

ASSAM ELECTRICITY GRID CORPORATION LIMITED
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**TERMS, CONDITIONS AND TECHNICAL SPECIFICATIONS OF CONTRACT
WITH ITEM RATE SCHEDULE**

NIT No: AEGCL/DGM/LAC/TT/TLS-69/2017-18/275 Dated :25/01/2018

Bidding Document

for

Construction of Retaining Wall for approach road at 132/33 kV Barpeta GSS.

Issued to:

Name:
Address:

**DEPUTY GENERAL MANAGER
LOWER ASSAM T&T CIRCLE
AEGCL, NARENGI**

For & on behalf of the **Managing Director, AEGCL, the Deputy General Manager, LA T&T Circle, AEGCL, Narengi** invites e-tenders from reputed Civil Engineering Firms/Contractors with sound technical and financial capabilities for the following work. A single stage two envelope procedure (**Techno-Commercial and Price Bid**) will be adopted for this tender.

Sl. No.	Name of work	Bid Security In INR	Time of Completion
1.	Construction of Retaining Wall for approach road at 132/33 kV Barpeta GSS.	72,000.00	90 days

Cost of Bid Document:

1.0 Bidder has to pay Non-Refundable tender document cost **@Rs.3000.00 (Three Thousand) only** for e-service fee as applicable through DEBIT /CREDIT card & NET BANKING etc. to service provider.

2.0 Bidding Address:

- 2.1. Bidder must create user ID in the web portal <https://aegcl.etenders.in> in order to participate in the e-tender.
- 2.2. Bidders shall be required to bid for the complete Package and no part offer shall be accepted.

Bidder must download the bidding documents from the above mentioned portal and both technical & Price bid must be submitted through **online mode only** along with all scanned supporting documents (Suggested scan at 150 dpi in .pdf format). Bidder can Re-work/Edit their bids before closing date of the tender. Bidders are advised to submit/re-work their bids well advance in time to avoid any last minute unforeseen hassle. **However, AEGCL may ask bidder to submit hard copies of GTP, Drawing, Manufacturer authorization of the major items and any other documents if deemed necessary.**

3.0 Validity of Bids

3.1. Bids shall remain valid for the period of 180 days after the bid submission deadline date prescribed by AEGCL. In exceptional circumstances, prior to the expiration of the bid validity period, AEGCL may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a bid security shall also be extended for a corresponding period. Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its bid.

4.0 Bid Security:

- 4.1. All bids must be accompanied by a bid security amounting to **₹72,000.00 only** in the form of Call Deposit/Demand Draft/Banker Cheque from any Nationalised Bank payable at Guwahati in favour of the **Deputy General Manager, LA T&T Circle, AEGCL, Narengi, Guwahati-26.**
- 4.2. Scanned copy of the bid security must be submitted with the Technical Proposal. However the original EMD document must be submitted in the O/O the DGM, LA T&T Circle, AEGCL one hour before opening of the bid. Bid security shall have to be valid for 30 days beyond the validity of Bid.
- 4.3. The bid security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required performance security.
- 4.4. The bid security of unsuccessful Bidders shall be returned as promptly as possible after the successful bidder has been allotted the work.

- 4.5. The bid security may be forfeited:
- a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder.
 - b) if the successful Bidder fails to sign the Contract agreement within 10 (ten) days from issue of the letter of intent/detailed orders and furnishing performance security.
- 4.6. The Bid Security of a JV shall be in the name of the JV that submits the bid.

5.0 **Eligible Bidders**

- 5.1. A Bidder may be a private entity or a government-owned entity or any combination of such entities with the intent to enter into an agreement supported by a letter of intent or under an existing agreement in the form of a joint venture, consortium, or association (JV). In the case of a JV:
- a) all partners shall be jointly and severally liable, and
 - b) the JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the partners of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution.
- 5.2. A Bidder, and all partners constituting the Bidder, shall have Indian nationality. A Bidder shall be deemed to have the nationality of a country if the Bidder is a national or is constituted, incorporated, or registered and operates in conformity with the provisions of the laws of Republic Of India. This criterion shall also apply to the determination of the nationality of proposed subcontractors or suppliers for any part of the Contract including related services.
- 5.3. 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. 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:
- (a). they have controlling partners in common; or
 - (b). they receive or have received any direct or indirect subsidy from any of them; or
 - (c). they have the same legal representative for purposes of this bid; or
 - (d). they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or
 - (e). a Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which it is involved. However, this does not limit the inclusion of the same subcontractor, not otherwise participating as a Bidder, in more than one bid; or
 - (f). a Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the plant and services that are the subject of the bid.
- 5.4. A firm that is under a declaration of ineligibility by the AEGCL or any Government Entity or PSU at the date of the deadline for bid submission or thereafter i.e. on or before contract signing date shall be disqualified.
- 5.5. Bidders shall provide such evidence of their continued eligibility satisfactory to the AEGCL, as the Employer shall reasonably request.
- 6.0 The Bidder must have experience of executing work of similar nature previously. The bidder must submit experience and completion certificate for scrutiny by AEGCL.

