB 1.3.8.1	<b>The Bidder shall submit a bid security online (through e-tender portal) to Rs. 21,000.00 /- (Rupees Twenty-One Thousand) only.</b>
ITB 1.3.9.1	The bidding is through E-tendering portal and received online. However, a bidder has to submit any document(s) in hard copy if asked by the Purchaser.
ITB 1.3.9.2	The written confirmation of authorization to sign on behalf of the Bidder shall consist of a written confirmation of Authorization to sign on behalf of the Bidder shall consist of <b>Notarized Power of Attorney.</b>

ITB 1.4.2.1	<p>For <b>bid submission purposes</b> only, <b>(E-tenders shall be accepted through online portal <a href="http://assamtenders.gov.in">http://assamtenders.gov.in</a> only)</b> The purchaser's address is: Attention: <b>The Chief General Manager (PP&amp;D), AEGCL</b> Street Address: <b>Bijulee Bhawan, Paltanbazar</b> Floor/Room number: <b>First Floor</b> City: <b>Guwahati</b> PIN Code: <b>781001</b> <b>The deadline for bid submission is</b> <b>Date: 02.06.2023</b> <b>Time: 12:00 hrs</b></p>
ITB 1.4.5.1	<p>The bid opening of Technical Bids shall take place at <b>Office of The Chief General Manager (PP&amp;D), AEGCL</b> Street Address: <b>Bijulee Bhawan, Paltanbazar</b> Floor/Room number: <b>First Floor</b> City: <b>Guwahati (Assam)</b> PIN Code: <b>781001</b> Country: <b>India</b> <b>Date: 03.06.2023</b> <b>Time: 14:00 hrs</b></p>

## APPENDIX TO ITB - 2

### Evaluation and Qualification Criteria (ECQ)

This Appendix contains all the criteria that the Purchaser shall use to evaluate bids and qualify Bidders.

In accordance with ITB 1.5.6 and ITB 1.5.7, no other methods, criteria and factors shall be used.

The Bidder shall provide all the information requested in the forms included in Section 2 (Bidding Forms).

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## 1. Evaluation

### 1.1 Technical Evaluation

In addition to the criteria listed in ITB 1.5.6.1 (a) – (c), no other factor shall apply.

### 1.2 Economic Evaluation

Any adjustments in price that result from the procedures outlined below shall be added, for purposes of comparative evaluation only, to arrive at an “Evaluated Bid Price.” Bid prices quoted by bidders shall remain unaltered.

#### 1.2.1 Quantifiable Deviations and Omissions

*Quantifiable Deviations and Omissions from the contractual obligations:* No financial assessment shall be made by the Purchaser for deviations and omissions from the requirements of the Bidding Document. All such deviations, omissions or reservations shall be dealt with in accordance with ITB Clauses 1.5.4.2, 1.5.4.3, 1.5.4.4, 1.5.5.1, 1.5.5.2, 1.5.5.3, 1.5.6.1(a) and 1.5.8.

### 1.3 Time Schedule

Time to complete Works from the Date of issue of Work Order specified is **45 (forty-five) days.**

**The above-mentioned time to complete the works comprises of the total duration involved in submission by bidder and approval from AEGCL for the draft as well as final Report.**

**The timeline for deliverables shall however be as shown below.**

**The conformity to the following timelines is a must for qualifying in the bidding process. The signed and sealed Time schedule (Section-2, Bidding Form (5)) in conformity sought as per this clause must be submitted along with the Bid.**

The Key deliverables along with break up of submission timelines are specified as follows:

Sl No	Deliverable	Time of Completion
1	Submission of 1st Draft (including all drawings/documents in scope) for review by AEGCL	<b>15 days from the date of issue of W.O.</b>
2	Submission of Final Report (including all drawings/documents in scope) for approval to AEGCL	<b>10 days from the approval/comments on the draft by AEGCL, if any</b>

Bids not meeting the above time schedule shall be rejected. However, no reward will be given for earlier completion.

### 1.4 Specific additional criteria

In addition to the above, no additional criteria shall be considered for evaluation of Bids.

## 2 Qualification

Qualification of bidder will be based on meeting the minimum pass / fail criteria specified below.

### 2.1 General

#### 2.1.1 EXPERIENCE

2.1.1.1 The Bidder must satisfy the requirement of ITB Sub-Clause 1.1.2 and shall submit necessary document as per the said Clause.

2.1.1.2 Reputed and financially sound civil engineering firms/contractors having experience of successfully executing similar nature of work during the last 5 years. (Submitted with supporting documents).



**Documentary Evidence of Experience in works of a similar nature (as defined in the scope of this bid) and volume for each such work in the last five years, and/or details of works presently under way or contractually committed and their respective clients.**

## **2.1.2 CAPABILITY**

- 2.1.2.1** Each bid shall be accompanied by a statement by the bidder declaring that he/she/it is a bona-fide engineering contractor and has in possession adequate equipment, access to a proper laboratory (including all testing apparatus), qualified personnel to fill positions required for execution of the work.
- 2.1.2.2** The Bidder will supply information of the key personnel, design & engineering staff, support staff, field staff etc. proposed for the work along with details of their experience in similar nature of work.
- 2.1.2.3** The Bidder should also substantiate availability (either owned or leased) of the tools, tackles, spare parts etc. for carrying out the works.

