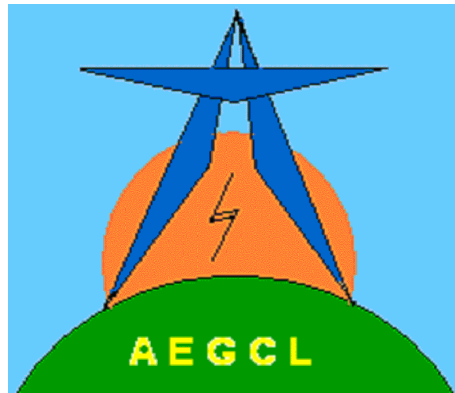


# ASSAM ELECTRICITY GRID CORPORATION LIMITED

Regd. Office: 1st Floor, BijuleeBhawan, Paltan Bazar, Guwahati-781001

CIN:U40101AS2003SGC007238

Ph:-0361-2739520/Fax:-0361-2739513 Web: [www.aegcl.co.in](http://www.aegcl.co.in)



## TENDER DOCUMENT

### Name of work: -

Permanent protection work to protect the tower foundation by construction of new foundation with Ring Well Casing including Dismantling and erection of tower at Loc. No 332 of the 132KV Depota-Rowta line and associated works.

NIT No:-AEGCL/DGM/TTC/TEZ/T-20/2021-22/148

Dated: 11/03/2022

For and on behalf of the Managing Director, Assam Electricity Grid Corporation Limited (AEGCL), the Deputy General Manager, Tezpur T&T Circle, AEGCL, invites Tender from reputed Civil Engineering Firms / Contractors for the work “**Permanent protection work to protect the tower foundation by construction of new foundation with Ring Well Casing including Dismantling and erection of tower at Loc. No 332 of the 132KV Depota-Rowta line and associated works.**” A single stage two envelope procedure (Techno-Commercial and Price Bid) will be adopted for this tender.

(A) **INFORMATION TO BIDDER:**

1. **NAME OF WORK: -Permanent protection work to protect the tower foundation by construction of new foundation with Ring Well Casing including Dismantling and erection of tower at Loc. No 332 of the 132KV Depota-Rowta line and associated works.**

2. **LOCATION OF WORK:-132KV Depota-Rowta TL, AEGCL.**

3. **TENDER ADDRESS:-O/o The Deputy General Manager, Tezpur T&T Circle, AEGCL, Dhanua Nagar, Tezpur, Dist.- Sonitpur, Assam-784001.**

4. **BIDDING PROCEDURE:-**

a) All tenders shall have to be submitted in prescribed forms attached herewith eventually to be drawn up in the rules of AEGCL.

b) Two different envelopes to be used as follows.

**Envelope-1:** Bid document signed by bidder on all pages, Earnest Money, Techno-commercial data of the Bidder and other necessary documents must be enclosed.

**Envelope-2: Price Bid**

c) All tenders shall have to be submitted under sealed & signed covers superscribing the Tender Notice No and name of the work completely and clearly on the top of the cover.

d) All tenders shall have to be submitted on or before the last date and time of submission of tenders either by post or in person.

e) If Bidders desire to submit their Bid by post, at their own expenses, it should be posted well in advance so as to ensure that their tenders reach the office of the tendering address on or before the specified date and time of submission of tender. AEGCL will not take any responsibility for loss, damage, tempering or delay of tenders sent by post.

f) Bidder submitting Bid in person should submit their Bid in the tender box during the working hours on the last date and time of submission of tender.

g) Tender will be rejected if submitted beyond the aforesaid time and date.

h) Tenders or their authorized representatives may remain present during the opening of the tenders.

i) Only Price Bid of responsive Techno-Commercial Bidders will be opened.

j) AEGCL has the right to cancel the tender at any moment, without assigning any reason thereof. Bidder will not be entitled to claim any expenses and AEGCL will not be responsible for any costs or expenses incurred on the preparation and submission of the Bids.

k) **Bidders may download or purchase Tender documents from AEGCL website or obtain further information from the office Deputy General Manager, Tezpur T&T Circle, AEGCL, Dhanuanagar, Tezpur, Assam-784001[phone: 03712 231553, e-mail: dgmttc.tezpur@aegcl.co.in**

5. **KEY DATES:-**

a)	Bid Document Available date:-	11.00 Hrs. of	11-03-2022
b)	Bid Submission Start Time & date:-	12.00 Hrs. of	11-03-2022
c)	Bid Submission End Time & date:-	12.00 Hrs. of	31-03-2022
d)	Technical Bid Opening Time & date:-	14.00 Hrs. of	31-03-2022

6. **In case the date of receiving of tenders happen to be holiday the next working day will be treated as receiving/ opening date of tender at the same time and place.**

**A. TENDER PAPER COST AND MODE OF PAYMENT:-**

Bidder has to pay Non-Refundable tender document cost @**Rs.1,000.00** (Rupees one thousand) only in the form of Demand Draft in favour of **AEGCL, BijuleeBhawan, Paltan Bazar, Ghy-01**. The original copy of the Demand Draft must be submitted along with relevant documents in the Envelope-1.

7. **BID SECURITY/EARNEST MONEY AND MODE OF PAYMENT:-**

- a) For participation in bidding procedure, participants must compulsorily pay the **Bid Security/Earnest Money amount of ₹ 40,000.00 (Rupees Forty thousand only)** It should be in the form of Demand Draft in favour of **AEGCL, BijuleeBhawan, Paltan Bazar, Ghy-01**. **The original copy of the Bid Security (EMD) must be submitted along with relevant documents in the Envelope-1.**
- b) 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.
- c) The bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's furnishing of the performance security.
- d) The bid security may be forfeited:-
- If a Bidder withdraws its bid during the period of bid validity period.
  - If the successful Bidder fails to sign the Contract within the specified period.

8. **PERFORMANCE GUARANTEE:-**

- a) The materials and entire work is to be guaranteed against defective design, materials and workmanship and for satisfactory performance for a period of 60 months from the date of final acceptance of the completed work.
- b) The successful Bidder shall have to deposit through a **Bank Guarantee/Demand Draft** from a Nationalized or scheduled Bank of RBI in AEGCL's standard proforma on non-judicial stamp of appropriate value for an amount equivalent to 10% (ten percent) of the total value of the order as performance security, within allotted time on acceptance of letter of intent/detailed orders (as the case may be), duly pledged in favour of Assam Electricity Grid Corporation Ltd and such security deposit shall be valid up to 60 days beyond the warranty period of 18 (eighteen) months.
- c) If the contractor/firm fails or neglects to observe and perform any of his obligations under the contract, Purchaser (AEGCL) shall have the right to forfeit, either in full or in part at his absolute discretion, the security deposit furnished by the contractor/firm.
- d) If the value of the work increases from original ordered value, the contractor has to provide performance guarantee for additional amount.

9. **CLARIFICATIONS:-**

- a) A prospective Bidder requiring any clarification of the Bidding Document shall contact the AEGCL in writing at the AEGCL's address indicated in the Bid Document or raise his enquiries prior to 7 (seven)

days of closing of the bid. AEGCL will respond to any request for clarification if deemed necessary. Should AEGCL deem it necessary to amend the Bidding Document as a result of a request for clarification, it shall do so.

- b) The Bidder is advised to visit and examine the site where the work is to be Carried out and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract. The costs of visiting the site shall be at the Bidder's own expense.
- c) The Bidder and any of its personnel or representatives will be granted permission by AEGCL to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder and its personnel will release and indemnify the Employer and its personnel from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

**10. VALIDITY OF BID:-**

- a) Bid shall remain valid for the period of 180 days after the submission deadline date prescribed by AEGCL. In exceptional circumstances, prior to the expiration of the Bid validity period, AEGCL may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing.

**11. TIME OF COMPLETION:-**

- a) **The allotted time of completion for the work is 180 days from the date of handing over of the site.**

**12. DISCLAIMER:-**

- a) AEGCL is not committed contractually in any way to those Bidders whose Bid are accepted. The issue of this Bid does not commit or otherwise oblige AEGCL to proceed with any part or steps of the process.

**13. AMENDMENT OF TENDER DOCUMENT:-**

- a) At any time prior to the deadline for submission of bids, the Employer may amend the Bidding Document by issuing addenda.
- b) To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, AEGCL may, at its discretion, extend the deadline for the submission of bids.
- c) Any corrigendum/Addendum/modifications issued to the bid documents will be published on the website mentioned above will be part of the Bid Document.

**14. LANGUAGE OF BID:-**

- a) The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and AEGCL, shall be written in the English and / or Assamese language.

**15. NEGOTIATION WITH BIDDER:-**

- a) The AEGCL reserve the right to hold negotiations with lowest bidder if AEGCL feels the quoted rates of particular item(s) are unreasonably high. The bid must be valid, eligible and technically acceptable and considered

for award of contract.

**16. VERIFICATION OF DOCUMENTS:-**

- a) AEGCL reserves the right to verify the documents submitted by the bidders with issuing authority and if any abnormalities are observed in the same, their bids will be rejected.

**17. RIGHT TO REJECT:-**

- a) AEGCL reserves the right to reject any or all the bids without assigning any reason thereof and AEGCL further reserves the right to split up the work order in favour of more than one Contractor. AEGCL also reserves the right to reject the lowest or any other price without assigning any reason. The clauses which are not appearing in this Bid document will be as per The General Condition of Supply and Erection 2009 of AEGCL. The General Condition of Supply and Erection 2009 of AEGCL is available in the AEGCL's website [www.aegcl.co.in](http://www.aegcl.co.in).

