

**BIDDINGDOCUMENT**  
FOR

**“Preparation of Master Plan for 220/132 kV UmrangsuGIS and Survey of 220 kV Double Circuit Transmission Line from APGCL Kopili GSS to New Umrangsu GIS”**



BIDIDENTIFICATIONNO:**AEGCL/MD/Tech-1208/UmrangsuGIS/Survey/Bid**

SourceofFund:AEGCL O&M Fund

**ASSAMELECTRICITYGRIDCORPORATIONLIMITED**

Price:₹1000/-

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# Section-1

## InstructionstoBidders

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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## Section1–InstructionstoBidders

### 1.1.0 General

#### 1.1.1. ScopeofBid

1.1.1.1. In support of the Invitation for Bids indicated in the Bid Data Sheet (BDS), the **ChiefGeneralManager (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. EligibleBidders

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-Instruction 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 Bidders 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 qualification 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 Bidders 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 bidders shall fill up the Price Schedules as provided in the online tender.**

#### **Schedule No. 1: SCHEDULE OF WORK FOR ROUTE SURVEY Schedule**

#### **No. 2: SCHEDULE OF WORK FOR MASTER PLAN**

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 submitted through online mode.

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 acknowledgment 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 Bids 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**.
- 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.** Bid 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 bidder 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 Bid 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 responses 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 clarification 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. Performance Security**

**1.5.14.1.** Within **ten (10)** days of the receipt of Work Order (W.O.) from the Purchaser, the successful Bidder shall furnish the performance security in the form of BG/DD in accordance with the conditions of W.O., using for that purpose the Performance Security Form included in **Section-2, (Bidding Forms)**.

**1.5.14.2.** Failure of the successful Bidder to submit the above-mentioned Performance Security shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security. In that event the Purchaser may award the work to the next lowest evaluated Bidder whose offer is substantially responsive and is determined by the Purchaser to be qualified to perform the work satisfactorily.

## APPENDIX TO ITB-1

### Bid Data Sheet (BDS)

#### A. Introduction

ITB1.1.1.1	The number of the IFB is: <b>AEGCL/MD/Tech-1208/UmrangsuGIS/Survey/IFB</b>
	The Purchaser is: <b>Assam Electricity Grid Corporation Limited.</b>
	<p style="text-align: center;">The name of the Bid is:</p> <p style="text-align: center;"><b>“Preparation of Master Plan for 220/132 kV UmrangsuGIS and Survey of 220 kV Double Circuit Transmission Line from APGCL Kopili GSS to New Umrangsu GIS”</b></p> <p style="text-align: center;">Identification Number of the Bid is: <b>AEGCL/MD/Tech-1208/UmrangsuGIS/Survey/Bid</b></p>

#### B. Bidding Document

ITB1.2.2.1	<p>For <u>clarification purposes</u> only, the Purchaser's address is:</p> <p><b>The Chief General Manager (PP&amp;D), AEGCL</b>  Street Address: <b>Bijulee Bhawan, Paltan bazar Fl</b>  oor/Room number: <b>First Floor</b></p> <p>City: <b>Guwahati</b></p> <p>PIN Code: <b>781001</b>  Country: <b>India</b>  Telephone: <b>+913612739520</b>  Facsimile number: <b>+913612739513</b>  Electronic mail address: <a href="mailto:Neap.cell@aeqcl.co.in">Neap.cell@aeqcl.co.in</a> with Copy to <a href="mailto:GM.noneap@aeqcl.co.in">GM.noneap@aeqcl.co.in</a>,  <a href="mailto:DGM.noneap@aeqcl.co.in">DGM.noneap@aeqcl.co.in</a> and <a href="mailto:cgm.ppd@aeqcl.co.in">cgm.ppd@aeqcl.co.in/</a> (Subject: <b>Masterplan &amp; Route Survey for 220 kV Umrangsu Grid Substation</b>)  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)	Bidders 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
ITB1.3.6.5	The prices quoted by the Bidders shall be <b>FIXED</b> for entire period of the Contract.
ITB1.3.7.1	The bid validity period shall be <b>180 (One Hundred and Eighty) days</b> .
ITB1.3.8.1	<b>The Bidders shall furnish bid security online amounting to Rs. 75,000 (Rupees Seventy-Five Thousand) Only</b>
ITB1.3.9.1	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.
ITB1.3.9.2	The written confirmation of authorization to sign on behalf of the Bidders shall consist of a written confirmation of Authorization to sign on behalf of the Bidders shall consist of <b>Notarized Power of Attorney</b> .