6.1 **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.**

7.0 **Financial Capability:**

- 7.1. Bidder will require to submit along with the bid the audited balance sheets, IT return and other legal financial statements acceptable to AEGCL, for the last 3 (three) years to demonstrate the current soundness of the

Bidders financial position and its prospective long term profitability. As a minimum, an Applicant's net worth calculated as the difference between total assets and total liabilities should be positive.

- 7.2. **Average Annual Turnover** : Minimum average annual turnover required are as follows and will be calculated as total certified payments received for contracts in progress or completed within the last 3 (Three) Years.

(a) **INR 50,00,000.00**

8.0 Experience:

- 8.1. The Bidder should have successfully completed at least 3 (three) contracts (civil works) within last 5 (five) financial years. Documentary evidence such as work order and completion certificate must be submitted.

(a) **INR 30,00,000.00**

- 8.2. The bidders who have already been awarded works from this end but not completed in time and also applied for time extension for several times, they are not eligible for participating in this tender process.

9.0 Evaluation Criteria:

- 9.1. Techno-Commercial Evaluation will be done on the basis of Work experience and Financial Capability submitted by the bidder.
- 9.2. Price Bid of only **Responsive Techno-Commercial Bidders** will be opened.
- 9.3. **Arithmetical Error**, if observed while in Price Bid evaluation, same will only be corrected.

10.0 Clarification

- 10.1. A prospective Bidder requiring any clarification of the Bidding Document shall contact the AEGCL in writing at the AEGCL's address indicated in the BDS or raise his enquiries prior to 3 (three) days of closing of the bid. The Employer will respond to any request for clarification, provided that such request is received no later than three (3) days prior to the deadline for submission of bids. The AEGCL's response shall be in writing with copies to all Bidders who have acquired the Bidding Document including a description of the inquiry but without identifying its source. Should AEGCL deem it necessary to amend the Bidding Document as a result of a request for clarification, it shall do so.
- 10.2. The Bidder is advised to visit and examine the site where the work is to be Carried out and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for the provision of plant and services. The costs of visiting the site shall be at the Bidder's own expense.
- 10.3. The Bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

11.0 Amendment of Bidding Document

- 11.1. At any time prior to the deadline for submission of bids, the Employer may amend the Bidding Document by issuing addenda.
- 11.2. Any addendum issued shall be part of the Bidding Document and shall be communicated in writing to all who have obtained the Bidding Document from AEGCL.
- 11.3. To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, AEGCL may, at its discretion, extend the deadline for the submission of bids.

12.0 Preparation of Bids By The Bidders:

12.1. Cost of Bidding

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

12.2. Language of Bid

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

12.3. Bid Prices and Discounts

12.3.1. Unless otherwise specified in the Bid Document and/or AEGCL's Requirements, bidders shall quote for the entire plant and services on a —single responsibility|| basis such that the total bid price covers all the Contractor's obligations mentioned in or to be reasonably inferred from the bidding document in respect of the including procurement and subcontracting (if any), delivery, construction, installation and completion of the Work. This includes all requirements under the Contractor's responsibilities for completing the work and where so required by the bidding document, the acquisition of all permits, approvals and licenses, etc.; the operation, maintenance and training services and such other items and services as may be specified in the Bidding Document, all in accordance with the requirements of the General Conditions. Items against which no price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed to be covered by the prices for other items.

12.3.2. Bidders are required to quote the price for the commercial, contractual and technical obligations outlined in the bidding document.

12.3.3. Sales Tax, VAT, Royalty and all other taxes (as applicable) payable on the work should be shown separately.

12.3.4. Since the work is being "work contract" which is one and individual and which involves no separate contract for the sale of materials, the contractor shall have not be entitled to get any VAT and or any other taxes, levies reimbursed from the AEGCL for the supply of the materials.

12.3.5. Taxes like work contract, income tax etc. which need to be deducted at source as per the prevailing law of the land, will be deducted at source.