## **2.2 Litigation**

Using the 'Form LIT- 1' (Section 4, Bidding Form), bidder shall list all Pending Litigation. All pending litigation shall be treated as resolved against the Bidder and so shall in total not represent more than **50% percent** of the Bidder's net worth.

## **2.3 Financial**

Minimum **average annual turnover** of **Rs.3,50,000.00/- (Three Lakhs Fifty Thousand only)** calculated as total certified payments received for contracts in progress or completed, within the **last 3 years** and audited balance sheets for the same.

## **2.4 Additional Qualifying Requirements**

- 2.4.1** The contractor must have registration with the concerned department of Government of Assam/Govt. of India.
- 2.4.2** The Contractor/Firm should produce work experience/completion certificate from officer not below the rank of Executive Engineer strictly in the name of the Contractor/Firm of at least 1(one) complete work relevant to the tendered work, done within last 3 years. (Submitted with supporting documents).

## Section - 2

# BIDDING FORMS

*This Section contains the forms that are to be completed by the Bidder and submitted as part of his Bid.*

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**1 Letter of Technical Bid**

[Bidder's Letterhead]

Date: .....

Bid Identification No (s): .....

: .....

: .....

: .....

Invitation for Bid No.: .....

To: .....

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB) 1.2.3;
- (b) We offer to design, manufacture, test and deliver, in conformity with the Bidding Document the following Goods and Related Services: .....
- (c) Our Bid consisting of the Technical Bid and the Price Bid shall be valid for a period of . . . . days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period

Name .....

In the capacity of .....

Signed .....

.....

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

Date .....

.....

**2 Letter of Price Bid**  
**(NOT REQUIRED FOR E-TENDERING)**

[Bidder's Letterhead]

Date: .....

Bid Identification No: .....

Invitation for Bid No.: .....

To: .....

We, the undersigned, declare that:

- (i). We have examined and have no reservations to the Bidding Document, including Addenda issued in accordance with Instructions to Bidders (ITB) 1.2.3;
- (ii). We offer to design, manufacture, test and deliver in conformity with the Bidding Document the following Goods and Related Services: .....
- (iii). The total price of our Bid is the sum of: .....
- (iv). Discount offered (if any) for (i) Supply (Schedule 1) .....%, and (ii) Related Services (Schedule 2, F& I,) ..... %
- (v). Our bid shall be valid for a period of ..... days from the date fixed for the submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (vi). If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Document;
- (vii). 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; and
- (viii). 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 .....

### 3 Price Schedule

#### PREAMBLE

##### General

1. The Price Schedules is divided into the following schedule:  
Schedule No. 1: Schedule of Works
2. The entered rates and prices shall be deemed to cover the full scope as specified in the bidding document, including overheads and profit.
3. If bidders are unclear or uncertain as to the scope of any item, they shall seek clarification in accordance with **ITB** 1.2.2 prior to submitting their bid.

##### Pricing

4. Prices shall be filled in indelible ink/ on-line and any alterations necessary due to errors, etc., shall be initialed by the Bidder if asked for hardcopy.
5. Bid prices shall be quoted on-line in the manner indicated in Schedules.  
As specified in the Bid Data Sheet and Special Conditions of Contract, prices shall be fixed and firm for the duration of the Contract, or prices shall be subject to adjustment in accordance with the corresponding Appendix (Price Adjustment) to the Contract Agreement.  
Prices given in the Schedules against each item shall be for the scope covered by that item as detailed in Section 3 (Purchaser's Requirements) or elsewhere in the Bidding Document.

**NOTE: For E-Tendering these forms are indicative only. All prices to be filled in the price schedule provided in the e-tendering portal only.**

### Schedule No1: SCHEDULE OF WORK

Item No.	Description of Test	UoM	Qty.	Unit Rate (excluding taxes) (Rs)	Amount (Rs)
1	Mobilization & Demobilization of team & Equipment to site and return				
	i) For each of the proposed Substations	LS	2		
2	Soil sample test in approved laboratory				
	A. Natural Moisture Content (35 nos. for 1 SS)	Each	70		
	B. Particle Size Analysis				
	i) Sieve (17 nos. for 1 SS)	Each	34		
	ii) Mechanical Analysis (17 nos. for 1 SS)	Each	34		
	C. Index Properties (Liquid & Plastic Limits, shrinkage & Plasticity index) (35 nos. for 1 SS)	Each	70		
	D. Bulk & Dry Density (35 nos. for 1 SS)	Each	70		
	E. Unconfined Compression Test (35 nos. for 1 SS)	Each	70		
	F. Shear Test by Triaxial Compression (21 nos. for 1 SS)	Each	42		
	G. Direct Shear Test (21 nos. for 1 SS)	Each	42		
	H. Consolidation test (Odometer) (21 nos. for 1 SS)	Each	42		
	I. Chemical analysis for				
	i) Soil (2 nos. for 1 SS)	Each	4		
	ii) Sub-Soil water (2 nos. for 1 SS)	Each	4		
3.	Making Test Bores on soil including taking out undisturbed and disturbed soil samples, maintaining driving records of standard penetration test at various depths in soil and furnishing the necessary report and data in bore log form in sextuplicate to the engineer.				
	A. Upto 15m depth from natural ground level (15Mx 12 Nos. BH) (180 RM for 1 SS)	RM	360		