**(B) ELIGIBILITY QUALIFICATION.**

**1. ELIGIBLE BIDDERS:-**

- a) A Bidder may be a private entity or a government-owned entity or any combination of such entity with the intent to enter into an agreement supported by a letter of intent or under an existing agreement in the form of a joint venture, consortium or association.
- b) In the case of the Joint Venture (JV):-  
When the bidder is a Joint Venture (JV) of two or more firms as partners, all partners shall be jointly and severally liable. The JV shall legally authorize one of the partners as the lead partner for the purpose of submitting the bid, incur liabilities; receive payments and instructions on behalf of the others. A copy of the **registered** JV agreement, executed on Non judicial stamp paper, shall be submitted with the bid. However, in case of successful bid, the agreement shall be signed by all the partners, so as to be legally binding on all the partners.
- c) A Bidder, and all partners constituting the Bidder, shall have Indian nationality.
- d) AEGCL considers a **conflict of interest** to be a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations, and that such conflict of interest may contribute to or constitute a prohibited practice under Anticorruption Policy of Government of India and Government Of Assam. In pursuance Anticorruption Policy's requirement that Employer as well as bidders, suppliers, and contractors observe the highest standard of ethics. AEGCL will take appropriate actions if it determines that a conflict of interest has flawed the integrity of any procurement process.
- e) Consequently all Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to be in a conflict of interest with one or more parties in this bidding process if, including but not limited to:-
- i) they have controlling partners in common; or
  - ii) they receive or have received any direct or indirect subsidy from any of them; or
  - iii) they have the same legal representative for purposes of this bid; or
  - iv) they have a relationship with each other, directly or through common third

- parties, that puts them in a position to have access to information about or influence on the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or
- v) a Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the plant and services that are the subject of the bid.
  - f) A firm that is under a declaration of ineligibility by the AEGCL or any Government Entity or PSU at the date of the deadline for bid submission or thereafter i.e. on or before contract signing date shall be disqualified.
  - g) Bidders shall provide such evidence of their continued eligibility satisfactory to the AEGCL, as the Employer shall reasonably request.
  - h) In case a prequalification process has been conducted prior to the bidding process, this bidding is open only to prequalified Bidders.
  - i) The bidder must have experience of execution of work of similar nature previously. The bidder must submit experience and Performance Certificate for scrutiny by AEGCL.
  - j) **A person, Firm or any other prospective bidder who is involved in fraud, unethical practices or barred from submitting bids by AEGCL or any sister concerns of AEGCL i.e. APDCL & APGCL will not be allowed to participate in the bids. If such cases are detected after submission of the bids, in later stages of the bidding process, then such bids will be rejected outright.**

**2. LEGAL ENTITY:-**

- a) Verification may be undertaken to verify that an applicant is a bona-fide registered company or business. Bidders are required to provide evidence of the legal entity by providing a copy of an official document as mentioned in the appendix attached along with this bid document.

**3. TECHNICAL QUALIFICATION:-**

- a) In order to qualify technically for this Bid, the bidders have submitted last 7(seven) years' work experience.
  1. Three similar completed works costing not less than the amount equal to **Rs 8, 00,000.00** (Rupees Eight lakh only)
  2. Two similar completed works costing not less than the amount equal to **Rs 10,00,000.00** (Rupees Ten lakh only)
  3. One similar completed works costing not less than the amount equal to **Rs 16,00,000.00** (Rupees Sixteen lakh only).

Note: Documentary evidence of experience in executing similar nature of works related to 132KV or above Transmission Line Tower is required.

**4. FINANCIAL QUALIFICATION:-**

- a) Minimum average annual turnover calculated as total certified payments received for contracts in progress or completed, within the last 3 (Three) Years should be **₹ 6,00,000.00 (Rupees Six Lakh only)**.  
Audited Balance sheet must be furnished as a proof of annual turnover. Any other form of supporting documents instead of Audited balance sheet will not be accepted.
- b) Current bank solvency certificate must be submitted to show the bidder's financial position.

**5. EVALUATION CRITERIA:-**

- a) The Techno-Commercial Evaluation will be done on the basis of technical qualification, Financial qualifications and fulfilment of the legal conditions.
- b) The Price Bid of only Responsive Techno-Commercial Bidders will be opened and intimation will be issued in due course.

**PRICE BID EVALUATION PROCESS:**

**Identification:**

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

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

(ii) Relative approach is to be considered when there are at least 5(five) nos. of substantially responsive bids and the lowest bid price is 20% or more below AEGCL's cost estimate.

In this approach, first the Average bid price is determined and then by deducting the standard deviation from the Average bid price, potentially ALB may be determined.

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

(i) To identify ALB as per the steps mentioned in SI no. 5.A.(i) and 5.A.(ii) Whichever is applicable.

(ii) To seek and analyse the clarifications from the abnormally low Bidder in terms of resource inputs and pricing, including overheads, contingencies and profit margins. In that respect, the committee may refer to guideline of World Bank, AIIB, ADB etc. prescribed for ALB.

(iii) To decide whether to accept or reject the bid.

(iv) On acceptance of the bid, whether Additional Performance Security is to imposed on the bidder supplemented by adequate justification.

C. In case of acceptance of ALB with Additional Performance Security:

(i) If any abnormally low bid is accepted under point 5.B.(iii) with additional performance security, it is to be noted that the total performance security should not exceed 20% of the total contract value.

(ii) The additional performance security shall be treated as part of the original performance security and shall be valid for a period similar to that applicable for defect liability period of the contract.

(iii) Non submission of the additional performance security shall constitute sufficient ground for rejection of the bid and similar assessment shall then be initiated for next ranked bidder if that bidder is also identified as ALB.

**(C) GENERAL CONDITIONS OF CONTRACT:**

**1. INSPECTION OF SITE:-**

- a) The Bidder is advised to visit and examine the site where the work

is to be carried out and its surroundings, nature of work, site conditions, area for storage of materials, establishment of labour camp, site office, means of access to the site etc. and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract. The costs of visiting the site shall be at the Bidder's own expense. Non-familiarity with the site conditions will not be considered a reason either for extra claims or for not carrying out the work in strict conformity with the specifications & requirement

## 2. **PREPARATION OF BID:-**

### a) Cost of Bidding:

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

### b) Documents Establishing Conformity of the Goods and Services:-The documentary evidence of the conformity of the goods and services to the Bidding Document may be in the form of letter, drawings and data, and shall furnish. A detailed description of the essential technical and performance characteristics of the goods and services, including the functional guarantees of the Goods, in response to the specification.

### c) Bidder should note clearly that department should not take any responsibility for issuing of any materials, equipment and T&P's that may be required in the work.

### d) All materials, labours, equipment, T&P and heavy vehicle etc. required in the work shall have to be arranged by the bidder/contractor from his own sources in the event of allotment of the said work to him/them.

### e) Water to be used in the work should be clean and free from all impurities; the bidder should note that no water will be provided to them for the execution of the work from the department

### f) The department is also not bound to supply power that may be required in the execution of the work. However subject to the availability of the power source near the vicinity of the work site, the department on payment of tariff as applicable at the time of execution of work may arrange one point near the work site.

### g) The bidder should clearly understand that all materials to be utilized in the work must conform to the specifications. No substandard materials will be allowed to utilize in the work. Samples of each and every materials to be brought to the site of work shall have to be get approved by the competent authority of the department before use.

### h) The contract must not be sublet under any circumstances. If any contractor found in doing so, his work liable to be terminated.

### i) The specification for the work shall be as per specification laid down in the items of work contained in the enclosed schedule of items of work or as per the APWD schedule of rates for Building (civil works), sanitary and Water supply and internal electrification respectively (whichever is applicable) but, certain modification in the specification and method of execution of work if required shall have to be carried out which shall be finalized with the contractor bilaterally through discussion.

## 3. **PRICE BID:-**



- a) Unless otherwise specified in the Bid Document and/or AEGCL's Requirements, bidders shall quote for the entire plant and services on a single responsibility basis such that the total bid price covers all the Contractor's obligations mentioned in or to be reasonably inferred from the bidding document in respect of the including procurement, delivery, testing of materials, construction, labour cost, insurance, statutory requirements, and any other expenditure deemed necessary for completion of the Work. The rate should also include the cost of testing of materials at the approved laboratory, carriage and transportation of sample, preparation of report, submission of report in all respect as required by AEGCL. This includes all requirements under the Contractor's responsibilities for completing the work and where so required by the bidding document, the acquisition of all permits, approvals and licenses, etc.; the operation, maintenance and training services and such other items and services as may be specified in the Bidding Document, all in accordance with the requirements of the General Conditions. Items against which no price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed to be covered by the prices for other items.
- b) Bidders are required to quote the price for the commercial, contractual and technical obligations outlined in the bidding document.
- c) **Bidders quoted price should include all cost of testing of materials, transportation of sample, storage, preparation and submission of report during approval period, construction period as well as after completion of the work.**
- d) **Bidders quoted price should include all cost of testing of concrete (destructive or non destructive) transportation of sample, storage, preparation and submission of report.**
- e) Taxes like work contract, income tax etc. which need to be deducted at source as per the prevailing law, will be deducted at source.
- f) The Bided Price should on Fixed Price basis, prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account.

#### 4. **SITE FACILITIES:-**

- a) AEGCL will not provide any accommodation at the work site to the contractor and their field personnel. The same has to be arranged by the contractor on their own. However, AEGCL may provide space for storage of the materials but responsibility of the material and their safety shall be taken care of by the Contractor. In case of none availability of space under AEGCL the same should be arranged by the contractor outside AEGCL campus/work site at their own cost and responsibility.
- b) AEGCL shall not be responsible for the safety of the workers at site either on account of the works executed by the Contractor or on account of the works executed by any other agency involved at that time.
- c) AEGCL shall on no account be responsible for the expenses incurred by the Contractor during the progress of work at site, towards any incidental expenditure like medical amenities to the workers at site, security arrangements.
- d) The quoted price shall be deemed to include charges for all site facilities for labour that are considered necessary for execution of the work. Subject to availability of land, AEGCL may provide free site for labour camp, construction of yard etc. close to site of work.
- e) No assurance can be given regarding the availability of AEGCL's land

given for use to the Bidder to natural calamities. AEGCL undertakes no responsibility or liability in this regard.

- f) The bidder shall make his own arrangement for arranging power supply as may be required for work. AEGCL may, however assist in recommending his/their application to the Electricity Supply Utility for the power supply on payment basis as per norms of the Electricity Supply Utility.
- g) No claim shall be entertained from the bidder for making his own arrangement for approach roads from outside PWD road to the site and bidder will bear entire expenses.
- h) AEGCL on no account shall be responsible for storage of materials or loss or pilferage or theft either in respect of the material stored or material already billed and paid for by the AEGCL.
- i) Any facilities available at site shall be utilized only with prior permission of AEGCL and it should not be taken as granted for availing such services.