ITB1.4.2.1	<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 Floor/Room</b>  number: <b>First Floor</b>  City: <b>Guwahati</b>  PIN Code: <b>781001</b>  <b>The deadline for bid submission is as per NIT</b></p>
ITB1.4.5.1	<p>The bid opening of Technical Bid shall take place at  <b>Office of The Chief General Manager (PP&amp;D), AEGCL</b>  Street Address: <b>Bijulee Bhawan, Paltanbazar Floor/Room</b>  number: <b>First Floor</b>  City: <b>Guwahati (Assam)</b>  PIN Code: <b>781001</b>  Country: <b>India</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 Bidders shall provide all the information requested in the forms included in Section 2 (Bidding Forms).

### Table of Criteria

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## 1. Evaluation

### 1.1 TechnicalEvaluation

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

### 1.2 EconomicEvaluation

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 QuantifiableDeviationsandOmissions

*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 TimeSchedule

Time to complete Works from the Date of issue of Work Orders specified is **90 (Ninety) 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 breakup of submission timelines are specified as follows:

SI No	Deliverable	Time of Completion
1	Submission of 1st Draft (including all drawings/documents in scope) for review by AEGCL	60 days from the date of issue of W.O.
2	Submission of Final Report (including all drawings/documents in scope) for approval to AEGCL	20 days from the approval/comments on the draft by AEGCL, if any

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).

*\*Similar Nature of work-Master-plan & Route Survey of atleast one no. of substation and associated transmission line/lines of voltage level 132 kV or above.*

**Documentary Evidence of Experience is to be provided in works of a similar nature (as defined in the scope of this bid) in the last five years Additional Qualifying Requirements. The contractor must have registration with the concerned department of Government of Assam/Govt. of India. 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 5 years. (Submitted with supporting documents).**

## 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.11,40,000/- (Rupees Eleven Lakhs only)** calculated as total certified payments received for contracts in progress or completed, within the **last 5 years** and audited balance sheets for the same. (Details of works presently under way or contractually committed and their respective clients)

## Section-2

# BIDDINGFORMS

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

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5.5 -Form of Performance Security .....	28

1 LetterofTechnicalBid

[Bidder'sLetterhead]

Date:.....

BidIdentificationNo(s):.....

.....

.....

.....

InvitationforBidNo.:.....

To:.....

We,theundersigned,declarethat:

- (a) WehaveexaminedandhavenoreservationstotheBiddingDocuments,includingAddendaissuedin 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) OurBid consistingof theTechnical Bid andthePriceBid shallbe valid for a periodof ..... daysfromthe 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.....

Inthecapacityof.....

Signed.....

.....

DulyauthorizedtosigntheBidforandonbehalfof.....

Date.....

.....

## 2 PriceSchedule(ForReferencePurposedonly)

### PREAMBLE

#### General

1. ThePriceScheduleisdividedintothefollowingschedule:  
Schedule No. 1: Schedule of Works for Route  
SurveySchedule No.2: Schedule of Works for Master Plan
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. IfbiddersareunclearoruncertainastothescopEOFanyitem,theyshallseekclarificationinaccordance with **ITB**1.2.2prior to submitting their bid.

#### Pricing

4. Priceshallbefilledinindelibleink/on-lineandanyalterationsnecessaryduetoerrors,etc.,shallbeinitialed by the Bidder if asked for hardcopy.
5. Bidpriceshallbequotedon-lineinthemannerindicatedinSchedules.  
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:ForE-Tenderingtheseformsareindicativeonly.Allpricestobefilledinthe price schedule provided in the e-tendering portal only.**

## ScheduleNo2: SCHEDULE OF WORK FOR MASTER PLAN

Description
<p>Construction of two (2) nos. of permanent RCC benchmark pillars at suitable locations such that all future references can be obtained from them. Size of the pillar should be minimum 300mm X 300 mm HFL &amp; FGL markings should be shown in the benchmark pillar. Construction of RCC pillar along the boundary of the plot at every angular point with size 125mm X 125mm and 900 mm height</p>
<p>Survey using total station/DGPS of the entire land area upto an offset of 10 m and the approach road outside the substation boundary, in 3 m X 3 m grid, proposed FGL, calculation of earth volume in cutting and filling separately. Submit the contour drawing in AutoCAD 2D as well as 3D. **Preparation of Master Plan by marking of switchyard, control room, incoming and outgoing feeders, residential buildings, approach road, internal roads, drainage system, storm water management, Retaining wall, Boundary wall, security fencing, gate, street lighting etc required to complete a substation in AutoCAD. Preparing detailed Earth-mat design calculations with AutoCAD drawings/schematics. Carrying out soil resistivity measurements, determining the required number of earth pits along with the size and length of conductors etc</p>
<p>Detailed AutoCAD drawings of each building with plan of each floor, elevation and section from all sides, Plumbing and sanitary layout, Electrification details etc .</p>
<p>GA Drawing for Water supply arrangement including provision for bore hole, overhead tank, pipeline system, etc in detail.</p>
<p>Preparing a Proper Substation Layout Drawing to scale along with SLD clearly specifying the schemes on AutoCAD along with switchyard BOQ of every item</p>