<b>Item No.</b>	<b>Description of Test</b>	<b>UoM</b>	<b>Qty.</b>	<b>Unit Rate (excluding taxes) (Rs)</b>	<b>Amount (Rs)</b>
<b>4.</b>	PLT- Conducting Plate Load Test including all necessary arrangements. (1 no. for 1 SS)	Each	2		
<b>5.</b>	Earth Resistivity test with four-point Megger. (5 nos. for 1 SS)	Nos.	10		
<b>6.</b>	1. Hydrometer Analysis	LS	1		
	2. Standard Proctor Compaction Test				
	3. Relative Density (for sand)				
	4. California Bearing Ratio				
	5. Preparation and submission of report on soil investigation including recommendations as per specifications.				

1. All amounts shall be in Rupees
2. Prices shall be exclusive of taxes

#### 4 Format of Bid Security (if applicable)

##### Bank Guarantee

(To be stamped in accordance with Stamp Act)

(The non-Judicial Stamp Paper should be in the name of issuing Bank)

.....**Bank's Name and Address of Issuing Branch or Office**.....

**Beneficiary:** .....**Name and Address of Purchaser**.....

**Date:** .....

**Bid Security No.:** .....

We have been informed that . . . . . **name of the Bidder** . . . . . (Hereinafter called "the Bidder") has submitted to you its bid dated . . . . . (Hereinafter called "the Bid") for the execution of . . . . . **Name&Identification No of Bid** . . . . . under Invitation for Bids No. . . . . ("The IFB").

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we . . . . . **name of Bank** . . . . . hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of . . . . . **amount in figures** . . . . . (**amount in words** . . . . . ) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Form of Bid; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB");  
or
- (c) having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity, (i) fails or refuses to execute the Contract Agreement, or (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB.

This guarantee will expire: (a) if the Bidder is the successful Bidder, upon our receipt of copies of the Contract Agreement signed by the Bidder and the performance security issued to you upon the instruction of the Bidder; and (b) if the Bidder is not the successful Bidder, upon the earlier of (i) our receipt of a copy your notification to the Bidder of the name of the successful Bidder; or (ii) twenty-eight days after the expiration of the Bidder's bid.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

.....**Bank's seal and authorized signature(s)**.....

**Note: All italicized text is for use in preparing this form and shall be deleted from the final document**



### 5 Contract Execution Schedule

*The Bidder shall indicate here his proposed Contract Execution Schedule if the contract is awarded to him. The Schedule shall match with the time for completion specified.*

## 6 Bidders Qualification

To establish its qualifications to perform the contract in accordance with Appendix 2 of ITB (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder.

### 6.1 Bidder's Information Sheet

<b>Bidder's name</b>	
<b>Bidder's address</b>	
<b>Bidder's authorized representative</b>  (name, address, telephone numbers, fax numbers, e-mail address)	
<p><b>Attached are copies of the following original documents.</b></p> <p><input type="checkbox"/> 1. In case of single entity/firm, documents, in accordance with ITB 1.1.2.1.</p> <p><input type="checkbox"/> 2. In case of single Company, documents, in accordance with ITB 1.1.2.2.</p>	

## 6.2 Pending Litigation

(Fill in this form if applicable, otherwise specify 'NIL')

Each Bidder must fill in this form

<input type="checkbox"/> <b>No pending litigation in accordance with Criteria 2.1.3 of Appendix 2 of ITB (Evaluation and Qualification Criteria)</b>  <input type="checkbox"/> <b>Pending litigation in accordance with Criteria 2.1.3 of Appendix 2 of ITB (Evaluation and Qualification Criteria)</b>			
Year	Matter in Dispute	Value of Pending Claim in Rupees	Value of Pending Claim as a Percentage of Net Worth

**6.3 Experience**

Each Bidder must fill in this form

<b>Experience</b>				
<b>Starting Month</b>	<b>Ending Month</b>	<b>Months</b>	<b>Contract Identification and Name Name and Address of Purchaser Brief Description of the Works Executed by the Bidder</b>	<b>Role of Bidder</b>

**6.4 Manpower and Equipment(s) List**

(As per requirements of scope of work of the bid document)

**6.5 - Form of Performance Security (if applicable)****Bank Guarantee**

(To be stamped in accordance with Stamp Act)

To: \_\_\_\_\_ [name of Purchaser]  
 \_\_\_\_\_ [address of Purchaser]

WHEREAS \_\_\_\_\_ [name and address of Supplier/Manufacturer] has undertaken, in pursuance of Contract No. \_\_\_\_\_ dated \_\_\_\_\_ to execute \_\_\_\_\_ [name of Supplier/Manufacturer and brief description of Scope] (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier/Manufacturer shall furnish you with a Bank Guarantee by a recognized/scheduled bank for the sum specified therein as security for compliance with its obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Supplier/Manufacturer such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Supplier/Manufacturer, up to a total of \_\_\_\_\_ [amount of Guarantee]' \_\_\_\_\_ [in words], such sum being payable in the currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_ [amount of Guarantee] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Supplier/Manufacturer before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the scope to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the date, 30 days beyond the Warranty Period as per the Contract.