**COVID 19 PROTOCOLS to be followed during the working period.**

**5. DEFECT AFTER COMPLETION OF WORK:-**

- a) The contractor shall make good at his own cost and to the satisfaction of AEGCL all defects, or other faults which may appear during the defect liability period.

In default, AEGCL may employ and pay other agency or persons to amend and make good such damages. Losses and expenses consequent thereon or incidental thereto shall be made good and borne by the contractor, failing which the same shall be recoverable from the payment due to the contractor and performance guarantee. In the event of amount due and performance guarantee being insufficient, the balance amount will be recovered from the contractor from the amount due or retained for other works executed in AEGCL.

**6. DEVIATION/ERROR IN DRAWING AND SPECIFICATIONS.**

- a) In case of non-suitability of drawing or specifications, the matter to be brought to the notice of Competent Authority without any delay. Any modification or deviation should only be done after approval of Competent Authority.
- b) In case of any omission and error in the drawing and specification the same procedure as above should be followed.

**7. VARIATION AND DEVIATION OF QUANTITY:-**

- a) The Tendered rates shall hold good for any variations in the Tendered quantities for completion of work on account of any modification in the bill of quantities or design or specification.

- b) **Deletion of work:**

AEGCL and its representative have the right to delete or decrease any item or quantity from schedule of quantity at its discretion if deemed necessary. No claim by the contractor will be admissible for this deletion or deduction of Item/quantity from schedule of quantity.

**8. LABOUR LEGISLATION:-**

- a) The Bidder shall comply with the provisions of the Apprentices Act 1961, payment of Wages Act 1936, Minimum Wages Act 1948, Employees Liability Act 1938, Workmen's Compensation Act 1923, Industrial Disputes Act 1947, Maternity Benefits Act 1961, and the Contract Labour (Regulation and Abolition) Act 1970, Provident Fund Act or the

modifications thereof or any other laws relating thereto and the rules made there under from time to time.

- b) The Bidder shall indemnify and keep indemnified AEGCL against payments to be made under and for the observance of the laws aforesaid and the Contractors' Labour Regulations without prejudice to his right to claim. The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.
- c) The Bidder shall at his own expense arrange for all the safety provisions for the safety of all workers and employees directly or indirectly employed on the work by the Bidder.
- d) The Bidder shall be fully responsible at his own expenses for compliance all the labour regulations and rules to be observed by them. The Bidder shall fully indemnify AEGCL against any action by the state and/or Central Government for any default or alleged default by the Bidder for violation of any of such rules and regulations. If, due to any default of the Bidder, AEGCL has to incur any expenditure for compliance of the rules and regulations or for any other reason connected with such default, AEGCL shall be entitled to recover from the Bidder all such expenditure in full from any payment due to the Bidder.

**9. GOVERNMENT AND LOCAL RULES:-**

- a) The Contractor shall conform to the provisions of all local bye-laws and acts relating to the work and to the regulations etc. of the Government and Local Authorities and of any Company whose system and design is proposed to be connected/utilized. The cost, if any, shall be deemed to have been included in his quoted rates, taking into account all liabilities and shall indemnify AEGCL against such liabilities and shall defend all actions arising from.

**10. ELIGIBILITY OF CONTRACTORS EMPLOYEES:-**

- a) The Contractor shall employ in and about the Execution of the works only such persons as are skilled and experienced in their several trades. A list of such personal should be submitted in corresponding Appendix.

**11. ENGINEER AT LIBERTY TO OBJECT:-**

- a) AEGCL's Site in-charge shall have right to remove any person provided by the Contractor who, in the opinion of the Site in-charge, misconducts himself, or is incompetent or negligent in the proper performance of his duties, or whose presence on Site is otherwise considered by the Engineer to be undesirable, and such person shall not be again allowed upon the Works without consent of the Engineer. Any person so removed from the Works shall be replaced immediately without hampering the work.

**12. TAXES:-**

- a) Any taxes, royalties and duties as per Govt. Law should be responsible of the contractor and must be included in their quoted rate.

**13. INSURANCE:-**

- a) The bidder shall arrange for any pay/cost of personnel accident insurance, medical treatment etc. in respect of their employees assigned to the works for all time and shall govern by Law of the land.

**14. DAMAGE TO PERSON AND PROPERTY:-**

- a) The Contractor shall be responsible for all injury to the work or to

workmen, to persons, animals or things and for all damages to the structural and/or decorative part of property which may arise from the operations or neglect of contractor or its employees, against whether such injury or damage arise from carelessness, accident or any other cause whatsoever in any way connected with the carrying out of this Contract. The Contractor shall at his cost effect the insurance necessary and indemnify AEGCL entirely from all responsibility in this respect. The scope of insurance is to include loss or damage to the work and workmen due to carelessness, accident including fire, earthquake, floods, all medical expenses, compensation to be borne in the event of accident etc., damage or loss to the Contract itself till this is made over a complete state. Insurance is compulsory and must be affected from the very initial stage and should cover the entire contract period till handing over of complete works. The Contractor shall also be responsible for anything which may be excluded from damage to any property arising out of incidents, negligence or defective carrying out of this Contract.

AEGCL shall be at liberty and is hereby empowered to deduct the amount of any damages, compensations, costs, charges and expenses arising or occurring from or in respect of any such claim or damages from any sums due or to become due to the Contractor.

**15. ACCEPTANCE OF BID AND CONTRACT AGREEMENT:-**

- a) An agreement shall have to be drawn on non-judicial stamp of appropriate value with AEGCL by the selected Contractor in AEGCL's General Conditions of Supply and Erection 2009 of contract within 15 (fifteen) days from the date of issue of the LOI.

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

**16. STATUTORY AND SAFETY REQUIREMENT:-**

- a) Each and every safety measures for MAN and MACHINE will be the sole responsibility of the Contractor without any prejudice. Compensation claim if any will also be the responsibility of the contractor without any prejudice.
- b) During the execution of the work, the contractor shall have to mark the site with banner warning/indicating precautions.
- c) The Contractor shall, throughout the execution and completion of the Works and the remedying of any defects therein:
- d) Have full regard for the safety of all persons entitled to be upon the Site and keep the Site (So far as the same is under his control) and the Works in an orderly state appropriate to the avoidance of danger to such persons, and
- e) Provided and maintain at his own cost all lights, guards, fencing, warning signs and watching, when and where necessary or required by the Engineer or by any duly constituted authority for the protection of the Works or for the safety and convenience of the public or others, and Take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods.

**17. PAYMENT TERMS:-**

- a) Within 60(sixty) days from the date of submission of invoice, not more

than 80 % (eighty per cent) payment against foundation, erection & Civil works would be made. However, GST amount on invoice would be paid 100 % or as per Govt. rules.

- b) In total 4 (four) nos. of progressive erection invoices/ bills would be entertained.
- c) The 1st progressive erection bill would be entertained on completion of minimum 30 % of total erection cost of the project.
- d) Minimum value of 2nd and 3rd invoice should be 20% of the total ordered value for foundation, erection and civil works.
- e) Remaining 20 % of the erection value would be paid on completion of the 100 % erection, testing and commissioning activities of the project, which should be certified by the Project Manager. Final bill must contain the original site register.
- f) Final payment shall be released to the contractor only after completion of the work in all respect and final acceptance by AEGCL.
- g) Payment is subject to availability of specific fund.
  
- h) The Bidder / Firm will have to be submitted the following Net Banking details.
  - Banker's Name & Branch
  - Account No
  - Banker's address
  - Banker's IFSC Code
  - Banker's RTGS Code

**18. RETENTION MONEY:-**

- a) 20% retention money will be deducted from running bill, which will be released along with the final bill on completion of the work in all respect.

**19. WARRANTY:-**

- a) The term period of warranty shall mean the period of 60 months from the date of completion of work or Taking Over of the Work by AEGCL. This will be issued by the appropriate authority.

**20. EXTENSION OF TIME:-**

- a) Time is the essence of the contract. No extension of time shall normally be allowed except on valid and genuine ground.

**21. CHANGE OF NAME OF THE BIDDER:-**

- a) At any stage after tendering, AEGCL shall deal with the Contractor only in the name and the address under which he submitted the tender. All the liabilities/ responsibilities for due execution of the contract shall be that of the Contractor.
- b) Any change/ alteration of name/ constitution/ organization of contractor shall be duly notified to the AEGCL and the AEGCL reserves the right to determine the contract, in case of any such notification.

**22. DEATH, BANKRUPTCY ETC.:-**

- a) If the Contractor becomes bankrupt or being a corporation is in the process of winding up, amalgamation or reorganization, the AEGCL shall be at liberty to:
  - i. Terminate the contract forthwith by notice in writing to the Contractor or to

the liquidator or receiver or to any person in whom the contract may become vested.

- i. Give such liquidator, receiver or other person the option of carrying out the contract subject to his providing a guarantee for the due and faithful performance of the contract up to an amount to be determined by the AEGCL.
- b) In case of death of the Contractor before completion of work and supply, the Engineer or AEGCL shall be at liberty to:
  - i. Close up the contract and take over the completed portion of work done and made as per specification and make final payment to the legal heir of the Contractor on receipt of claim from such legal heir.
  - i. Give the contract to the legal heir of the Contractor subject to his depositing a performance security for the due and faithful performance of the contract. The performance security amount shall be determined by the AEGCL commensurate with the incomplete portion of the work. The AEGCL will enter into a fresh contract with the legal heir of the Contractor on the same terms and conditions of the earlier contract.

**23. CONTRACTUAL FAILURE, LIQUIDATED DAMAGE AND PENALTY:-**

- a) Liquidity Damages 1.0% (one percent) of the amount of delayed work per week subjected to the maximum 10 % of the contract value.

**24. TERMINATION OF CONTRACT:-**

- a) If the performance of the contract is not satisfactory and not corrected within 15 days of receiving notice, then employer shall be at liberty to terminate the contract and get the work executed through other means at the risk and cost of the Contractor.

**25. PAYMENT ON TERMINATION:-**

- a) In the event of termination of the contract, AEGCL shall be at liberty to get balance work done by any third party at the risk and cost of the contractor and due payment of the contractor, if any shall be released after the completion of whole of the works.