### ScheduleNo1:SCHEDULEOFWORKFORROUTESURVEY

Sl. No	Description of Work / Item(s)
1	2
1	<p>Preliminary/walkover survey using GPS for identification of three alternate routes and finalization of most economic, optimum route (including approach road to the tower locations) and digitalization of the route map showing the topographical and other features and indicating the final selected route alignment (including approach road to the tower locations) and submission of reports .</p>
2	<p>Detailed survey (after approval of route) using GPS, total work station, digital theodolite/ALTM including profiling, tower spotting and optimization of locations (including approach road to the tower locations) using computer aided techniques as well as other activities in the scope of work along with soil resistivity measurement of tower location, tree enumeration of tower corridor, etc.</p>

1. All amount shall be in Rupees to be filled in tender portal only
2. Price shall be exclusive of taxes

### 3 Format of Bid Security (Not required for online payments)

#### Bank Guarantee

(To be stamped in accordance with Stamp Act)

(The non-Judicial Stamp Papers 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 of 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**

---

#### 4. ContractExecution Schedule

*TheBiddershallindicateherehisproposedContractExecutionScheduleifthecontractisawardedto him.TheScheduleshall matchwiththetimeforcompletionsspecified.*

## 5 BiddersQualification

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.

### 5.1 Bidder'sInformationSheet

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)	
<b>Attached are copies of the following original documents.</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> 1. In case of single entity/firm, documents, in accordance with ITB 1.1.2.1.</li> <li><input type="checkbox"/> 2. In case of single Company, documents, in accordance with ITB 1.1.2.2.</li> </ul>	

**5.2 PendingLitigation**

(Fillinthisformifapplicable,otherwise specify'NIL')

EachBiddermustfillinthisform

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

5.3 Experience

EachBiddermustfillinthisform

Experience				
Starting Month	Ending Month	Months	ContractIdentificationandName NameandAddressofPurchaser BriefDescriptionoftheWorksExecutedbytheBidder	Roleof Bidder

**5.4 ManpowerandEquipment(s)List**

(Asperrequirements ofscopeofworkofthebid document)

**5.5 -FormofPerformanceSecurity****BankGuarantee**

(TobestampedinaccordancewithStampAct)

To: \_\_\_\_\_ [nameofPurchaser]  
 \_\_\_\_\_ [addressofPurchaser]

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, upto a total of \_\_\_\_\_ [amount of Guarantee]<sup>1</sup> \_\_\_\_\_ [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

<sup>1</sup> 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**

## Section3

### Employer's Requirements

#### 3.1.0 Scope of Works

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

- a) Preparation of detailed Master Plan for Substation along with the Route Survey for associated transmission lines required to initiate the process of construction of the following Grid Sub-stations at various locations in Assam:

<u>SINo.</u>	<u>SubstationName</u>	<u>AssociatedTransmissionLines</u>	<u>Location</u>
1	220/132/33kV UmrangsuGISGrid Substation	1. Survey of 220 KV Double Circuit transmission line from APGCL Kopili GSS to New Umrangsu GSS 132kVBaghjap-UmrangsuD/CLine- 2. Preparation of Master Plan for New Construction of 220/132 KV Substation at Umrangsu	Umrangsu, Assam

- b) The different tasks need to be carried out in the scope of work are as laid out in the attached –Schedule 1 and Schedule 2- Schedule of Works in Section-2 (Bidding Forms) as well as Section-3, Employer's Requirements..

#### 3.2.0 ContractortoinformHimselfFully

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 ServiceConditions

3.3.1 The plant and material 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 ConformitywithIndianElectricityRules&OtherLocalRegulations

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 regulation that may be applicable.

3.4.3. All registration and statutory inspection fees, if any, in respect of this 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 revision 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.

### 3.6.0 TECHNICAL SPECIFICATIONS FOR PREPARATION OF MASTER PLAN:

#### 3.6.1 Drawings and Documents in conformity with the following:

3.6.1.1 Construction of two (2) nos. of permanent RCC benchmark pillars at suitable locations - all future references shall be obtained from them. Size of the pillar should be minimum 300mm X 300 mm. HFL & FGL markings should be shown in the benchmark pillar, for each substation.