12.3.6. The prices shall be FIXED & FIRM.

The Bided Price should on Fixed Price basis, prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected.

13.0 Additional Requirements:

13.1. Detailed list of tools, plants, equipment's and machinery available with the tenderer along with their value (A copy of approved assessor's certificate to be enclosed or affidavit). Preference will be given to those Contractors who have the following machinery -

(I) Earth excavator-1 No,

(II) Dumper/tripper/Truck = 2 Nos

(III) Mixer Machine =1No and are in good & running condition (certificated from approved assessors or with affidavit)

13.2. Name, qualifications of the technical supervisors and staff under the employment of the tenderer and organization on hand and proposed to be engaged for the subject work (Authenticated by a Chartered Accountant or sworn through affidavit).

13.3. Other facilities available with the tenderer not covered hither to.

13.3.1. Bidders(s) knowledge from actual personal investigation of the resources of the region or District (S) in which he/they offers the work.

13.3.2. Copy of Contract labour license.

13.3.3. The Bidder shall furnish copy of their PAN Card. The card must be in the name of firm, in case the tenderer is a partnership Firm.

13.3.4. In case the tenderer is a partnership Firm, the work experience, solvency and turn over shall be in the name of partnership Firm only.

13.3.5. GRN certificate/VAT registration No./WC-2 and valid labour license.

13.3.6. Registered Power of attorney, if any.

14.0 Negotiation with successful bidder:

The AEGCL reserve the right to hold negotiations with bidder who should be lowest, valid, eligible and technically acceptable tenderer considered for award of contract directly if the rates were not unreasonably high.

15.0 Materials of Construction:

15.1. The Bidder should confirm that the materials of construction will be as blow:

- (a) Cement Lafarge, Ultra Tech, Ambuja or approved brand of manufacture as per specification confirming to IS 269, 1970. (*Cement grade to be specified as per the instance of work*). The grade of cement shall not be less than M 20.
- (b) Reinforcement bars conforming to relevant IS Code for RCC works, (TMT bar).
- (c) Prior approval from Engineer-in-charge or his authorized representatives shall have to be obtained for utilization of cement/steel brought to the site.
- (d) Purchased documents of cement/steel shall have to be produced and kept in record in the contractor bill.
- (e) The cement/steel purchased from the authorised dealer of local market may be allowed to use after checking the quality.
- (f) Prior to construction BLOCK TEST is to be carried out and in case of any deviation from standard practice any work done will be rejected and the contractor will have to reconstruct at his / their cost and labour.

16.0 Contract Agreement:

16.1. An agreement shall have to be drawn on non judicial stamp of appropriate value with the Department by the selected Contractor in AEGCL's General Conditions of Supply and Erection 2009 of contract within 10 (ten) days from the date of issue of the LOI/Work Order.

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

17.0 Liquidated Damage:

The date of completion of work shall be deemed to be the essence of the contract and shall not be completed no later than the date specified in the contract. In case of failure to complete the work within the stipulated period AEGCL shall be entitled to:

17.1. Recover an amount at the rate of 0.5% (Zero Point Five percent) of the Contract Price per week of delay, subject to maximum of 10% (Ten percent) of the contract price as liquidated damage to AEGCL.

However, the payment of liquidated damages shall not in any way relieve the Contractor from any of its obligations to complete the works or from any other obligations and liabilities of the Contractor under the Contract.

17.2. To complete the balance work giving notice to the Contractor/Firm and to recover any extra expenditure incurred thereby for having to complete the work at a higher price at the risk and responsibility of the Contractor/Firm.

17.3. Contractual failure:- Refer clause No.27.1 of AEGCL's General Conditions of supply and erection 2009.

18.0 PERT Chart and/or BAR Chart:

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

19.0 Site Facility

19.1. AEGCL will not provide any accommodation at the work site for the contractor and their field personnel. The same have to be arranged by the Bidder/Firm from their own. The contractor shall provide Medical/Hygienic facilities to the personnel engaged by them.

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 the AEGCL may provide free site for labour camp, construction of yard etc close to site of work.

No assurance can be given regarding the vulnerability of AEGCL's land given for use to the Bidder to flooding during high floods. The AEGCL undertakes no responsibility or liability in this regard.

The bidder shall make his own arrangement for arranging power supply as may be required for work. The AEGCL may, however assists 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.

- 19.2. 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

20.0 Insurance:

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

21.0 Warranty:

The term period of warranty shall mean the period of 12 months from the date of Taking Over of the Work by AEGCL. A Taking over Certificate (TOC) will be issued by the appropriate authority.