**26. SUSPENSION OF BUSINESS DEALINGS WITH FIRMS/ CONTRACTORS:-**

- a) The AEGCL may suspend business dealings with a Firm/ Contractor, if:-
  - i. The Central Bureau of Investigation or any other investing agency recommends such a course in respect of a case under investigation; and if a prima facie case is made out that the firm is guilty of an offence involving unethical, unlawful, fraudulent means in relation to business dealings, which, if established, would result in business dealings with it being banned.
  - i. The AEGCL has past record of non-performance of the Firm in its previously awarded contracts.
  - i. The AEGCL has record of ban against the Firm by other Government /Public sector utility.
- b) However, the AEGCL shall give the Firm/ Contractor a fair chance to explain the circumstances of such previous suspensions.

**27. BANNING OF BUSINESS DEALINGS WITH FIRMS/CONTRACTORS:-**

The AEGCL may ban business dealings with a Firm/ Contractor, if:-

- a) The owner (s) of the Firm/ Contractor is convicted by a court of law following prosecution for offences involving unethical, unlawful, fraudulent means in relation to business dealings.
  - b) There is strong justification that the Firm has been guilty of malpractices such as, bribery, corruption, fraud, substitution of tenders, interpolation, mis-representation, evasion or habitual default in payment of any Government tax etc.
  - c) The Firm continuously refuses to return government dues without showing adequate cause and government are reasonably satisfied that this is not due to reasonable dispute which would attract proceeding in arbitration or court of law.
  - d) The Firm is found guilty of involving in unethical practices, such as:-
    - i. "corrupt practice" involving offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the action of any such official/ party in procurement process or in contract execution.
    - i. "fraudulent practice" involving misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer.
    - i. "collusive practice" involving a scheme among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.
    - i. "coercive practice" involving harming or threatening to harm directly or indirectly, persons or their property to influence procurement process or the execution of a contract.
- The AEGCL may sanction a Firm/ Contractor or its successor, including declaring ineligible, indefinitely or for a period of not less than 3 (three) years.

**28. FORCE MAJEURE CONDITION**

- a) Force Majeure condition shall be considered as any circumstances beyond reasonable control of the party claiming relief, including but not limited to strikes, lockout, civil commotion, riot insurrection, hostilities, mobilization, war, fire, flood, earthquake, malicious damage or accidents could entitle contractor to extension time. Any such delay should intimated within 10 (ten) days from the beginning of such delay to consider/approved, any claim without prior information may not be considered under force Majeure.

**29. SETTLEMENT OF DISPUTE AND ARBITRATION:-**

- a) Any dispute arising out of the contract will be first settled bilaterally between AEGCL and Contractor. In case, dispute cannot be settled bilaterally, it will be referred to arbitration. The contractor shall not stop the work during settlement of any dispute. All disputes shall be subjected to the jurisdiction of District Court of respective District of work.

**30. POLLUTION AND ENVIRONMENT:-**

- a) Each and every measure should be taken to adhere to the standard norms to avert any occasion of Air Pollution, Water Pollution, Soil Pollution and Sound Pollution. In case of any deviation leading to any legal action the Contractor will be solely responsible without any prejudice.

**31. ACCEPTANCE AND TAKEOVER:-**

- a) When the term of contract shall be fully complied with completing all

works as per approved drawing and technical specifications to the satisfaction of the Department for a period as applicable, the Contractor/Firm shall have to submit Performance Certificate to the office of the undersigned after the satisfactory completion of the work through the executing authority for finalization of the work/payment as well as for the final acceptance and taking over the completed work and to issue the necessary certificate thereof.

**(D) GENERAL SPECIFICATIONS OF WORK.**

**1 CHECK SURVEY & RIGHT OF WAY**

- a. The contractor shall be required to do check survey which includes chaining, checking of tower locations as per profile sheet & peg marking or existing tower locations etc.
- b. Right of way along the surveyed route for diversion shall be arranged by the contractor with the assistance of AEGCL and any type of compensation that may be necessary shall be paid by the AEGCL or shall be reimbursed to the contractor on submission of the valid documents duly endorsed by the Civil Administration. All approach road , temporary bridges etc that may required for the execution of the work shall be made by the contractor at their cost.

**2. SETTING OF LAYOUT:-**

- a. Layout and levels of structures etc. shall be made by the Contractor, at his own cost, from the general grid of the plot and the bench marks given by the Owner. The Contractor shall make his own arrangements, at his own cost, for locating the co - ordinates and position of wells as per approved drawings and for determining the Reduced Level (R.L.) of the locations with respect to the single bench mark indicated by the Owner. Two established reference lines in mutually perpendicular direction shall be indicated to the Contractor. The Contractor shall provide at site all the required survey instruments, materials and men to Owner for verification of the detailed layout and correctness of the layout and levels to the satisfaction of the Owner so that the work can be carried out accurately according to specifications and drawings. The contractor shall be solely responsible for the correctness of layout and levels.

**3. SITE PREPARATION**

This section of the specification covers site preparation of the Areas as indicated in the drawings.

The scope of works under this contract consist of providing of all labours, materials, scaffolding equipment and plants and transportation of all incidental items not shown or specified but reasonably implied or necessary for the proper completion of work. The scope of work covered by this specification is primarily complete civil works.

All works required for site preparation will have to be carried out contractor at his own expense, whenever directed by the Site In-charge. The Contractor shall clear the site of unnecessary vegetation to prepare for work only as per directions given by the Site In-charge.

Any unnecessary structures are to be demolished and serviceable mate be stacked and stored as directed by AEGCL.

Any waste or unwanted material has to be disposed by the contractor ordered by AEGCL. No materials will be allowed to leave the site with permission of the Site In-charge.

The Contractor will have to construct roads or any means for trans



instructed by the Site in-charge if the site is not easily accessible.

All water which may accumulate on the site before or during the progress of the works or in trenches and excavations shall be removed and drained from the site to the satisfaction of the Site In-charge by the Contractor.

Any other work required for adequate preparation of the site shall be carried out by the Contractor.

**4. REFERENCE POINTS AND BENCH MARKS**

- a. Permanent reference pillars have been established and under no circumstances shall the Contractor remove or disturb any permanent mark without the approval of the Owner. The Contractor shall carefully maintain and protect all bench marks and reference points and shall layout all his work by accurate reference thereto. The Contractor shall remove all vegetation, excluding trees, from the site areas as directed by the Owner.
- b. The area shall be stripped to remove roots of grass, rubbish and slush, shrubs or other organic materials. Spoiled materials shall be burnt or removed to approved disposal areas on or near the job site as directed by the Owner.
- c. **PROPERTIES OF CONSTRUCTION MATERIALS**
- d. This clause specifies the properties of common building materials unless otherwise mentioned in the drawings or schedule of items. All materials viz., cement, steel, aggregates, water etc. which are to be used for well construction are detailed below. However, aggregates more than 20mm shall not be used, except for lean concrete.

**5. COARSE AGGREGATES/STONE**

- a. All coarse aggregates shall be as per IS:383 consisting of hard, strong, compact grained and durable pieces of crushed stone having uniform in texture and colour and free from decay, flaws, veins, cracks and sand holes. Coarse aggregates should be of angular shape & rectangular surface and shall be free from organic or clay coatings and other impurities like disintegrated stones, soft flaky particles, adherent coatings, clinkers, slag, mica and any other materials liable to affect the strength, durability or appearance of concrete. The surface of a freshly broken stone shall be bright, clean, and free from any dull, chalky or earthy appearance. Coarse aggregates with round surface shall not be used. A coarse aggregate shall not absorb more than 5% of its weight of water after 24 hours immersion. Samples shall be submitted by the Contractor and approved samples shall be retained by the Owner for comparison of bulk supply.
- b. Sieving and washing of aggregates by approved method shall be carried out wherever required.
- c. Grading of coarse aggregate shall generally conform to IS:383 and shall be such as to produce a dense concrete of the specified proportions and strength and of consistency that will work readily into position without segregation.
- d. The maximum size of aggregate shall be as follows unless specified otherwise:
- e. Reinforced concrete with very narrow space - 10mm.
- f. Reinforced concrete & Plain Concrete - 20mm.
- g. Lean Concrete M15 -40mm.

**7. CEMENT**

- a. Cement used shall generally be ordinary Portland Cement

conforming to the latest Indian Standard Code IS:8112 or IS:12269. Alternatively, other varieties of cement other than ordinary Portland Cement such as Portland Pozzolana Cement conforming to IS:1489 or Portland Slag Cement conforming to IS:455 can also be used. The contractor shall submit the manufacturer's certificate, for each consignment of cement procured, to the Owner. However Owner reserves the right to direct the Contractor to conduct tests for each batch/lot of cement used by the Contractor and Contractor will conduct those tests free of cost at the laboratory so directed by the Owner. The Contractor shall also have no claim towards suspension of work due to time taken in conducting tests in the laboratory.

Changing of brand or type of cement within the same structure shall not be permitted without the prior approval of the Owner. Sulphate Resistant Cement shall be used if Sulphate content is more than the limits specified in IS:456, as per Geotechnical investigation report and as mentioned in the construction drawing. No additional payment shall be made for using Sulphate Resistant Cement.

**8. SAND**

- a. Sand shall be hard, durable, clean and free from any adherent coatings or organic matter and shall not contain clay balls or pellets. The sand shall be free from impurities such as iron pyrites, alkalis, salts, coal, mica, shale or other laminated materials, in such forms or quantities as to affect adversely the hardening, strength, durability or appearance of concrete or to cause corruptions to any metal in contact with such concrete. In no case the cumulative percentage of impurities in sand shall be more than 5% by weight. All sand shall be properly graded. Unless otherwise directed by the Owner all sand shall pass through IS Sieve no. 2.36mm. Sand for concrete shall conform to IS:383 .
- b. All coarse aggregates & sand shall be stored on brick soling or an equivalent platform so that they do not come in contact with dirt, clay, grass or any other injurious substance at any stage. Aggregate of different sizes shall be kept in separate and easily measurable stacks. If so desired by the Owner, aggregates from different sources shall be stacked separately with proper care to prevent intermixing.