3.6.1.2 For each substation. survey of the entire land area of the substation in 5 m X 5 m grid marking with RL using total station and submit on AutoCAD, scaled drawing and marking by peg on the field. \*\*

3.6.1.3 Marking the switchyard including Cable trench, control room, incoming and outgoing feeders, etc. on auto CAD scaled drawing and marking by peg on the field. \*\*

3.6.1.4 Planning and marking of staff quarters, guest house, internal roads, drainage system, storm water management etc. on AUTOCAD drawing \*\*

3.6.1.5 Planning and marking on AutoCAD drawings about street lighting, boundary wall with security post, security fencing illumination etc. \*\*

3.6.1.6 Planning, estimation and marking on AutoCAD drawings about boundary wall and gate with details of entire colony \*\*

3.6.1.7 Preparing a Proper Substation Layout Drawing to scale along with SLD clearly specifying the scheme on AutoCAD.

3.6.1.8 GA Drawing for Water supply arrangement, rain water harvesting system and provision for bore hole / overhead tank.

3.6.1.9 Preparing a Layout Drawing to scale along with SLD for the remote end bay(s) on AutoCAD

\*\*HFL & FGL: Should be marked in the master plan(s).

### 3.7.0 TECHNICAL SPECIFICATIONS FOR ROUTE SURVEY OF TRANSMISSION LINES:

#### 3.7.1 PRELIMINARY/WALKOVER SURVEY

3.7.1.1 Identification of three alternative route alignments & selection of optimized route alignment. This shall be done using low resolution satellite imageries of NRSA, Google images and Survey of India maps. The output shall be in the form of digitized route alignment drawing with latest topographical and other details/features up to 8 km on either sides of selected route alignment (both in hard and soft copies).

3.7.1.2 Digital terrain modelling along the selected route using contour data from topographical maps. Digitization can be done manually and automatically using software. For this purpose ArcGIS Editor, Arc View, ERDAS, AutoCAD, R2V etc. are to be used.

- 3.7.1.3 For selection of routes, the statutory clearances as per Relevant Standards should be complied with and clearly mentioned in the reports.**
- 3.7.1.4** Walk-over Survey of the route alignment (finalized in consultation with the AEGCL).
- 3.7.1.5** The following areas, however, are to be avoided as far as possible while selecting the routes of the line:
- a) Tough inaccessible areas where approach is difficult
  - b) Towns and villages, leaving sufficient margin for their growth.
  - c) Areas subject to floods, gushing nalas during rainy seasons, tanks, ponds, lakes, etc. and natural hazards.
  - d) Wooded areas with high trees or fruit bearing trees involving payment of heavy compensations for cutting of the trees.  
Swamps and shallow lands subject to flood, marshy areas, low lying lands, river beds and earth slip zones, etc. involving risk to stability to foundations.
  - e) High hillocks / hilly areas / sand dunes and areas involving abrupt changes in levels and requiring too many long spans.
  - f) Series of irrigation wells.
  - g) Shooting areas and other protected areas such as army/defense installations/ammunition depots, areas of archaeological importance, forest areas and wild life sanctuary.
  - h) Areas which involve risk to human life, damage to public & private properties, religious places, cremation grounds, quarry sites and underground mines, gardens, orchards and plantations.
  - i) Areas which will create problems of right of way and way leaves.
  - j) Buildings/Storage areas for explosives or inflammable materials, bulk oil storage tanks, oil or gas pipelines, etc.
- 3.7.1.6** Preliminary survey is to transfer the route to the ground with such deviations as may be necessary as per field constraints. Instruments like Survey chains, tapes, theodolite, total station etc are to be used.
- 3.7.1.7** Preliminary survey involves:
- i. Fixing of angle points of the towers
  - ii. Identification of crossings of all electric lines & details of the lines.
  - iii. Finalizing of crossing points of Railway Tracks & details of such points.
  - iv. Finalizing of crossing points of major rivers & details of such points
  - v. Finalizing of crossing points of roads, national highways & details of such points
  - vi. General classification of soils, land including forest area (if any).
  - vii. Measurement of route length etc.
  - viii. Pegging of locations.
  - ix. Following points may be noted in this regard:
    - a. Measurements of the angles of deviation at all angle / section points are made. Resurvey of parts of the line route is done wherever it is possible to reduce the number of angle points and / or the magnitude of the angles of deviation.
    - b. The length of the line route is measured with the use of survey chains or with the theodolite. When using survey chains for measuring the length of the line route, the chain should be kept horizontal in uneven or undulating land so that horizontal distances are measured and not the distances along the contours of the land.
    - c. The number of consecutive spans between two angle / section points shall not exceed 15 (fifteen) in plain terrain and 10 (ten) spans in hilly terrain.
    - d. The length of any section of the line, i.e., between two angle / section points, shall not exceed 5 km in plain terrain and 3 km in hilly terrain. In case longer sections are available, then cut points/section points shall be provided by using "B" type tower.
    - e. If the terrain & line route permit, attempts can be made so that the section lengths are, as far as possible, in multiples of the basic span of the towers for the relevant voltage class.
    - f. The Preliminary survey report shall be prepared and submitted by the surveyor to the AEGCL.
    - g. After approval is given, the surveyor shall go ahead with the detailed survey.