Signature and Seal of the Guarantor \_\_\_\_\_

Name of Bank \_\_\_\_\_

Address \_\_\_\_\_

Date \_\_\_\_\_

1

An amount is to be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract.

## **Section - 3**

### **Employer's Requirements**

## Section 3

### Employer's Requirements

#### 3.1.0 Scope of Works

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

- a) Conducting soil investigation test necessary to initiate the process of construction of the following Grid Sub-stations at various locations in Assam:
  1. 132 kV Dhing GSS
  2. 132 kV Chabua GSS
  
- b) The different tests need to be carried out are as follows:
  - Natural Moisture content
  - Particle size Analysis
  - Index Properties
  - Unconfined Compression Test
  - Bulk & Dry Density Test
  - Shear test by Triaxial compression
  - Direct shear Test
  - Consolidation test (Odometer)
  - Chemical analysis for soil & sub-soil water
  - Making Test Bores on soil including taking out undisturbed and disturbed soil samples
  - Maintaining driving records of standard penetration test at various depths in soil
  - Conducting Plate Load Test
  - Earth Resistivity Test
  - Hydrometer Analysis
  - Standard Proctor compaction test
  - Relative Density (for sand)
  - California bearing ratio
  - Any other tests as required per Schedule of Work (Section 2 - Bidding Forms).

#### 3.2.0 Contractor to Inform Himself Fully

**3.2.1** The Contractor should ensure that he has examined the Specifications and Schedules as brought out in this Section as well as other Sections of The Bidding document and has satisfied himself as to all the conditions and circumstances affecting the contract price and fixed his price according to his own views on these matters and acknowledge that no additional allowances except as otherwise provided therein will be levied.

**3.2.2** The Employer shall not be responsible for any misunderstanding or incorrect information obtained by the contractor other than information given to the contractor in writing by the Employer.

#### 3.3.0 Service Conditions

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

- a) Peak ambient day temperature in still air : 45°C
- b) Minimum night temperatures : 0°C
- c) 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.

### 3.4.0 Conformity with Indian Electricity Rules & Other Local Regulations

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

3.4.2. 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.

### 3.5.0 Standards

3.5.1. The scope covered under this bidding document shall, unless otherwise stated be designed in accordance with the latest revisions of relevant Indian Standards and shall conform to the regulations of local statutory authorities.

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

3.5.3. **All work shall be carried out in accordance with the following Indian Standards and Codes:**

Indian Standards	Title	International Standard
IS 1080	Codes of Practice for Design and Construction of Shallow Foundations on soils (other than Raft, Ring & Shell)	
IS1498	Classification and Identification of Soils for General Engineering purposes	ASTM D 2487  ASTM D2488
IS 1892	Code of Practice for Subsurface Investigation for Foundation	
IS 1904	Code of Practice for Design and Construction of foundation in Soils: General Requirements	
IS 2131	Method of Standard Penetration Test for Soils	ASTM D 1586
IS 2132	Code of Practice for Thin-Walled Tube Sampling of Soils	ASTM D 1587
IS 2720 (Part 1-39) (relevant parts)	Method of Test for Soils (Relevant Parts)	
IS 2809	Glossary of Terms and symbols Relating to Soil Engineering	

IS 2911 (Part I-VI)	Code of Practice for Design and construction of Pile Foundations (Relevant Parts)	
IS 3043	Code of Practice for Earthing	
IS 4078	Code of Practice for Indexing and Storage of Drill Cores	
IS 4091	Code of Practice for Design and Construction of Foundations for Transmission Line Towers and Poles	
IS 4434	Code of Practice for In-situ Vane Shear Test for Soils	ASTM D 2573(M)-15  ASTMD 4648(M)-16
IS 4453	Code of Practice for Sub-Surface Exploration by Pits, Trenches, Drifts and Shafts	
IS 4464	Code of Practice for Presentation of Drilling information and core description in Foundation investigation	
IS 4968(Part-II)	Method for Subsurface sounding for soils, dynamic method using cone and Bentonite slurry	
IS 5313	Guide for Core Drilling observation	
IS 6403	Code of Practice for Determination of Bearing Capacity of Shallow Foundation	
IS 6926	Code of Practice for Diamond Core Drilling for Site Investigation for River Valley Project	
IS 6935	Method of Determination of Water level in a Bore Hole	
IS 2809	Glossary of Terms and symbols Relating to Soil Engineering	ASTM D 653-14
IS 2911 (Part I-VI)	Code of Practice for Design and construction of Pile Foundations (Relevant Parts)	
IS 3043	Code of Practice for earthing	
IS 4078	Code of Practice for Indexing and Storage of Drill Core	
IS 4091	Code of Practice for Design and Construction of Foundations for Transmission Line Towers and Poles	
IS 4434	Code of Practice for In-situ Vane Shear Test for Soils	ASTM D2573 (M)-15  ASTMD 4648(M)-16
IS 4453	Code of Practice for Sub-Surface Exploration by Pits, Trenches, Drifts and	