**9. WATER**

- a. Water shall be clean, fresh and free from organic matters, acids or soluble salts and other deleterious substances which may cause corrosion, discoloration, efflorescence etc. Potable water is generally considered fit for use. Water to be used shall comply with the requirements of IS:456 . Average 28 days compressive strength of at least three 15 cm. cubes of concrete prepared with proposed water shall not be less than 90% of average strength of three similar cubes prepared with distilled water. PH of water shall generally be not less than 6.

**11. STORAGE & HANDLING OF CONSTRUCTION MATERIALS**

- a. All materials shall be stored by the Contractor in a manner aiding convenient access for identification and inspection at all times. The storage arrangements shall be subject to the approval of the Owner. Storage of materials shall be as described in IS:4082 . All materials shall be so stored as to prevent deterioration or

intrusion of foreign matter and to ensure the preservation of their quality and fitness for the work. Any material which has deteriorated or has been damaged or is otherwise considered defective by the Owner shall not be used for concrete, and shall be removed from site immediately, failing which, the Owner will get the materials removed and the cost thereof shall be recovered from contract price. The Contractor shall maintain up to date accounts of receipt, issue and balance (stock wise) of all materials.

- b. Cement
- c. The cement shall be stored in dry enclosed shed, well away from the walls and insulated from the floor to avoid contact with moisture. The cement shall be stacked in easily countable stacks to facilitate removal of first in first out basis. The cement bags shall be gently kept on the floor to avoid leakage of cement from the bags. Sub-standard or partially set cement shall be immediately removed from the site as soon as it is detected. Cement stored for period beyond 90 days shall be tested before use.
- d. Reinforcement
- e. Reinforcement steel shall be stored consignment wise and size wise, off the ground and under cover. It shall be protected from rusting, oil grease and distortions. If directed by the Owner, the reinforcement steel may have to be coated with cement wash before stacking, to prevent scale and rust at no extra cost to the Owner. The stacks shall be easily measurable. Only steel needed for immediate use shall be removed from storage. Fabricated reinforcement shall be carefully stored to prevent damage, distortion, corrosion & deterioration.
- f. Cement concrete
- g. General
- h. This section of the specification deals with cement concrete, plain or reinforced, and covers the requirement for concrete mix design, strength and quality, pouring at all levels, forming, protection, curing finishing, admixtures, inserts and other miscellaneous works.
- i. The provisions of IS:456 shall be complied with, unless permitted otherwise. Any other Indian Standard Code shall form the part of the specification to the extent it has been referred to or applicable within this specification.
- j. The Contractor shall furnish all labour, material and equipment to form, place and finish all structural concrete, concrete works and miscellaneous items complete, as described herein.

## 12.

### **ADMIXTURES**

- a. The admixtures in concrete for promoting workability, improving strength or for any other purpose, shall be used only after the written permission from the Owner. The Admixtures shall conform to IS:9103.
- b. Admixtures should not impair durability of concrete nor combined with the constituent to form harmful compounds nor increase the risk of corrosion of reinforcement.
- c. Addition of admixtures should not reduce the specified strength of concrete in any case. The workability, compressive strength and the slump loss of concrete with and without the use of admixtures shall be established during the trial mixes before use of admixtures.
- d. The chloride content of admixtures shall be independently tested for each batch before acceptance.
- e. If two or more admixtures are used simultaneously in the same concrete

mix, data shall be provided to assess their interaction and to ensure their compatibility.

- f. In case admixtures are used in the concrete for any structure, fresh mix design be done considering the admixture with the specific approval from Owner. No extra payment shall be made to the Contractor on this account.

**13. GRADES OF CONCRETE**

- a. The minimum grade of concrete to be used for piling shall be M-20 with minimum cement content 400 kg/m<sup>3</sup> and maximum water cement ratio of 0.5. Concrete shall conform to the controlled design mix as specified in IS:456 . In addition, nominal mixes of 1:2:4 (with aggregates of nominal size 40mm maximum, by weight converted to equivalent volume shall also be used as per field quality plan. The concrete in aggressive surroundings due to presence of sulphate, etc., shall conform to IS:456. The slump of concrete shall be maintained between 150 to 200 mm.
- b. The Contractor shall carry out concrete mix design in accordance with IS:10262 and submit mix design calculations and get them approved from the Owner well in advance of installation of well foundations. The Contractor shall carry out adequate number of tests in accordance with IS:456 to ensure concrete of the minimum specified strength at requisite workability(i.e.slump).

**14. WORKMANSHIP**

- a. All workmanship shall be according to the current Industry standard and best practices.  
Before starting a pour the Contractor shall obtain the approval of the Owner in a “Pour Card” maintained for this purpose. He shall obtain complete instructions about the material and proportions to be used, Slump / workability, Quantity of water per unit weight of cement, number of test cubes to be taken, type of finishing to be done, any admixture to be added, any limitation on size of pour and stopping of concrete in case of premature stopping of pours.

**15. MIXING OF CONCRETE**

- a. All design mix concrete shall be mixed in mechanically operated mixer of an approved size and type capable of ensuring a uniform distribution on the materials through the mass. However, contractor can also use central batching plant situated within the area allocated for the Contractor’s particular use.
- b. The proportions of sand, coarse aggregate, cement and water shall be as determined by the mix design. However, in case of nominal mix concrete (for lean concrete only) the proportions of sand, coarse aggregate, cement and water shall be fixed. The proportions, as determined for design mix concrete and shall always be approved by the Owner. The quantities of the cement, sand and coarse aggregates shall be determined by weight.  
However, for a faster progress at site, quantities of the cement, sand and coarse aggregates can be converted to equivalent volume. The water shall be measured accurately after giving proper allowance for surface water present in the aggregate for which regular check shall be made by the Contractor.
- c. The water shall not be added to the mix until all the cement and aggregates consisting the batch are already in the drum and dry mixed for at least one minute. Mixing of each batch shall be continued until

there is a uniformity in colour and consistency but in no case shall mixing be done for less than two (2) minutes and at least forty (40) revolutions after all the materials and water are in the drum. When absorbent aggregates are used or when the mix is very dry, the mixing time shall be extended as may be directed by the Owner. Mixers shall not be loaded above their rated capacity as it prevents thorough mixing. If there is segregation after unloading from the mixer the concrete should be remixed.

- d. The entire contents of the drum shall be discharged before the ingredients for the next batch are fed into the drum. No partly set or remixed or excessively wet concrete shall be used and it shall be immediately removed from site. Each time the work stops, the mixer shall be thoroughly cleaned and when the next mixing commences, the first batch shall have 10% additional cement at no extra cost to the Owner to allow for loss in the drum.

**16. CONVEYING CONCRETE**

- a. Concrete shall be handled and conveyed from the place of mixing to the place of final laying as rapidly as practicable, by approved means, before the initial setting of the cement starts. Concrete should be conveyed in such a way as will prevent segregation of Concrete which may occur during transportation of concrete. In case of any such segregation during transport, the concrete shall be re-mixed. During very hot or cold weather, if directed by the Owner, concrete shall be transported in deep containers, having mortar leak proof, which will reduce the rate of water loss by evaporation and loss of heat. Conveying equipments for concrete shall be well maintained and thoroughly cleaned before commencement of concrete mixing. Such equipment shall be kept free from set concrete.

**17. PLACING OF CONCRETE**

- a. Formwork and placement of reinforcement shall be approved in writing by the Owner before concrete is placed. The forms shall be well wetted and oil shavings, dirt and water that may have collected at the bottom shall be removed before concrete is placed. Concrete shall be deposited in its final position without segregation, re-handling or flowing. The interval between adding the water to the dry materials in the mixer and the completion of the final placing inclusive of compaction of the concrete shall be well within the initial setting time for the particular cement in use or as directed by the Owner. As far as possible, concrete shall be placed in the formwork by means approved by the Owner and shall not be dropped from a height or handled in a manner which may cause segregation. Any drop over 1800 mm shall have to be approved by the Owner. Once the concrete is deposited in its final position, it shall not be disturbed. Care should be taken to avoid displacement of reinforcement or movement of formwork.
- b. The placing of concrete shall be a continuous operation with no interruption in excess of 30 minutes between the placing of continuous portions of concrete.
- c. After the concrete has been placed it shall be spread and thoroughly compacted by approved mechanical vibration to a maximum subsidence without segregation and thoroughly worked around reinforcement or other embedded fixtures into the correct

form and shape. Vibrators shall not be used for pushing and shovelling concrete into adjoining areas. Vibrators must be operated by experienced men and over-vibration shall not be permitted. Head tamping in some case may be allowed subject to the approval of the Owner. Care must be taken to ensure that the inserts, fixtures, reinforcement and form work are not displaced or disturbed during placing of concrete. No concrete shall be placed in open while it rains. If there has been any sign of washing of cement and sand, the concrete shall be entirely removed immediately. Suitable precautions shall be taken in advance to guard against rains before leaving the fresh concrete unattended. No accumulation of water shall be permitted on or around freshly laid concrete. Tie beams, well caps, footings shall be poured in one operation normally, in special circumstances with the approval of the Owner these can be poured in horizontal layers not exceeding 500 mm in depth. When poured in layers, it must be ensured that the under layer, is not already hardened. Blending of under layer if any, shall be effectively removed.

- d. Wherever vibration has to be applied externally the design of formwork and the disposition of vibrators shall receive special consideration to ensure efficient compaction and to avoid surface blemishes.

**18. INSERTS**

- a. All anchors, anchor bolts, inserts, etc. and any other items those are required to be embedded in the concrete shall be placed in correct position before pouring. Extra care shall be taken during pouring operation to maintain their position as indicated in the drawings. These inserts shall be welded to the nearest reinforcement to keep them in position and all such welding shall be deemed to be included in the unit rate quoted and no extra payment shall be made on this account.

**19. FINISHES OF CONCRETE**

- a. All concrete surfaces shall have even and clean finish, free from honeycombs, air bubbles, fins or other blemishes. The formwork joints marks for concrete work exposed to view shall be rubbed with carborandum stone and defects patched up with a paste of 1 part sand and 1 part cement and cured. The finish shall be made to the satisfaction of the Owner.

The unit rate of concrete work shall be inclusive of the cost of cleaning and finishing exposed surface as mentioned above.