22.0 Safety:

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. As the contract is Turnkey in nature hence AEGCL will not bear any responsibility towards such claim.

23.0 Pollution:

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

24.0 Payment Terms:

- 24.1. No advance/Mobilization advance shall be made in this contract.
- 24.2. Payment of running shall be admissible against progressive bills provided the Contractor/Firm completes at least 30% of the total amount of the work. 10% Deduction towards RETENTION will be made.
- 24.3. Final payment shall be released to the contractor only after final acceptance by AEGCL.
- 24.4. No claim for interest shall be entertained by AEGCL in respect of any money or balance which may be in AEGCL's hands owing to any dispute or difference or misunderstanding between the contractor and the AEGCL or due to the reason beyond the reasonable control of AEGCL.
- 24.5. Payment is subject to availability of specific fund.
- 24.6. The quantities may vary as per site requirements. Actual work done quantities will be measured after completion of work and will be paid as per certification by Engineer-in-charge.
- 24.7. TDS at actual will be deducted from the payable amount against each invoice/bill.
- 24.8. The Bidder / Firm will have to be submitted the following Net Banking details.
- (a) Banker's Name & Branch
 - (b) Account No
 - (c) Banker's address
 - (d) Banker's IFSC Code
 - (e) Banker's RTGS Code

25.0 Performance Security Deposit:

- 25.1. The successful bidder shall have to deposit through a **Bank Guarantee** from a Nationalized or scheduled Bank of RBI in AEGCL's standard proforma on non-judicial stamp of appropriate value for an amount equivalent to 10% (ten percent) of the total value of the order as performance security, immediately within 10 (ten) days from the issue of the letter of intent/detailed orders (as the case may be), duly pledged in favour of the **Deputy General Manager, LA T&T Circle, AEGCL, Narengi, Guwahati-26**, and such security deposit shall be valid up to 30 days beyond the warranty period of 12 (twelve) months. The Bank Guarantee (BG) should be sent directly to the **Deputy General Manager, LA T&T Circle, AEGCL, Narengi, Guwahati-26** by the issuing Bank under registered post AD.
- 25.2. Please note that, if the selected Bidder / Firm fails to furnish the requisite performance security as stated above and sign the contract within the stipulated period, LOI/work order issued in favour of the Bidder/ Firm will automatically be Null & void.
- 25.3. If the bidder / firm fails or neglects to observe and perform any of his obligations under the contract, Purchaser (AEGCL) shall have the right to forfeit either in full or in part at his absolute discretion, the security deposit furnished by the Contractor/Firm.
- 25.4. No interest shall be payable on such deposits.

26.0 Retention Money:

- 26.1. In addition to above performance security deposit, 10% value of each progressive bill will be retained by the Engineer/Purchaser as Retention Money. The amount will be held by the Purchaser (AEGCL) till the work under the contract is completed and the completion certificate is issued in pursuance to clause 25.0 of AEGCL's General Conditions of Supply and Erection 2009.
- 26.2. If the Firm/Bidder fails or neglects to observe and perform any of his obligations under the contract, the Purchaser (AEGCL) shall have the right to forfeit either in full or in part at his absolute discretion, the security deposit furnished by the supplier/contractor.
- 26.3. No interest shall be payable on such deposit.

27.0 Force Majeure Condition:

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

28.0 Settlement of Dispute and Arbitration:

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

29.0 Scope of Work:

Construction of Retaining wall for approach road at 132/33 kV Barpeta GSS.

The scope of work 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.

29.1. Excavation for Structures:

- 29.1.1. Pits trenches for foundation and trenches and other structures shall be taken out to the levels and dimensions shown on the approved drawings or to such other levels and dimensions as the Engineer-in-charge may direct. The bottom of all excavations shall be carefully levelled and stopped on benches as directed by the Engineer. Any pocket of soft or loose materials and fissures in the bottom pits and trenches shall be removed and the cavities so formed filled or grouted with concrete as directed by Engineer-in-charge. When any excavation has been done and trimmed to the required levels and dimensions, the Engineer-in-charge shall be informed accordingly so that he may inspect the complete pit or trench and no excavation shall be filled in and covered

with concrete until it has been inspected and the contractor has been authorized to proceed with work. All surplus excavation not required for refilling shall be deposited in embankments, or otherwise disposed off as directed. The work shall include all necessary sheeting, shoring, bracing, drawing and pumping out water, removal of all legs, stumps, grabs and other deleterious matters, obstructions, necessary for placing the foundations.