	Shafts	
IS 4464	Code of Practice for Presentation of Drilling information and core description in Foundation investigation	
IS 4968 (Part-II)	Method for Subsurface sounding for soils, dynamic method using cone and Bentonite slurry	
IS 5313	Guide for Core Drilling observations	
IS 6403	Code of Practice for Determination of Bearing Capacity of Shallow Foundation	
IS 6926	Code of Practice for Diamond Core Drilling for Site Investigation for River Valley Projects	
IS 6935	Method of Determination of Water level in aBore Hole	
IS 7422 Part (I- V)	Symbols and Abbreviations for use in Geological Maps Sections and subsurface Exploratory Logs (Relevant parts).	
IS 8009(Part-I)	Code of Practice for Calculation of Settlements of Foundations (Shallow Foundations subjected to symmetrical Vertical Loads).	
IS 8764	Method of Determination of Point Load Strength Index of Rocks.	
IS 9143	Method of Determination of Unconfined Compressive Strength of Rock Material	ASTM D 7012- 14e1
IS 9179	Method of Preparation of Rock Specimen for Laboratory Testing	
IS 9259	Specification for Liquid Limit Apparatus	ASTM D4318-17
IS 9640	Specification for Split Spoon Sampler	ASTM D1586-11
IS 10050	Method of Determination of Slake Durability Index of Rocks	ASTM D4644-16
IS 11315 (Part 1-12)	Method for the Quantitative Description of discontinuities in Rock Mas	

**3.6.0 Test Reports for each substation under Scope of this Bid are to be submitted in conformity with the clauses 3.1.0 and the Schedule of Works (Section-3, Bidding Forms) within stipulated timelines for approval of AEGCL.**

### **3.7.0 GENERAL REQUIREMENT FOR SOIL INVESTIGATION**

The Contractor shall use the recommendations made in the soil investigation report provided by the Employer with this bid document for reference purpose only.

- a) The Contractor shall perform a detailed soil investigation to arrive at sufficiently accurate general as well as specific information about the soil profile/strata and the necessary soil parameters of the site in order that the foundations of the various structures can be designed and constructed safely and rationally. Foundation systems adopted by the contractor shall ensure that relative settlement shall be as per provision in IS 1904 and any latest IS and other Indian Standards.
- b) This Specification covers all the work required for detailed soil investigation and preparation of a detailed report. The work shall include mobilization of necessary equipment, provision of necessary engineering supervision and technical personnel, skilled and unskilled labor etc., as required to carry out field investigation and tests, laboratory tests, analysis and interpretation of data and results, preparation of detailed soil report including specific recommendations for the type of foundations and the safe bearing capacity for different sizes of foundations at different founding strata for the various structures of the substation. The Contractor shall make his own arrangements for locating the coordinates and various test positions in field and also for determining the reduced level of these locations with respect to the benchmark. All the test is to be carried out before the AEGCL officials or before any agency engaged by AEGCL. Prior intimation in this effect has to be given to AEGCL.
- c) A report to the effect will be submitted by the Contractor for AEGCL specific approval giving details regarding his data for Civil structures design.
- d) Any variation in soil data provided with bid document shall not constitute a valid reason for any additional cost and shall not affect the terms and condition of the Contract. Nothing extra whatsoever shall be paid to the Contractor on account of any variation in subsoil properties /or conditions. Tests must be conducted under all the critical locations i.e. GIS Building, Control room building, autotransformer, lightning mast, 400 kV/220 kV/132 kV column location, auxiliary buildings etc. However, some of the soil parameters given below for substations have to be determined and submitted to authorized representative of AEGCL.
- i. Dry density
  - ii. Bulk density
  - iii. Angle of internal friction/cohesion
  - iv. Specific gravity
  - v. Natural moisture content.

**e) Bore holes**

Drilling of a specified number of bore holes of 150 mm dia. in accordance with the provisions of IS 1892 at approved locations to specified depths or to refusal whichever occurs earlier. (By refusal it shall mean that a standard penetration blow count (N) of 100 is recorded for 30 cm penetration). However, at least 5 boreholes or as specified in BOQ shall be drilled to the required depth (15 mts. approximately).

Performing Standard Penetration Tests at approximately 2.0 m intervals in the bore hole starting from 0.5 m below ground onwards and at every change of stratum. The disturbed samples from the standard penetrometer shall also be collected for necessary tests.

Collecting undisturbed samples of 100/75 mm diameter 450 mm long from the bore holes at intervals of 2.5 m and every change of stratum starting from 1.0 m below ground level onwards. The depth of Water Table shall be recorded in each bore hole.

All samples, both disturbed and undisturbed, shall be identified properly with the bore hole number and depth from which they have been taken. The sample shall be sealed at both ends of the sampling tubes with wax immediately after the sampling and shall be packed properly and transported to the Contractor's laboratory without any damage or loss.

The logging of the bore holes shall be compiled immediately after the boring is completed and a copy of the bore log shall be handed over to AEGCL.

**f) Dynamic cone penetration test**

Two Dynamic cone penetration tests under the locations of auto transformers shall be carried out with the circulation

of bentonite slurry at specified location and a continuous record of penetration resistance (NG) up to 15 meter from natural ground level or refusal, shall be maintained by the Contractor.

Dynamic cone penetration tests are conducted to correlate engineering properties such as stratification density, bearing capacity, settlement, etc., of soils which are primarily cohesive in nature. The tests shall be conducted by driving a standard size cone attached loosely or screwed to a string of drill rods. The specification for the equipment and accessories required for performing this test, test procedure, field observations and reporting of results shall confirm to IS 4968-part 11 latest revision. The driving system shall comprise of 65 kg weight having a free fall of 75 cm. The cone size shall be 65 mm diameter, and provided with vents for continuous flow of bentonite slurry through the cone and rods in order to avoid friction between the rods and soil. The location for tests shall be as directed by AEGCL. On completion of the test, the results shall be presented as a continuous record as the number of blows required for every 300 mm penetration of the cone into the soil.