**20. GENERAL REQUIREMENTS**

- a. Reinforcement steel of same type & grade shall be used for structural reinforcement work as detailed in the drawing released by the Owner. No work shall be commenced without proper verification with the barbending schedule provided in the drawing
- b. Contractor shall supply, fabricate and place reinforcement to shapes and dimensions as indicated on the drawings and as per specifications. The reinforcement shall be either plain or deformed steel bars or welded wire fabric conforming to relevant IS specifications.
- c. Any adjustment in reinforcement to suit field conditions and construction joints other than shown on drawings shall be subjected to the approval of Owner.

**21. PLACING IN POSITION**

- a. All reinforcement shall be accurately fixed and maintained in position as

shown on the drawings by approved means as mild steel chairs, and/or concrete spacer blocks. Bars intended to be in contact, at crossing points, shall be securely bond together at all such points by two number No.20G annealed soft-iron wire.

Binders shall tightly embrace the bars with which they are intended to be in contact and shall be securely held. The vertical distance between successive layers of bars shall be maintained by provision of mild steel spacer bars. They should be so spaced that the main bars do not sag perceptibly between adjacent spacers.

- b. The placing of reinforcements shall be completed well in advance of concrete pouring. Immediately before pouring, the reinforcement shall be checked by the Owner for accuracy of placement and cleanliness and necessary correction as directed by him shall be carried out. The cover for concrete over the reinforcements shall be as shown on the approved drawings unless otherwise directed by the Owner. Care should be taken to ensure that projecting ends of ties and other embedded metal do not encroach into the concrete cover. Where concrete blocks are used for ensuring the cover and positioning reinforcement, they shall be made of mortar 1:2 (one part cement: two parts sand) by volume and cured for at least (7) days. The sizes and locations of the concrete blocks shall be approved by the Owner.
- c. Longitudinal reinforcement in well shall be high yield strength cold twisted deformed steel bars conforming to IS:1786. Thermo mechanically Treated (TMT) bars (equivalent grade) in place of Cold twisted deformed steel bars are also accepted. Lateral reinforcement in well shall be of tor steel conforming to IS:432 Part-I.
- d. The longitudinal reinforcement shall project 52 times its diameter above cut-off level unless otherwise indicated in the drawing.
- e. The minimum diameter of the links or spirals bar shall be 8mm and the spacing of the links or spiral shall not be less than 150mm and in no case more than 250mm. The laterals shall be tied to the longitudinal reinforcement to maintain its shape and spacing.
- f. Reinforcement cage shall be sufficiently rigid to withstand handling and installation without any deformation and damage. As far as possible number of joints (laps) in longitudinal reinforcement shall be minimum. In case the reinforcement cage is made up of more than one segment, these shall preferably be assembled before lowering into casing tube/pile bore by providing necessary laps as per IS:456.
- g. The minimum clear distance between the two adjacent main reinforcement bars shall normally be 100mm for the full depth of cage, unless otherwise specified.
- h. The laps in the reinforcement shall be such that the full strength of the bar is effective across the joint and the reinforcement cage is of sound construction. Laps and anchorage lengths of reinforcing bars shall be in accordance with IS:456, unless otherwise specified. If the bars in a lap are not of the same diameter, the smaller will guide the lap length.
- i. Laps shall be staggered as far as practicable and as directed by the Owner. Not more than 33% bars shall be lapped at a particular section. Lap joints shall be staggered by at least 1.3 times the lapped length (Center to Center).
- j. Proper cover and central placement of the reinforcement cage in the pile bore shall be ensured by use of suitable concrete spacers or rollers, as required, without any additional cost to the Owner.
- k. Minimum clear cover to the reinforcement shall be 75mm

unless otherwise mentioned.

1. Unless otherwise specified by the Owner reinforcement shall be placed within the following tolerance as specified in IS:456:2000.
  - a) For effective depth 200mm or less +10mm.
  - b) For effective depth more than 200mm +15mm.
- m. The cover shall in no case be reduced by more than one-third of specified cover or 5mm whichever is less. Welding of reinforcement bars shall be avoided. However, welding may be done in specific case subject to prior permission from the Owner.

**22. CONSTRUCTION OF Ring well, PEDESTAL, ETC.**

- a. The Contractor shall deploy all labour, equipment, tools & tackles and materials required for complete execution of the work in accordance with the drawings and as described herein.

**23. WELL CASING INSTALLATION**

- a. Installation or casting of ring well case shall be carried out as per well layout drawings, installation criteria, technical specifications and the directions of the Owner.

**24. CONTROL OF POSITION AND ALIGNMENT**

- a. Well shall be installed vertically as accurately as possible as per the construction drawing.  
Any extra claim whatsoever from the contractor on this account shall not be entertained.

**25. EXCAVATION**

- a. The Contractor shall control the grading in the vicinity of all excavation so that the surface of the ground will be properly slopped or diked to prevent surface water from running into the excavated areas during construction.
- b. Excavation shall include the removal of all materials required to execute the work properly and shall be made with sufficient clearance to permit the placing, inspection and setting of forms and completion of all works for which the excavation was done.
- c. Side and bottoms of excavation shall be cut sharp and true, undercutting shall not be permitted. Each side of excavation shall be used in lieu of formwork for placement of concrete unless authorised, in special cases, by the Owner, where limitation of space for larger excavation necessitate such decision.
- d. When machines are used for excavation, the last 300mm before reaching the required level shall be excavated by hand or by such equipment that will leave the soil at the required final level, in its natural conditions.
- e. Suitability for bearing of the bottoms of excavations shall be determined by the Owner.  
The bottom of excavation shall be trimmed to the required level and when carried below such levels, by error, shall be brought to level by filling with lean concrete 1:4:8 mix, with aggregate of 40mm maximum nominal size at no additional cost to the Owner.  
The Contractor shall be responsible for assumptions and conclusions regarding the nature of materials to be excavated and the difficulty of making and maintaining the required excavations and performing the work required as shown on the drawing and in accordance with these specifications. The Contractor shall be responsible for any damage to any part of the work and property caused by collapse of sides of



excavations. Materials may be salvaged, if it can be done with safety for the work and structure, as approved by the Owner.

However, no extra claim shall be entertained for materials not salvaged or any other damage to Contractor's property as a result of the collapse. He shall not be entitled to any claim for redoing the excavation as a result of the same. Excavations for foundations specified shall be carried out at least 75mm or as specified in relevant drawings below the bottom of structural concrete and then be brought to the required level by placing lean concrete of 1:4:8 mix or as specified in drawings with aggregate of 40mm maximum nominal size.

When excavation requires coffer dams, sheet piling, bracing, sheeting, shoring, draining, dewatering etc. the Contractor shall have to provide

the same as required and the cost there of shall be included in the unit rate quoted for the item of excavation and contractor shall submit necessary drawings showing arrangement and details of proposed installation and shall not proceed until he has received approval from the Owner.

The Contractor shall have to constantly pump out the water collected in pits due to rain water, springs, seepage etc. and maintain dry working conditions at no extra cost to the Owner.

For the purpose of excavation in earthwork, all types of soil including kankar, morum, shingle and boulders up to 150mm size are included and no separate payment shall be made for different type of soils encountered.

**25.**

**BACK FILLING**

- a. When the work is to be interrupted, the concrete shall be rebated at the joint to such shape and size as may be required by the Owner or as shown on the drawings. All vertical construction joints shall be made with stone boards, which are rigidly fixed and slotted to allow for the passage of the reinforcing steel. If desired by the Owner, keys and/or dowel bars shall be provided at the construction joints. Construction joints shall be provided in positions as shown or described on the drawing. Where it is not described, the joints shall be in accordance with the following :
  - i) In a column, the joint shall be formed about 75mm below the lowest soffit of the beams framing into it.
  - ii) Concrete in tie beam shall be placed throughout without a joint, but if the provision or a joint is unavoidable, the joint shall be vertical and at the middle of the span.
  - iii) In forming a joint, concrete shall not be allowed to slope away to thin edge. The locations of construction joints shall be planned by the Contractor well in advance of pouring and have to be approved by the Owner
- b. Before the fresh concrete is placed, the cement skin of the partially hardened concrete shall be thoroughly removed and surface made rough by hacking, sand blasting, water jetting, air jetting or any other method as directed by the Owner. The rough surface shall be thoroughly wetted for about two hours and shall be dried and coated with 1:1 freshly mixed cement sand slurry immediately before placing the new concrete. The new concrete shall be worked against the prepared surface before the slurry sets. Special care shall be taken to see that the first layer of concrete placed after a construction joint is thoroughly rammed

against the existing layer. Old joints during pour shall be treated with 1:1 freshly made cement sand slurry only after removing all loose materials.

26.

**CURING AND PROTECTION OF CONCRETE**

- a. Newly placed concrete shall be protected by approved means from rain, sun & wind. Concrete placed below ground level shall be protected from falling earth during and after placing. Concrete placed in ground containing deleterious substances shall be kept free from contact with such ground or with water leaking from such ground during placing of concrete and for a period of three days or as otherwise instructed by the Owner after placing of concrete. The ground water around newly poured concrete shall be kept to an approved level by pumping or other approved means of drainage. Adequate steps shall be taken to prevent floatation or flooding. Steps, as approved by the Owner, shall also be taken to protect -immature concrete from damage by debris, excessive loading, vibration etc. which may impair the strength or durability of the concrete. All fresh concrete shall be covered with a layer of Hessian or similar absorbent material and kept constantly wet for a period of seven days or more from the date of placing of concrete as per directions of the Owner. Curing can also be made by ponding. Concrete shall be cured by flooding with water of minimum 25mm depth for the period mentioned above. Step shall also be taken to protect immature concrete from damage debris by excessive loading, vibrations, abrasions, deleterious ground water, mixing with earth or foreign materials, floatation etc. that may impair the strength and durability of the concrete. Approved curing compound can be used with the permission of the Owner. Such compound shall be applied to all exposed surfaces of the concrete as soon as possible after the concrete has set.

27.

**ADJACENT STRUCTURES**

- a. When working near existing structures care shall be taken to avoid any damage to such structures.

28.