**3.7.1.8 Requirement of Transmission Line Routing**

- i. The alignment of the transmission line shall be most economical from the point of view of construction and maintenance.
- ii. During routing of transmission line, the points in Clause 3.5.1.6 should be kept in mind.
- iii. Routing of transmission line through protected/reserved forest area should be avoided. In case it is not possible to avoid the forests or areas having large trees completely, then keeping in view of the overall economy, the route should be aligned in such a way that cutting of trees is minimum.
- iv. The route should have minimum crossings of Major River, Railway lines, National/State highways, overhead EHV power line and communication lines.
- v. The number of angle points shall be kept to a minimum.
- vi. The distance between the terminal points specified shall be kept shortest possible, consistent with the terrain that is encountered.
- vii. Marshy and low-lying areas, riverbeds and earth slip zones shall be avoided to minimize risk to the foundations.
- viii. It would be preferable to utilize level ground for the alignment.
- ix. Alignment will be kept at a suitable distance from power lines to avoid induction problems on the lower voltage lines.
- x. Crossing of communication line shall be minimized and it shall be preferably at right angle. Proximity and parallelism with telecom lines shall be eliminated to avoid danger of induction to them.
- xi. Areas subjected to floodings such as Nalah shall be avoided.
- xii. Restricted areas such as civil and military airfield shall be avoided. Care shall also be taken to avoid aircraft landing approaches.
- xiii. All alignment should be easily accessible both in dry and rainy seasons to enable maintenance throughout the year.
- xiv. Certain areas such as quarry sites, tea, tobacco and saffron fields and rice plantations, gardens & nurseries which will present the AEGCL problems in acquisition of right of way and way leave clearance during construction and maintenance, should be avoided as far as possible.
- xv. Angle points should be selected such that shifting of the point within 100 m radius shall be possible at the time of construction of the line.
- xvi. The line routing should avoid large habitations, densely populated areas, Forest, Animal/Birds sanctuary, reserve coal belt areas, oil pipe line / underground inflammable pipe lines etc. to the extent possible.
- xvii. The areas requiring special foundations and those prone to flooding should be avoided as far as possible.
- xviii. In case of Tower Types, foundations, modern techniques like Monopoles, Multi-Circuit Towers, Narrow Based Towers, etc. shall be explored.

**3.7.1.9** For examination of the alternatives & identification of the most appropriate route, besides making use of information/data/details available/extracted through Survey of India Topographical maps and computer-aided processing of NRSA's satellite imagery.

**3.7.1.10** The contractor shall submit his preliminary observations & suggestions along with various information/data/details collected and also processed satellite imagery data, scanned topographical map data marked with the alternative routes etc. The final evaluation of the alternative routes shall be conducted by the contractor in consultation with AEGCL's representatives and optimal route alignment shall be proposed by the contractor. Site visit and field verification shall be conducted by the contractor for the proposed route alignment.

**3.7.1.11** Final digitized route alignment drawing with latest topographical and other details/features including all rivers, railway lines, canals, roads etc. upto 8 kms on both sides of selected route alignment shall be submitted by the contractor for AEGCL's approval along with report containing other information/details as mentioned above.

**3.7.1.12** The co-ordinates of all the angle points as well as other important crossings, landmarks etc. shall be recorded using GPS instrument.

**3.7.2 DETAILED SURVEY**

**3.7.2.1** The detailed survey shall be carried out using GPS, total stations, digital theodolites etc. along the approved route alignment. As an alternative, the contractor may also use ALTM (Airborne Laser Terrain Modeling) techniques of equal or better accuracy for the detailed survey and plotting on topo sheet to fix up angle point.

**3.7.2.2** Soil resistivity, along the route alignment shall be measured in dry weather by four electrode method keeping inter – electrode spacing of 50 mtrs. For calculating soil resistivity formula  $2\pi ar$  (where  $a=50$  m and  $r$ =megger reading in ohms) shall be adopted. In case of soil characteristics changes within 2 to 3 km, values shall have to be measured at intermediate locations also. Megger reading and soil characteristics should also be indicated in the soil resistivity results.

**3.7.2.3 Route Marking:**

The route of the transmission line shall be recorded using GPS of positional accuracy less than 3m. The co-ordinates of all the angle points as well as other important crossings, landmarks etc. shall be recorded using GPS for easy relocating. At the starting point of the commencement of route survey the co-ordinates shall be recorded. The co-ordinates of the location of the survey instrument shall also be recorded. Further, the co-ordinates at prominent position at intervals of not more than 750 meter along the transmission line to be surveyed upto the next angle point shall also be recorded. Wherever the line alignment crosses the EHT line, Railway line, P&T line or roads, the contractor shall record co-ordinates on the points of crossing. Wherever line route alignment passes over permanent land marks such as rock, boulders, culverts etc. suitable white paint marks with directional and AEGCL markings shall be made and co-ordinates recorded. Surveyor should provide concrete block of size 1000x150x150 mm buried to a depth of atleast 750 mm with AEGCL's name embossing on the concrete block at all angle point locations and important crossings etc.