- 29.1.2. When required by the Engineer-in-charge, materials in the last 500mm of depth of the excavations shall not be removed until immediately before the concrete is to be placed.
- 29.1.3. All excavation for structures shall generally be as small as practicable, consistent with the proper construction of work. Any excavation taken out to a greater depth than that required shall be back filled with concrete of the foundation grade at the cost of the contractor.
- 29.1.4. Where water is met with during excavation due to stream flow, seepage, springs, 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 other necessary and to protect the green concrete against damage by eruption or sudden rising of water level. Approval of the Engineer-in-charge to any method adopted for the adequacy of dewatering and protection arrangements and for the sound safety of the work shall be required.
- 29.1.5. Refilling of foundation pits and trenches shall be carried out only after the foundation and structure works within the excavation have been inspected and approved by the Engineer-in-charge. Unless otherwise directed by the Engineer-in-charge all fillings shall consist of approved materials. All space between foundation concrete and the sides of excavation shall be refilled to the original surface using approved plant, in single layers not exceeding 250mm loose thickness which shall be watered and completed to a dry density not less than that of the adjoining soil strata. Timber sheeting and other excavation support shall be carefully removed as the filling proceeds but the removal of such supports will not relieve the contractor of his responsibility for the stability of the works.
- 29.1.6. Test Block will be submitted by the contractor for Testing. Testing fees will be deducted from the subsequent Invoice of the Contractor. In case of failure of Test Block during the Test. The work carried out will be rejected and contractor will have to reconstruct at his / their cost and labour without any prejudice.

29.2. **Form Work:**

The term form work includes all temporary or permanent form essential for forming the concrete, together with all temporary construction props, bracings required for the support.

- 29.2.1. Forms for concrete shall be made of either metal or timber suitably lined and of substantial and rigid construction true to shape, alignment and dimensions as shown on the approved drawings.
- 29.2.2. Forms shall be mortar tight and shall be made sufficiently rigid by the use of ties and bracings to prevent any displacement, deflection or movement of any kind. They shall be strong enough to withstand of the construction, all pressure, ramming and vibration, movement of persons, materials and plant during and after placing the concrete. Special measures shall be taken to ensure that the form work does not hinder the shrinkage of concrete because without this cracking could occur before the form work is removed.
- 29.2.3. When the Forms are ready for commencing concreting, the contractor shall inform the Engineer-in-charge or his representative to inspect and accept the forms as to their strength, alignment and general fitness. Being satisfied with the form work Engineer-in-charge then may allow the contractor for pouring concrete but safety of men, machinery, materials and for result obtained.

29.3. **Workability of Concrete:**

Optimum quantity of water shall be mixed just to produce a design concrete of required workability. Workability shall be such that the concrete surrounds and properly grips all reinforcement. 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. Usually for mass concrete in RCC works where vibrations are used the slumps shall be within 10mm to 25mm. the frequency of such tests and the natures of slumps shall be maintained within the limits specified by the Engineer-in-charge. The Engineer-in-charge also reserves the right to carry out slump tests independently at his own discretion.

- (i) Cement shall have to be weighed from bulk stocks at site and not by bags, it shall be weighed separately from the aggregates.
- (ii) 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.

- (iii) To maintain the specified water cement ratio constant and at its correct value, moisture contents in both fine and coarse aggregates shall be determined with reference to IS: 2386 (Part-III) and amount of mixing water shall then be adjusted suitably.

29.3.1. **Mixing Concrete:**

- (i) All concrete shall be mixed at site in a drum type mechanical mixer in first class working condition. Mixing shall be continued till materials are uniformly distributed and an uniform colour of the entire mass is obtained and each individual particle of the coarse aggregate shows complete coating of cement mortar. The mixing shall in no case be less than 2 minutes after all the ingredients have been put into the mixer.
- (ii) Mixer which has been out of use for more than 30 minutes shall be thoroughly cleaned before putting in a new batch. Mixing plant shall be thoroughly cleaned before and after use. A standby mixing plant equivalent to that in use shall be provided and maintained ready for immediate use during any break down.