**INSTALLATION**

- a. During erection, the Contractor shall provide necessary temporary bracing or supports to ensure proper installation of the materials. All materials shall be erected in the true locations as shown in the drawings, plumb and level. Extreme care shall be taken to ensure that the threads of holding down bolts and comparable items are protected from damage. Groups of holding down bolts shall be set in such a manner that the tolerance of whole group is not more than 3mm from its true position in plan at the top of the bolt and not more than 3mm from the required level. The top ends of all bolt shanks shall be in one plane to the tolerance stated above. Holding down bolt assemblies shall be set vertically to a tolerance of not more than 1:500.

29.

**PROTECTION AGAINST DAMAGE IN TRANSIT**

- a. All steel work shall be efficiently and sufficiently protected against damage in transit to site from any cause whatsoever. All protecting plates or bars and all ends of members at joints shall be stiffened, all straight bars and plates shall be bundled, all screwed ends and machined surface shall be suitably packed and all bolts, nuts, washers and small loose parts shall be packed separately in cases so as to prevent damage or distortion during transit. Should there be any

distortion of fabricated members, the Contractor shall immediately report the matter to the Owner. Distorted reinforcement bars or plates received from stores or distorted during transport from stores to the fabrication yard shall not be used in fabrication unless the distortions are minor which in the opinion of the Owner can be removed by acceptable methods. The cost of all such straightening shall be borne by the Contractor within his unit rates.

These distortions shall be rectified by the Contractor by cold bending. If heating is necessary to rectify the defects, the details of the procedure shall be intimated to the Owner whose approval shall be taken before such rectification. The temperature of heat treatment shall not exceed the limits beyond which the original properties of steel are likely to be impaired

**30.**

**FOUNDATIONS BOLTS**

- a. The foundation bolts / stubs, as required, for the tower structures shall be supplied by the respective tower contractor. These shall be embedded in concrete while the foundation is cast. The Contractor shall ensure the proper alignment of these bolts to match the holes in the base plate and also co-ordinate with the respective tower contractor for its correctness. The final adjustment of these bolts and their grouting are included in the scope of this contract. Grouting of block outs and the gap between the base plate and top of concrete shall be done by the Contractor after finalisation of alignments. The unit rate of concreting shall include the cost of above adjustments, grouting, and skins etc. required for this purpose.
- b. The Contractor shall be responsible for the correct alignment and leveling of all steel work on site to ensure that the towers are in plumb.
- c. Before erection of towers, by tower contractor, on the foundations the top surface of base concrete shall be thoroughly cleaned with wire brushes and by chipping to remove all laitance and loose materials and shall be chipped with a chisel to ensure proper bond between the grout and the foundation concrete. The piling Contractor shall also be responsible for bringing down the top of concrete to the desired level by chipping. In case the foundation as cast is lower than the desired level, the Contractor shall make up the difference by providing additional pack plates without extra cost for any such work or material. No steel structures shall be erected on their foundations unless such foundations have been certified fit for erection by the Owner. Adequate number of air release holes and inspection holes shall be provided in the base plate.

**31.**

**STABILITY OF STRUCTURE**

- a. The Contractor shall be responsible for the stability of the structure at all stages of its erection at site and shall take all necessary measures by the additions of temporary bracings and guying to ensure adequate resistance to wind and also to loads due to erection equipment and their operations. Guying and bracing shall be done for erection equipment and their operations. Guying and bracing shall be done in such a way that it does not interface with the movement or working of other agencies working in the area. For the purpose of guying, the Contractor shall not use other structures in the vicinity which are likely to be damaged by the guy.  
Such temporary bracings shall neither be included in the measurement nor extra rate shall be payable. Such temporary bracings used shall be the property of the Contractor and may be

removed by him at the end of the job from the site of work.

**32.**

**MATERIALS**

- a. Cement shall conform to the stipulations contained in IS:8112 and shall have a fineness (specific surface of cement) not less than 225 sq.m./kg when tested for fineness by Blaine's air permeability method as per IS:4031.
- b. Sand shall conform to the stipulations contained in IS:383.
- c. Water shall be clean and fresh and shall be of potable quality.
- d. Aluminium powder or anti-shrinkage admixture like 'Groutex' CRS-NS grout (by Cement Research Institute of India) or its equivalent shall be of standard brand from reputed manufacturer and shall be approved by the Owner prior to its use for work.

**34.**

**CURING**

- a. The work shall be cured for a period of 7 days commencing 24 hours after the completion of the grouting and under pinning operations. The curing shall be done by covering the surfaces with wet gunny bags.
- b. Bar Grips
- c. This covers the technical requirement for furnishing and installation of bar grips complete including all labour materials, equipments, staging, etc.
- d. Curing should be done as soon as possible after concrete is placed and when initial set has occurred and before it has hardened. It should be continued for a minimum period of 7 to 12 days when normal (Portland) cement is used, 4 to 7 days when rapid hardening cement is used, and should be kept thoroughly wet for 24 hours when high alumina cement is used.

**35.**

Vertical surfaces may be covered with hanging curtains. Columns and small members shall be cured by wrapping round them wet sacks or by sprinkling water continuously. On vertical surfaces it should be checked that the wet fabric is in contact with the surface.

- a. All reinforcement shall be cleaned thoroughly by removing loose scales, oil, grease or other deleterious materials. The contractor shall obtain the approval of the Engineer-in-charge or his representative to the reinforcement when fixed in position before any concrete is deposited in the forms.
- b. Bars shall be bent cold or straightened in a manner to the satisfaction of the Engineer-in-charge or his representative. Bars bent during transport or handing shall be straightened before using on work. They shall not be heated to facilitate bending. Welding shall be done as per latest IS Code of practice.
- c. All reinforcement bars shall be cut and standard hooks for MS rounds made at ends and accurately placed in position as shown on the approved drawings. They shall be securely held in position before and during concreting by annealed binding wires used for binding the reinforcement which shall be of approved quality soft annealed iron wire not less than 1 mm (18SWG) size, conforming to IS: 280.
- d. As far as possible, bars of full length shall be used. Where bars are required or permitted to be lapped by the Engineer-in-charge, or his representative, the over laps shall be staggered for different bars and located at points, along the span where bending moment is not maximum. The concrete measured over the reinforcing bars shall be in accordance with the approved drawings.

36.

**REINFORCED CEMENT CONCRETE:-**

- a. Optimum quantity of water shall be mixed to produce the design mix/nominal mix concrete of required workability.
- b. Workability shall be such that the concrete surrounds and properly grips all reinforcement.
- c. The degree of consistency, which shall depend upon nature of work and method of vibration of concrete, shall be determined by regular slump tests to be carried out by the contractor at his cost.
- d. Usually for mass concrete in RCC works where vibrations are used the slumps shall be within 10mm to 25mm.
- e. The frequency of such tests and the natures of slumps shall be maintained within the limits specified by the Engineer-in-charge.
- f. The Engineer-in-charge also reserves the right to carry out slump tests independently at his own discretion.
- g. Cube moulds should be prepared for destructive testing randomly as per instructions given by Site In-Charge.
- h. Cement shall have to be weighed from bulk stocks at site and not by bags. It shall be weighed separately from the aggregates.
- i. Water shall either be measured by volume in calibrated buckets or weighed. All necessary equipment shall be maintained in a clean and serviceable condition. Their accuracy shall be periodically checked.
- j. Honeycombed RCC structure should be dismantled immediately and reconstructed.
- k. If Reinforced Cement Concrete works include Stone masonry works then stone masonry works should be carried out in stages. After completing one stage mortar droppings shall be cleaned and Reinforced Cement Concrete works should be done before starting the second stage of stone masonry work.

37.

**DEWATERING:-**

- a. Where water is met with during excavation due to stream flow, seepage, shoring, rain or other reasons, the contractor shall take adequate measures such as bailing, pumping, constructing diversion channel, drainage channel, ponds and other necessary works to keep the foundation trenches dry and to protect the green concrete against damage by eruption or sudden rising of water level.  
Approval of the Engineer-in-charge shall be required for any method adopted, for the adequacy of dewatering and protection arrangements and for the sound safety of the work shall be required.

**Any works which are not mentioned in Bid documents shall be executed as per BOQ and as per the directions of site engineer.**

(E)

**WORK SCHEDULE.**

1.

**SITE HANDOVER:-**

- a) Handing over of the work site will be done in presence of Project Manager or its authorized representative, Resident Engineer, site engineer and contractor or its authorized representative.
- b) The contractor has to submit the list of manpower along with contact numbers to be engaged for the work to the Project Manager.
- c) The date of site handing over to be noted on the Site register duly signed by the Project Manager or its authorized representative, Resident Engineer, site engineer and contractor or its authorized representative.

2.

**WORK COMMENCEMENT:-**

The work should be started only after having the following documents.

- a) Work order
- b) Site Register
- c) Measurement Book
- d) Drawings
- e) Specifications of item & schedule of Quantity

**3. SITE REGISTER:-**

- a) It will be issued along with the work order.
- b) It will be the responsibility of the Contractor to record and update the site register with details of Day-to-Day activities and other details countersigned with seal by AEGCL.
- c) The days on which no work is carried out should be recorded in the site register with proper justification.
- d) Any instruction by AEGCL officials during site visit must be noted properly and should be jointly signed by the official and the contractor or its authorised representative.  
In case of any disagreement, the Contractor must notify AEGCL in written.
- e) Any deviation in works must be properly noted in the site register by the Contractor along with proper justification for it.
- f) Progress report along with work completion percentage must be prepared by the Contractor on the basis of site register log and has to be submitted to AEGCL on 1<sup>st</sup> and 16<sup>th</sup> day of the month. In case of holiday, it should submit on next working day.
- g) Site register shall be verified from time to time by the Site In-charge and any anomalies found will be forwarded to higher authorities in written by the Site In-charge of AEGCL.

**4. PERT CHART OR BAR CHART:-**

The successful bidder within 10 (ten) days before the contract is awarded will make out a detailed PERT Chart covering all activities along with detailed program chart on accepted scheme indicating various stages of execution, method of execution and completion of work in different stages keeping the period of completion in view and submit the same to the Engineer for the consideration and approval.

**(F) QUALITY CONTROL.**

If required by AEGCL, the contractor must perform the test on construction materials. These test listed in the document should be carried out as per Indian Standard Code specifications of the respective tests. Proper records of these tests should be maintained.