**g) Trial pits**

Trial pits shall be made at two locations as approved by AEGCL. The trial pits shall be 2 meters square in size extending to (four) meters depth or as specified by AEGCL. Undisturbed samples shall be taken from the trial pits as per the direction of AEGCL.

**h) Field California Bearing Ratio test**

This test shall be carried out to obtain the properties of soil required for the construction of roads. The equipment and accessories required for carrying out the test, test procedure, recording of observations and presentation of results shall confirm to IS 2770 part **XXXI**. The test locations of CBR test shall be on the road locations as per GA drawing. These tests shall be performed on remolded and undisturbed, soaked and un soaked samples.

**i) Electrical resistivity test.**

This test shall be conducted to determine the electrical resistivity of soil required for designing safety grounding system for the entire station area. The specifications for the equipment and other accessories required for performing electrical resistivity test, the test procedure, and reporting of field observations shall confirm to IS 3043. The test shall be conducted using Wagner's four electrode method as specified in IS 1892, Appendix-B2. Unless otherwise specified at each test location, the test shall be conducted along two perpendicular lines parallel to the coordinate axis.

**j) Plate load test**

Plate load test shall be conducted to determine the bearing capacity and load/ settlement characteristics of soil at shallow depths by loading a plane and level steel plate kept at the desired depth and measuring the settlement under different loads, until a desired settlement takes place or failure occurs. The specification for the equipment and accessories required for conducting the test, the test procedure, field observations and reporting of results shall conform to IS 1888. The location and depth of the test shall be given by the Contractor and approved by AEGCL. Undisturbed tube samples shall be collected at 1.0 m and 2.5 m depths from the natural ground level for carrying out laboratory tests.

The size of the pit shall not be less than five times the plate size and shall be taken upto the specified depth. All provisions regarding excavation and visual examination of pit shall apply here.

If the ground water table is at a depth higher than the specified test depth, the ground water table shall be lowered and maintained at the test depth for the entire duration of the test. Dewatering shall be at Contractor's cost.

Unless otherwise specified the reaction method of loading shall be adopted. Settlement shall be recorded from dial gauges placed at four diametrically opposite ends of the test plate. The test plate shall be 600 x 600 mm size and at least 25mm thick. The bottom of the pit shall be levelled before placing the plate in position for conducting the test.

A seating load of 70 gm/sq.cm shall be applied and after the dial gauge readings are stabilized, the load shall be released, and the initial readings of the dial gauges recorded after they indicate constant reading. The load shall be increased in stages. These stages shall be 20, 40, 70, 100, 150, 200, 250, 300, 400, 500, 600 and 800 KN per sqm or as directed by AEGCL. Under each loading stage, record of time versus settlement shall be kept as specified in IS 1888.

The load shall be maintained for a minimum duration of one hour or till the settlement rate reduces to 0.02 mm/m. whichever is later. No extrapolation of settlement rate from periods less than one hour shall be permitted.

Loading shall be carried out in stages as specified above till one of the following conditions occurs:

- i. Failure of the soil under the plate i.e. the settlement of the plate at constant load becomes progressive and reaches a value of 40 mm or more.
- ii. Total settlement of the plate is more than 40mm.
- iii. Load intensity of 800 kN/sq.m is reached without failure of the soil.

Backfilling of the pit shall be carried out as per the directions of AEGCL. Unless otherwise specified the excavated soil shall be used for this purpose. The quoted rates shall include backfilling.

Dial gauge readings for settlement shall generally be taken at 1, 2, 4, 6, 9, 16, 25, 60, 90 and 120 minutes from the commencement of each stage of loading. Thereafter the readings shall be taken at hourly intervals upto a further four hours and at two hours intervals thereafter for another six hours.

#### **k) Water sample**

Representative samples of ground water shall be taken when ground water is first encountered before the addition of water to aid drilling of boreholes. The samples shall be of sufficient quantity for chemical analysis to be carried out and shall be stored in air-tight containers.

#### **l) Laboratory Test**

The laboratory tests shall be carried out progressively during the field work after a sufficient number of samples have reached the laboratory, in order that the test results of the initial bore holes can be made use of in planning the later stages of the field investigation and quantum of laboratory tests.

All samples brought from field, whether disturbed or undisturbed shall be extracted/prepared and examined by competent technical personnel, and the tests shall be carried out as per the procedures laid out in the latest edition of the relevant IS Codes and Standards.

The following laboratory tests shall be carried out:

- i. Visual and engineering classification.
- ii. Liquid limit, plastic limit and shrinkage limit.
- iii. Natural moisture content, bulk density, dry density and specific gravity.
- iv. Grain size distribution.
- v. Unconfined compression test.
- vi. Unconsolidated undrained test.
- vii. Swell pressure and free swell index determination.
- viii. California bearing ratio.
- ix. Consolidated undrained test.
- x. Consolidated drained test.

xi. Chemical tests on soil and water to determine the carbonates, sulphates, nitrates, chlorides, Ph value, and organic matter and any other chemicals harmful to the concrete foundation.