29.3.2. **Construction Joints:**

- (i) All construction joints horizontal or vertical shall be at predetermined position according to approved drawing or as directed by the Engineer-in-charge. Prior to commencement of fresh concreting over any construction joint which has set but hardened, the removal of laitance and roughening shall be done by wire brushing and washing and care shall be taken to avoid dislodgement of coarse aggregates.
- (ii) At construction joints where the concrete has hard, any skin or laitance shall be thoroughly hacked, swept cleaned and washed with clean fresh water. The surplus water shall be removed immediately before depositing fresh, concrete. The neat cement, grout shall be followed by 13mm thick layer of cement mortar of same proportion as in concrete and the concreting resumed immediately thereafter. The first batch of fresh concrete shall be forced hard on to the mortar layer and the set faces, angles and corners by means of compacting tools, vibrators etc. and the damping effect on vibration in such position shall be allowed for.
- (iii) Construction joints shall be avoided as far as possible in case of structure, especially at tensile zones. Where unavoidable, concreting shall be carried out continuously up to such joints which shall preferably be transverse to the line of main compression. However, in all cases, the position of construction joints shall be predetermined and got approved by the Engineer-in-charge.

29.3.3. **Reinforcements:**

- (i) 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.
- (ii) 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 handling shall be straightened before using on work. They shall not be heated to facilities bending. Welding shall be done as per latest IS Code of practice.
- (iii) Placing and maintenance of reinforcement in position.
 - a) 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 and shall be securely held in position before and during concreting by annealed binding wires used for binding the reinforcement shall be approved quality soft annealed iron wire not less than 1 mm (18SWG) size, conforming to IS:280.
 - b) 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 neither nor bending moment is maximum. The concrete measured over the reinforcing bars shall be in accordance with the approved drawings.

29.3.4. **Weep Holes:**

- (i) Sufficient Nos of weep holes including provision of Asbestos pipes (in the weep hole portion only) in abutments, wing and return walls is to be provided as directed by the Engineer-in-charge with contractors own labour, materials etc. No extra payments will be admissible for provision of the weep holes in RCC/Brick compound boundary wall and no deduction from quantity of concrete/Brick work shall be made for weep holes.

31.4 **Brick Masonry**

Brick work in cement mortar with 1st class brick including racking out joints and dewatering if necessary, and curing complete as directed in sub-structure up to plinth level.

All works cited above shall be performed in conformity with the standard technical specifications in accordance with the drawing approved and release for construction by the employer during the course of work.

31.5 Additional Works If Any:

The bidder shall, when order in writing by the concerned authority, perform extra work and furnish extra materials not required by the invitation or included in the 'Bill of quantities', but forming an inseparable part of the work concerned. For extra work and materials will ordinarily be paid for the lump sum or unit price/rates stated in the order. Whenever in the judgment of the concerned authority, it is impracticable, because of the nature of the work or for any other reason to otherwise fixed the price/rate in order, the extra work and materials shall be paid for on the basis of actual necessary cost plus overhead and profit allowances as indicated hereunder.

The actual necessary cost will include:-

- (a) Market value of the materials utilized in the extra work, excluding taxes and duties, if any. Taxes will be dealt separately.
- (b) Actual cost of handling and transportation of materials, wherever applicable.
- (c) Direct labour charges.
- (d) A reasonable allowances for the use of contractors plants and equipment, where required.
- (e) The actual charges of facility like electricity etc. where required.
- (f) Further overhead and supervision charges will be allowed @ 10% on the sum of (a) to (e) and a profit will be allowed @ 10% on the sum of (a) to (e). In case any materials or a part is furnished by the department no overhead and profit will be allowed on the value of such materials or parts.

31.6 Plea of Custom:

- (a) The plea of "Custom" prevailing will not on any account be permitted as an excuse for infringement of any of the conditions of contract or specifications.
- (b) The contract shall not be vitiated by any inadvertent omissions of any kind in the surveys, information, specifications, drawings or schedule of quantities.

30.0 Final Acceptance and Taking Over:

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 completion 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.

33.0 Performance Guarantee / Defect Liability Period:

The materials and entire construction/work is to be guaranteed against defective design, materials and workmanship and for satisfactory performance for a period of 365 days from the date of final acceptance of the completed work.

34.0 Right to Reject:

The AEGCL reserves the right to reject any or all the bids without assigning any reason thereof and the AEGCL further reserves the right to split up the work order in favour of more than one Contractor. The AEGCL also reserves the right to reject the lowest or any other price without assigning any reason. **Moreover during bid evaluation, if the quoted rate is not found to be workable and below the present market rate the administrator has right to reject the bid at any time.** The clauses which are not appearing in this document (bid) will be as per The General Condition of Supply and Erection 2009 of AEGCL. The General Condition of Supply and Erection 2009 of AEGCL is available in the AEGCL's website www.aegcl.co.in under Acts, Rules and Policies.