- 1. Tests for fresh concrete:
  - a) Workability: To determine the workability of fresh concrete by slump test as per IS: 1199-1959
- 2. Tests on Hardened Concrete:
  - a) Non-destructive tests:
    - Rebound hammer test: To assess the likely compressive strength of concrete by using rebound hammer as per IS:13311(Part 2)-1992
  - b) Compression test: to determine the compressive strength of concrete specimens as per IS:516-1959
- 3. Tests for Steel:
  - All reinforced steel bar should meet the specifications of IS 1786:2008

# Appendix-1

## COVERING LETTER (ON THE BIDDERS LETTER HEAD)

To,

The Deputy General Manager,

Tezpur T&T Circle, AEGCL

*(Tendering Office)*

Sub: Submission of Tender. NIT No:-AEGCL/DGM/TTC/TEZ/T-20/2021-22/148

Dated: 11/03/2022

Sir,

Having examined the terms & conditions, technical specifications, detailed items of work etc. as well as acquainting myself/ourselves with site of work, surroundings to get the required materials etc. I am/we are to submit herewith my/our tender for the above mentioned work. My/our rates are quoted as per the specification laid down in the schedule of items of work.

I /We clearly understand that all materials, tools and plants, machineries, labours, testing of material, storage, haulage etc. required in the work shall have to be arranged by me/us from my/our own resources in the events of allotment of the work to me/us.

I /We also clearly understand that in the event of acceptance/approved of my/our tender, the work shall have to be executed strictly as per specifications and the same shall have to be completed in all respects within the stipulated time failing which I am/We are liable to be penalized as per rules laid down in Tender document as well as agreement thereof.

## Appendix-2

### PROFILE OF THE BIDDER

**Hard copy of the following documents to be submitted with Techno-Commercial Bid.**

Sl. No.	Particulars	To be filled by Bidder
a)	Name of the Bidder	:-
b)	Registration with Memorandum of Association	:-
c)	PAN	:-
d)	GST Registration number	:-
e)	Labour License registration	:-
f)	Income Tax return( Last Three Years)	:-
g)	Audited Balance sheet ( Last Three Years)	:-
h)	Average Turn Over ( Last Three Years)	
i)	Bank Solvency (Latest)	
j)	Technical Supervision Certificate	:-
k)	Tools and Plant ( In the form of affidavit)	
l)	Work experience certificate	
m)	Postal Address	:-
	House No.	:-
	Lane	:-
	Street	:-
	Town/Village	:-
	Post Office	:-
	P.S.	:-
	District	:-
	Pincode	:-
	Mobile No.	:-
	E-Mail Address	:-
Website	:-	
n)	Name(s) of the Owners / Directors/Partners certificate	:-
o)	Employees Provident Fund (Optional)	
p)	Employees State Insurance certificate ( Optional)	
q)	Name of the Banker with Address and Telephone Number	:-
r)	Contact Person Details (Furnish here name of that person with whom AEGCL may get in touch for more information or clarifications)	Name:- Designation:- Mobile Number:- Email Address:-



## Appendix-3

### WORK EXPERIENCE OF THE BIDDER

#### Following documents to be submitted with Techno-Commercial Bid (Envelope-1)

If the nature of work and value differs from the above stated conditions, it will not be considered while evaluation of technical qualification.

Sl. No.	Name of work	Nature of Work	Executed Amount	Starting Date	Completion Date
a)					
b)					

NB:- The Bidder may prepare extra sheet if required

## Appendix-4

### FINANCIAL QUALIFICATIONS

Following documents to be submitted with Techno-Commercial Bid (Envelope-1)

In order to techno-commercially qualify for this Bid, the bidders have to submit annual audit report for last 3 (Three) years.

1.	<b>Financial Qualifications:</b>
a)	Minimum average annual turnover of Rs..... calculated as total certified payments received for contracts in progress or completed.
b)	Minimum cash flow of Rs..... showing financial resources such as liquid assets unencumbered real assets, line of credit and other financial means. Bank solvency certificate to be submitted.

NB:- The Bidder may prepare extra sheet if required

## Bill of quantities

<b>Bill of quantities</b>			
<b>PART- I( SUPPLY)</b>			
<b>Sl no</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty</b>
1	<b>NUTS and BOLT</b>		
	Galvenised nuts and bolt	<b>MT</b>	<b>0.212</b>
2	<b>POWER CONDUCTOR ACCESSORIES</b>		
	Preformed Armour road	<b>Nos</b>	<b>4</b>
3	<b>DISC INSULATOR ACCESSORIES</b>		
	Single suspension hardware fitting for panther conductor	<b>Nos</b>	<b>3</b>
4	<b>Tower ACCESSORIES</b>		
	Supply of anti climbing Devices	<b>Nos</b>	<b>1</b>
<b>PART-II ( F&amp;I)</b>			
<b>Sl no</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty</b>
1	<b>TOWER SUPERSTRUCTURE</b>		
	<b>NUTS and BOLT</b>		
	Galvenised nuts and bolt	<b>MT</b>	<b>0.212</b>
2	<b>POWER CONDUCTOR ACCESSORIES</b>		
	Preformed Armour rod	<b>Nos</b>	<b>4</b>
3	<b>DISC INSULATOR ACCESSORIES</b>		
	Single suspension hardware fitting for panther conductor	<b>Nos</b>	<b>3</b>
4	<b>Tower ACCESSORIES</b>		
	Supply of anti climbing Devices	<b>Nos</b>	<b>1</b>
<b>PART-III ( Foundation)</b>			
<b>Sl no</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty</b>
1	Construction of cast in situ RCC ring well csing of inner dia 1200mm and outer dia 1400mm for tower foundation as per the approved drawing and technical specification sinking of the ring well through all strata of soil ( Clay, sand ,silt, gravel, rock etc) upto depth of approved drawing including cost of dewatering, carriage of material to work site, site preparation, protection of work site and adjacent properties , supply of all construction materials shuttering, shoring etc complete as per drawing & specification.	<b>RM</b>	<b>38.40</b>
2	Providing and alying reinforcement cement concrete (M-20) works cement, coarse sand & 20mm down graded stone aggregate including cost of labour and construction material such as cement, sand, stone aggregate, reinforcement TMT bars, formwork/shuttering , strutting and propping etc MS angle, MS Plate, MS Nuts & bolts and other materials, dewatering, curing, transporation of materials , tools & equipment for concreting of inside the RCC ring well, cap, tie beam , chimney etc.(TMT-IS1786 (fe 500) primary producer(TATA/SAIL/Essser steel/shyam steel or equivalent.)	<b>Cum</b>	<b>45.73</b>
3	Setting of stubs (sets of 4) including transportation and distribution of stubs and accessories from store to site	<b>set</b>	<b>1.00</b>

<b>PART-IV ( ERECTION)</b>			
<b>Sl no</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty</b>
1	Detail & Check survey as per specification	<b>km</b>	<b>0.5</b>
2	Superstructure erection including transportation of structures by any means and distribution of structure and accessories at site	<b>MT</b>	<b>4.179</b>
3	Grounding of towers with 3 metre long 25mm dia GI pipe, including cost of all materials ,such as GI pipes,Gibolts &nuts and washer,salt,cock etc as per specification.	<b>Nos</b>	<b>1</b>
4	Painting of towers with bituminous paints of approved quality up to 3 meters from ground level including the cost of paints.	<b>Nos</b>	<b>1</b>
5	Welding of all nuts & bolts up to the bottom cross arm level including all changes of transportation,materials etc.	<b>Nos</b>	<b>1</b>
6	Erection of Danger plates (1 no per tower)	<b>Nos</b>	<b>1</b>
7	Erection of phase plates	<b>Set</b>	<b>1</b>
8	Erection of Number plates (1 no per tower)	<b>Nos</b>	<b>1</b>
9	Erection of anti climbing device (1 set per tower)	<b>Set</b>	<b>1</b>
<b>PART-V ( DISMANTLING)</b>			
<b>Sl no</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty</b>
1	Dismantling of existing tower without damaging the member,Stake at site as per superstructure size and marking	<b>Nos</b>	<b>1</b>
<b>PART-VI (ERS)Transportation,Erection and Dismantling of 1 Nos ERS Tower at location no 332 of 132KV Depota-Rowta Line</b>			
<b>A.TRASPORTATION OF ERS( To &amp; From)</b>			
<b>Sl no</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty</b>
1	ERS tower materials sorting,loading and carrying from Kahilipara store and unloading at work site. Weight per ERS= 5.2MT 1st (30KM)	<b>Job</b>	<b>1</b>
	For 145KM	<b>Job</b>	<b>5.2 x 145</b>
2	ERS tower material sorting, loading and carrying from Work camp and unloading at Kahilipara GSS. Weight per ERS= 5.2MT 1st (30KM)	<b>Job</b>	<b>1</b>
	For 145KM	<b>Job</b>	<b>5.2 x 145</b>
<b>B. ERECTION FOR 1 No ERS</b>			
<b>Sl no</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty</b>

3	Carrying of all ERS materials from road side to work site by head loading	<b>LS</b>	<b>1</b>
4	Preparation & levelling of site	<b>Per job</b>	<b>1</b>
5	Anchoring( Including Excavation) of five No's Anchor	<b>Per job</b>	<b>1 Job</b>
6	Erection of ERS Tower	<b>Each</b>	<b>1</b>
7	Dismantling of Conductor ( 3No's) from existing line of location	<b>Each</b>	<b>1</b>
8	Stringing of conductors (3 Nos) in 1 No's ERS tower including all necessary work	<b>Each</b>	<b>1</b>
<b>C. DISMANTLING FOR 1 No ERS</b>			
<b>Sl no</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty</b>
9	ERS tower materials sorting, loading and carrying from work site to head camp by head loading	<b>LS</b>	<b>1</b>
10	Dismantling of power conductors( 3Nos) from ERS Tower	<b>per job</b>	<b>1</b>
11	Restringing of conductor to existing tower after necessary repairing.( 3 Nos)	<b>Each</b>	<b>1</b>
12	Dismantling of ERS tower including De-Anchoring	<b>Per Job</b>	<b>1</b>