**3.7.2.4 Profiling**

- a. The complete profiling along the route shall be carried out using surveying equipments viz. total stations, GPS, digital theodolite, long range scanners etc. Reference levels at every 20 meters along the route are to be recorded. R/Ls at other undulations along the route as well as in the route plan and other enroute details viz. crossings, building & structures, trees & other infrastructure etc shall also be recorded. Areas along the route, which in the view of the contractor, are not suitable for tower spotting, shall also be marked.
- b. The complete profiling details shall be digitized and the data shall be prepared & stored in the format compatible to computer – aided tower spotting software.
- c. A printed / plotted output of the digitized profiling shall be submitted by the contractor to AEGCL's site-in-charge for review before taking up computer- aided tower spotting.

**3.7.2.5 Optimization of tower location/tower spotting:**

**3.7.2.5.1** Optimization of tower locations shall be done by the Contractor using computer-aided tower spotting software (PLS CADD). In order to verify the results of computer aided tower spotting, the contractor shall supply the AEGCL, one soft copy of tower spotting & optimization report.

**3.7.2.5.2** The sag-tension characteristics of the conductor as well as tower spotting data, sag template curves, if any required for tower spotting shall be prepared by the contractor on acrylic sheet indicating cold curve, hot curve, ground clearance curve and support footing curve.

**3.7.2.5.3** Tower Spotting: While profiling & spotting the towers, the following shall to be borne in mind:

- (a) Span: The number of consecutive spans between the section points shall not exceed **15 spans or 5 km in plain terrain and 10 spans or 3 km in hilly terrain** for 220KV line. A section point shall comprise of tension point with minimum angle of deviation type towers as applicable.
- (b) Extension/Truncation: An individual span shall be as near to the normal design span as possible. In case an individual span becomes too short with normal supports on account of undulations in ground profile, one or both the supports of the span may be extended by inserting standard body / leg extension. In case of locations where the ground clearance is available, truncated towers may be spotted. The provision kept in the design of towers with respect to body/leg extensions, truncation shall be intimated to the contractor by the AEGCL during execution stage.

- (c) Loading: There shall not be any upward force on suspension towers under normal working conditions and the suspension towers shall support at least the minimum weight span as provided in the designs. In case uplift is unavoidable, it shall be examined if the same can be overcome by adding standard body extensions to the towers failing which tension towers designed for the purpose shall be employed at such positions.
- (d) Road/NH Crossing: At all important road crossings, the tower shall be fitted with double suspension or tension insulator strings depending on the type of tower but the ground clearance at the roads under maximum temperature and in still air shall be such that even with conductor broken an adjacent span, ground clearance of the conductor from the road surfaces will not be less than 9 Mtr for 220KV & 132KV line. At all national highways tension towers shall be utilised and crossing span shall not be more than 250 meters.
- (e) Railway Crossings: All the railway crossings coming en route the transmission line shall be identified by the contractor. At the time of detailed survey, the railway crossings shall be finalized as per the regulation laid down by the Railway Authorities.  
The following are the important features of the prevailing regulations (revised in 1987).
- i) The crossing shall be supported on large angle type tower on either side depending on the merits of each case.
  - ii) The crossings shall normally be at right angle to the railway track.
  - iii) The minimum distance of the crossing tower shall be at least equal to the height of the tower plus 6 meters away measured from the center of the nearest railway track.
  - iv) No crossings shall be located over booster transformer, traction switching station, traction sub-station or a track cabin location in an electrified area.
  - v) Minimum ground clearance above rail level of the lowest portion of any conductor under condition of maximum sag shall be maintained at 15.40 Mtr for 220KV line and 14.6 Mtr for 132 KV line.
  - vi) The crossing span will be limited to 80% of Normal Span or 250 meters whichever is less.
- (f) River Crossings: In case of major river crossings, towers shall be of suspension type and the anchor towers on either side of the main river crossing shall be large angle Y/ D type tower. Clearance required by navigation authority shall be provided. For non-navigable river, clearance shall be reckoned with respect to highest flood level (HFL). Minimum ground clearance above the highest flood level river and lowest point of conductor shall be 3 Mtr. for 220KV line.
- (g) Power line crossings: Where this line is to cross over another line of the same voltage or lower voltage, R / A type tower with suitable extensions shall be used. Provisions to prevent the possibility of its coming into contact with other overhead lines shall be made in accordance with the Indian Electricity Rules, 1956 / Indian Electricity Act, 2003 as amended upto date. In order to reduce the height of the crossings towers it may be advantageous to remove the groundwire of the line to be crossed (if this is possible, and permitted by the AEGCL of the line to be crossed). For power line crossings of voltage level of 132 KV and above, an angle towers shall be provided on either side of tangent R / A type tower which can be temporary dead end condition with proper guying.
- (h) Telecommunication Line Crossings: The angle of crossings shall be as near to 90 degrees possible. However, deviation to the extent of 30 degree may be permitted under exceptionally difficult situations. When the angle of crossing has to be below 60 degree, the matter will be referred to the authority in charge of the telecommunication system. On a request from the contractor, the permission of the telecommunication authority may be obtained by the owner. Also, in the crossing span, power line support will be as near the telecommunication line as possible, to obtain increased vertical clearance between the wires.
- (i) Details en route: All topographical details, permanent features, such as trees, buildings etc. 17.5Mtr (Total 35Mtr) for 220KV line on either side of the alignment and 8Mtr (Total 16Mtr.) for 132KV Line on either side of the alignment shall be detailed on the profile plan.