### Test results and reports

The Contractor shall submit the detailed report in four (4) copies wherein information regarding the geological detail of the site, summarized observations and test data, bore logs, and conclusions and recommendations on the type of foundations with supporting calculations for the recommendations. Initially the report shall be submitted by the Contractor in draft form and after the draft report is approved, the final report in eight (8) copies shall be submitted.

The report shall include, but not be limited to the following:

- A plan showing the locations of an exploration work i.e. bore holes, dynamic cone penetration tests, trial pits, plate load test, etc.
- Bore logs: Bore logs of each bore holes clearly identifying the stratification and type of soil stratum with depth up to the refusal. The values of Standard Penetration Test (SPT) at the depths where the tests were conducted on the samples collected shall be clearly shown against that particular stratum.
- Test results of field and laboratory shall be summarized strata wise as well in combined tabular form. All relevant graphs, charts tables, diagrams and photographs, if any, shall be submitted along with report.
- **Recommendation** The report should contain specific recommendations for the type of foundation for the various structures envisaged at site. The Contractor shall acquaint himself about the type of structures and their functions from AEGCL. The observations and recommendations shall include but not be limited to the following:
  - Geological formation of the area, past observations or historical data, if available, for the area and for the structures in the nearby area, fluctuations of water table, etc.
  - Recommended type of foundations for various structures. If piles are recommended the type, size and capacity of pile shall be given.
  - Allowable bearing pressure on the soil at various depths for different sizes of the foundations based on shear strength and settlement characteristics of soil with supporting calculations for the recommendations.
  - Recommendations regarding slope of excavations and dewatering schemes, if required.
  - Comments on the chemical nature of soil and ground water with due regard to protective measures.
  - If expansive soil is met with, recommendation on removal or retainment of the same under the structure/road etc. shall be given. In the latter case detailed specification of any special treatment required including specification for materials to be used, construction method and equipment to be deployed etc. shall be furnished.
- Recommendations for additional investigation beyond the scope of the present work, if Contractor considers such investigation necessary.

## Section - 4

### General Conditions of Supply and Erection of AEGCL

*This Section 'General Conditions of Supply and Erection of AEGCL' can be obtained from AEGCL's website (<https://www.aegcl.co.in/wp-content/uploads/2021/04/RulesGeneralConditionsOfSupplyandErection2009.pdf>) and supplementary to Section -5 'Special Conditions of Contract' of this document.*

*Whenever there is a conflict, the provisions in SCC or the other Sections of this document shall prevail over those in the 'General Conditions of Supply and Erection of AEGCL'.*



## **Section - 5**

### **Special Conditions of Contract**

*This Section 'SCC' is supplementary to Section -4 'General Conditions of Supply and Erection of AEGCL'*

*Whenever there is a conflict, the provisions in this Section shall prevail over those in the 'General Conditions of Supply and Erection of AEGCL'.*

## Section - 5

### Special Conditions of Contract

- 5.1.0** All Demand Drafts shall be pledged in favour of the Assam Electricity Grid Corporation Limited, Bijulee Bhawan, Paltanbazar, Guwahati-1, and Payable at Guwahati.
- 5.2.0** For any litigation arising out of the contract which cannot be resolve through mutual agreement or through Arbitration the honorable Guwahati High Court will have sole jurisdiction of all settlement.
- 5.3.0** The ruling language of the Work Order shall be English.
- 5.4.0** The works vide the work order issued to the successful bidder must not be sublet.
- 5.5.0** No labour below 18 years should be engaged and contractor should have labour license from competent authority.
- 5.6.0** The contractor will be responsible for safety of his materials.
- 5.7.0** Cost for construction of temporary building for storage of materials etc. house for contractor and staff should bear by the contractor. No rent will be paid by the AEGCL.

#### **5.8.0 BIDDER SHOULD EXAMINE & UNDERSTAND**

All prospective bidders are required to thoroughly study and carefully examine all the terms and conditions, instructions, requirements& specifications pertaining to the work and visit the field of work to fully satisfy and acquaint themselves about the nature and location of work, the configuration of the ground, the surface conditions, quality and quantity of materials required and the type of equipment and facilities needed preliminary to and during the execution of the work and local conditions which may affect the work or cost thereof. Failure to do so will be at the bidder's risk.

#### **5.9.0 Supervising Authority:**

The work shall be carried out under supervision of the Consignee AGM and an officer deputed by him as site in charge for each of the following substations:

SI No	Substation Name	Consignee
1	132 kV Dhing GSS	AGM, 132 kV GSS, Nagaon, AEGCL
2	132KV Chabua GSS	AGM, 132 kV GSS, Dibrugarh, AEGCL

After completion of the work, the report is to be submitted to the GM (P&E), AEGCL, Narengi.

After completion of the work, the report is to be submitted to CGM(PP&D), AEGCL (HQ) through concerned AGM /DGM

#### **5.10.0 Approving Authority:**

The CGM (PP&D), AEGCL (HQ), shall approve the submitted report. After approval, the contractor shall submit the report(s) to this office as follows:

**Hard copies: 6 nos. Soft copies: 6 nos. in USB drives.**

- 5.11.0 Execution of Work:** The execution of work shall be done in the presence of AEGCL officials/representatives. The successful bidder before beginning of the work shall intimate AEGCL regarding their readiness to initiate the work, upon which the CGM (PP&D), AEGCL shall appoint his representative in whose presence the work shall have to be executed.