### 3.7.2.6 Clearance from Ground, Building, Trees etc.

- (a) Clearance from ground, buildings, trees and telephone lines shall be provided in conformity with the Indian Electricity Rules, 1956 / Indian Electricity Act, 2003 as amended upto date.

- (b) The contractor shall count, mark and put proper numbers with suitable quality of paint at his own cost on the trees that are to be cut by the AEGCL at the time of actual execution of the work as detailed below. Contractor may please note that AEGCL shall not pay any compensation for any loss or damage to the properties or for tree cutting due to contractor's work.
- (c) To evaluate and tabulate the trees and bushes coming within 17.5 Mtr. for 220KV line and 8 Mtr for 132KV line on either side of the central line alignment the trees will be numbered and marked with quality paint serially from angle point 1 (1) onwards and the corresponding number will be painted on the stem of trees at a height of 1 meter from ground level.
- (d) The trees list should contain the following:
  - i. Girth (circumstances) measured at a height of 1 meter from ground level.
  - ii. Approximate height of the tree with an accuracy of +2 meters.
  - iii. Name of the type of the species/trees.
  - iv. The bushy and under growth encountered in the 35 Mtr. Belt for 220KV line and 16Mtr for 66KV line should also be evaluated with its type, height, girth and area in square meters, clearly indicating the growth in the tree / bush statement.
  - v. The contractor shall also intimate the AEGCL, his assessment about the likely amount of tree & crop compensation etc required to be paid by the AEGCL during execution stage. This assessment shall be done considering prevailing practices / guidelines, local regulations and other enquiries from local authorities.

3.7.2.7 The profile sheet showing the location of the tower together with preliminary schedule of quantities indicating tower types, wind & weight spans, angle of deviation, crossing & other details etc shall be submitted by the contractor for review & approval by AEGCL's site in charge.

3.7.2.8 Types of towers shall be A, B, C, D, as per IS 5613 and other relevant standard for transmission lines.

3.7.2.9 Conductor to be used for 220KV and 132KV lines shall be AAA Zebra and panther conductor respectively.

3.7.2.10 Tower Schedules submitted shall be as per format specified in Annexure 6.

3.7.2.11 Detailed survey of tower locations:

- (a) The detailed survey shall be conducted to locate the tower locations on ground conforming to the profile and tower schedule.
- (b) The co-ordinates of all the tower locations shall also be recorded using GPS of positional accuracy less than 3m for easy relocating. The positions of all tower locations shall be marked in the final digitized route alignment drawing with relative distances from any permanent bench mark in the area.
- (c) The contractor shall also collect required data at each tower location in respect of soil strata, ground water level, history of water table in adjacent areas / surface water and classify the suitable type of foundation at each tower location based on the data collected at each location and detailed soil investigations carried out at selected locations etc.
- (d) The levels up or down of each pit center with respect to center of tower location shall be recorded at intervals of 2m using total stations / GPS / digital theodolite and digitized contour plans shall be made. Based on the digitized elevation plans, the quantities of benching & protection work vis-à-vis possible unequal leg extensions shall be optimized using suitable computer aided techniques / software.

3.7.2.12 The changes desired by the AEGCL in the preliminary tower schedule or as may be required based on detailed survey of tower locations & contouring by the contractor, shall be carried out by the contractor and the final tower schedule shall be submitted for approval of AEGCL. The tower schedule shall show position of all type of towers, span length, type of foundation for each tower, benching & revetment requirement, unequal leg extensions, deviation at all angles, crossings & other details etc.

## Section-4

### GeneralConditionsofSupplyandErectionof AEGCL

*ThisSection‘GeneralConditionsofSupplyandErectionofAEGCL’canbeobtainedfromAEGCL’swebsite (<https://www.aegcl.co.in/wp-content/uploads/2021/04/RulesGeneralConditionsOfSupplyandErection2009.pdf>) and supplementary to Section -5 ‘Special Conditions of Contract’ of this document.*

*Wheneverthereisaconflict,theprovisionsinSCCortheotherSectionsofthisdocumentshallprevailover thoseinthe‘GeneralConditionsofSupplyandErectionof AEGCL’.*

## **Section-5**

### **SpecialConditionsofContract**

*ThisSection‘SCC’issupplementarytoSection -4‘GeneralConditionsofSupplyandErection of AEGCL’*

*Wheneverthereisaconflict,theprovisionsinthisSectionshallprevailoverthoseinthe ‘GeneralConditionsofSupplyandErectionof AEGCL’.*

## Section-5

### SpecialConditionsofContract

- 5.1.0** All Demand Drafts shall be pledged in favour of the Assam Electricity Grid Corporation Limited, BijuleeBhawan, Paltanbazar, Guwahati-1, and Payable at Guwahati.
- 5.2.0** Foranylitigationarisingoutofthecontractwhichcannotberesolvethroughmutualagreementorthrough Arbitration the honorable Guwahati High Court will have sole jurisdiction of all settlement.
- 5.3.0** TherulinglanguageoftheWorkOrdershallbeEnglish.
- 5.4.0** Theworksvidtheworkorderissuedtothesuccessfulbiddermustnotbesublet.
- 5.5.0** Nolabourbelow18yearsshouldbeengagedandcontractorshoulldhavelabourlicensefromcompetent authority.
- 5.6.0** Thecontractorwillberesponsibleforsafetyofhismaterials.
- 5.7.0** Costforconstructionoftemporarybuildingforstorageofmaterialsetc.houseforcontractorandstaffshouldbear by the contractor. No rent will be paid by the AEGCL.

#### **5.8.0 BIDDERSHOULDEXAMINE&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 as follows:

SINo	SubstationName	ConsigneeAGM
1	220kVUmrangsuGSSalongwiththe associated transmission lines	AGM,Nagaon T&T Division, AEGCL

Aftercompletionofthework,thereportistobesubmittedtoGM(P&D),AEGCL&DGM(Civil),AEGCL

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

The GM (P&D), AEGCL,& DGM (Civil), AEGCL shall approve the submitted report. After approval, the contractor shall submit the report(s) to the office of CGM(PP&D), AEGCL, First Floor, BijuleeBhawan as follows:

**Hardcopies:6nos.Softcopies:6nos.inUSBdrives.**

**AlldataistobesubmittedinAutoCADformat,PDFaswellashardcopies(Colored)asreferredabove.**

- 5.11.0 Execution of Work:**Theexecutionofworkshall bedoneinthepresenceof AEGCLOfficials/representatives. ThesuccessfulbidderbeforebeginningoftheworkshallintimateAEGCLregardingtheirreadinesstoinitiate the

work, upon which the CGM (PP&D), AEGCL shall appoint this 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 payments 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%

All the submitted bills to be routed through the field AGM (Consignee) and DGM for their verification and records.

Note: 1. TDS (Income Tax & GST) as applicable will be deducted as per law of land at the time of payment.

### 5.13.2. ADVANCE PAYMENT

No advance payment is applicable for this contract.

### 5.14.3 Fund Availability

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

### 5.14.0 PERFORMANCE SECURITY DEPOSIT

5.14.1. The contractor shall have to deposit to the extent of 10% (ten percent) of the total value of the contract order as performance security (Bank Guarantee / Demand Draft), within **ten (10)** days of receipt of notification of award/LOI and before signing of the Contract Agreement, duly pledged in favor of the Purchaser and such security deposits shall be valid up till warranty period.

5.14.2. If required, the Surveyor/Contractor on his own has to renew the BG at least 1 (one) month before the date of expiry of the BG; failing which the BG shall be revoked by AEGCL within the claim period without any prior intimation to the contractor.

5.14.3. If the supplier fails or neglects to observe, perform any of his obligations under the contract, it will be lawful for the "Purchaser" to forfeit either in full or in part at his absolute discretion, the security deposit furnished by the supplier.

5.14.4. No interest shall be payable on such deposits.

### 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 5.15.0**; and
- (b) any occurrence of Force Majeure as provided in **SCC Clause 5.15.0**.

**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 Arbitration and Conciliation Act 1996, 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. The Courts in Guwahati Shall have the Jurisdiction in all Arbitration cases.

#### **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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