**5.12.0 COMPLETION SCHEDULE**

The completion schedule shall be in accordance with **APPENDIX to ITB-2, Clause 1.3.**

**5.13.0 TERMS OF PAYMENT**

5.13.1. The **payment shall be made as follows against completion of deliverables:**

SI No	Deliverable	% of the Contract Value to be Paid
1	Submission of 1st Draft (including all drawings/documents in scope) for review by AEGCL	20%
2	Submission of Final Report (including all drawings/documents in scope) for approval to AEGCL	50%
3	Final Approval by AEGCL	30%

**5.13.2. ADVANCE PAYMENT**

No advance payment is applicable for this contract.

**5.14.3 Fund Availability**

Payment shall be made subject to availability of fund against this specific project.

**5.14.0 SECURITY DEPOSIT**

5.14.1 A security deposit of 10% shall be deducted from the invoices at the time of processing of bills, which will be returned only after completion of the warranty period.

**5.15.0 FORCE MAJEURE**

5.15.1. "Force Majeure" shall mean any event beyond the reasonable control of the Purchaser or of the Supplier, as the case may be, and which is unavoidable notwithstanding the reasonable care of the party affected, and shall include, without limitation, the following:

- (a) war, hostilities or warlike operations whether a state of war be declared or not, invasion, act of foreign enemy and civil war
- (b) rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion and terrorist acts
- (c) confiscation, nationalization, mobilization, commandeering or requisition by or under the order of any government or de jure or de facto authority or ruler or any other act or failure to act of any local state or national government authority
- (d) strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage or restriction of power supply, epidemics, quarantine and plague
- (e) earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition, nuclear and pressure waves or other natural or physical disaster
- (f) shortage of labor, materials or utilities where caused by circumstances that are themselves Force Majeure.

5.15.2. If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within fourteen (14) days after the occurrence of such event.

5.15.3. The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The Time for Completion shall be extended in accordance with **SCC Clause 5.16.0**.

#### 5.16.0 EXTENSION OF TIME FOR COMPLETION

5.16.1. The Time(s) for Completion specified in the Work Order shall be extended if the Work is delayed or impeded in the performance of any of its obligations by reason of any of the following:

- (a) any Change in the scope of works by the Purchaser; which justifies extension of completion time as provided in **SCC Clause 5.14.1**; and
- (b) any occurrence of Force Majeure as provided in **SCC Clause 5.14.1**.

5.16.2. Except where otherwise specifically provided in the Contract, the Supplier shall submit to the Purchaser's Representative a notice of a claim for an extension of the Time for Completion, together with particulars of the event or circumstance justifying such extension as soon as reasonably practicable after the commencement of such event or circumstance. As soon as reasonably practicable after receipt of such notice and supporting particulars of the claim, the Purchaser and the Supplier shall agree upon the period of such extension. In the event that the Supplier does not accept the Purchaser's estimate of a fair and reasonable time extension, the Supplier shall be entitled to refer the matter to a Dispute Board, pursuant to **SCC Sub-Clause 5.18.0**.

#### 5.17.0 LIQUIDATED DAMAGE

5.17.1. The date of completion of work shall be deemed as the essence of the contract and shall not be completed no later than the time specified in the contract. In case of failure, AEGCL shall be entitled to recover an amount at the rate of 0.5% of the contract price per week subject to maximum of 10% of the work order value as liquidated damage of AEGCL. However, the payment of liquidated damages shall not in any way relieve the Contractor from any of its obligations to complete the work

#### 5.18.0 ARBITRATION

5.18.1. If at any time, any question, disputes or differences whatsoever shall rise between the Purchaser and the Supplier, upon or in relation to or in connection with the contract, either party may forthwith give notice to the other in writing of the existence of such question of dispute or difference and the same shall be referred to the adjudication of three Arbitrators, one to be nominated by the Purchaser the other by the Supplier and the third by the President of the Institution of Engineers, India/ Retired or Sitting Judge not below the status of a retired Judge of High Court of India. If either of the parties fail to appoint its arbitrators within 60(sixty) days after receipt of notice of the appointment of arbitrators then the President of the Institution of Engineers /retired or sitting Judge of India, as the case may be, shall have the power at request of either of the parties, to appoint an Arbitrator. A certified copy of the "President" making such an appointment shall be furnished to both parties

5.18.2. The arbitration shall be conducted as per provisions of the Indian Arbitration Act, shall be held at Guwahati or any other place as may be decided by the Purchaser. The decision of the majority of Arbitrators shall be final & binding upon the parties and the expenses of the arbitration shall be paid as may be determined by the Arbitrator. However, any dispute arising out of this contract will first be discussed and settled bilaterally between Purchaser and the Supplier.

#### 5.19.0 QUANTITY VARIATION

5.19.1. "Purchaser" shall have the right to increase/decrease the ordered quantity by ( $\pm$ ) 20% in terms of contract value and the same shall be carried out at the same rates /prices and terms and conditions stipulated in the order except in regard to completion schedule, which shall be mutually agreed upon in case of enhancement of the ordered quantity.



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