

BIDDING DOCUMENT

FOR

“Supply of various substation materials for construction of 220 KV transformer bay at 220/132 KV Sarusajai Grid substation.”



ASSAM ELECTRICITY GRID CORPORATION LIMITED

BID IDENTIFICATION NO:

AEGCL/MD/TECH-732/AP/BAY MATERIAL SUPPLY/200 MVA/SSJ/BD

February-2018

NIT No. AEGCL/MD/TECH-732/AP/ BAY MATERIAL SUPPLY/200 MVA/SSJ/NIT dtd. 13.02.2018

E-TENDER

Submission at <https://assamtenders.gov.in>

Regd. Off.: BIJULEE BHAWAN (FIRST FLOOR) PALTANBAZAR; GUWAHATI - 781001

CIN: U40101AS2003SGC007238

PHONE: 0361-2739520 FAX NO.0361-2739513

Web: www.aegcl.co.in Email: managing.director@aegcl.co.in

SECTION 1

TENDER INVITING PROPOSAL

1.1.0 INTRODUCTION:

The Chief General Manager on behalf of Assam Electricity Grid Corporation Ltd, hereinafter referred to as AEGCL or Purchaser/Employer invites bids for the following work from eligible firms/companies/contractors

Name of work: Supply various substation materials for construction of 220 KV transformer bay at 220/132 KV Sarusajai Grid substation.

1.2.0 INTENT OF THE TENDER ENQUIRY:

The intent of the Tender Enquiry is to invite bids from experienced and financially sound contractor(s) /firms to carry out the supply under the scope of the work.

1.3.0 SCOPE OF WORK:

The major scopes of supply are as follows:-

- a) Fabrication and supply of GI structures for column, beam and equipment mounting structures.
- b) Supply of Aluminium tubular conductor, ACSR conductor and clamps.
- c) Supply of power and control cables.
- d) Supply of PI
- e) Supply of earthing materials

1.4.0 BASIC QUALIFYING REQUIREMENT:

To be qualified for the bid the bidder must compulsorily meet the following minimum criteria.

Technical qualifying criteria

- i. The bidder must have minimum 03 (three) years experience of supplying terminal equipments or similar substation materials in EHV substation. Bidder should submit work orders for supply of similar materials establishing the above

Financial qualifying criteria

- i. Bidder should have minimum annual average turnover of Rs. 50,00,000.00 (Rupees Fifty lakh) only in last three financial years.
- ii. Bidder must demonstrate access to, or availability of, financial resources such as liquid assets, unencumbered real assets, lines of credit, and other financial means, other than any contractual advance payments to meet the cash-flow requirement, of Rs. 30,00,000.00(Rupees Thirty Lakh) only.

Notwithstanding anything stated herein above, AEGCL reserves the right to assess the capacity and capability of the bidder to execute the work, should the circumstance warrant such assessment in the overall interest of AEGCL.

1.5.0 TENDER FEE

Tender Fee of Rs 2,000.00 (Rupees two thousand) only is to be submitted in the form of BC/DD in favour of Managing Director , AEGCL, one day prior to the bid submission deadline.

1.6.0 SUBMISSION OF BID:

Techno-commercial and price bids are to be submitted in separate covers in the e-tender portal. Tender will not be considered for opening if not accompanied by a tender fee and EMD bank guarantee of stipulated amount.

a. Earnest Money Deposit (EMD):

Bidder should submit earnest money deposit in the form of an unconditional Bank Guarantee (BG) amounting to 1,00,000.00 (One Lakh) only from Nationalized or scheduled Bank in favour of "The Managing Director, AEGCL" using for that purpose EMD BG form provided in annexure-VI. The bid security shall be valid for 30 (thirty days beyond the original validity period of the bid, or beyond any period of extension requested. EMD BG should be invokable at Guwahati.

The earnest money BG shall be forfeited if:

- a) If a bidder withdraws its bid during the period of bid validity specified by the bidder in its tender
- (b) If the successful bidder fails to:
 - i) Sign the Contract in accordance with ITB Clause
 - (ii) Furnish a performance security in accordance with ITB Clause 1.6.2.

The earnest money will be released to the bidders on submission of performance guarantee by successful bidder.

b. Price basis

Price shall be firm and no price variation shall be allowed within the completion period. Prices are to be quoted excluding GST.

c. Documents to be submitted with bid.

Following documents to be submitted in original before tender end date.

1. EMD BG
2. Tender fee DD

Following documents to be uploaded alongwith technical bid in e-tender portal:

1. EMD BG (As per format at Annexure-VI).
2. Tender fee receipt.
3. Power of Attorney/Authorisation for bid signatory.
4. Filled up and signed Annexure-I: Tender Proforma part – I (Techno-commercial Bid).
5. Filled up and signed Annexure-II: Bidder's information sheet.
6. Filled up and signed Annexure-III: Bidder's qualification.
7. Filled up and signed Annexure-IV: list of ongoing & completed projects
8. Filled up and signed Annexure-V: Financial resources
9. GST/PAN/ trade license.
10. Test certificates as per clause 2.5.5

d. Important Dates.

Tender start date: 15.02.2018

Tender end date: 28.02.2018

Tender opening date: 02.03.2018

1.7.0 EVALUATION AND COMPARISON OF BID PROPOSALS

AEGCL will examine the techno-commercial bid submitted by the bidders to determine the responsiveness of the bids to the requirement of the bidding document. Price proposals of those bidders will only be opened whose technical bids are found responsive/techno-commercially qualified to the bidding document.

For evaluation of the price proposal the following criteria will be followed.

- i) AEGCL is not bound to accept the lowest quoted rate if the vendor is not responsive to the requirements of the bidding document.
- ii) If there is discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and total price should be corrected. If there is a discrepancy between the words and figures, the amount in word should prevail. If the bidder does not accept the correction of the errors as above, his bid will be rejected and the amount of bid guarantee/security will be forfeited.

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

AEGCL reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for AEGCL's action. AEGCL is not bound to accept the offer of the lowest bidder. In the event of annulment, EMD BG shall be returned to the bidders immediately.

1.9.0 NOTIFICATION OF AWARD

Prior to expiration of the period of bid validity prescribed by AEGCL, AEGCL will notify the successful bidder through written letter that its bid has been accepted. This letter (hereinafter called the "Letter of Acceptance" or "LoA") shall include the "contract price" which AEGCL will pay the Contractor in consideration of the execution, completion of the works by the Contractor as prescribed by the Contract.

1.10.0 PERFORMANCE SECURITY

Within 7 (days) days of receipt of the LoA from AEGCL, the successful bidder shall furnish to AEGCL, a performance security amounting to 10% (ten percent) of the Contract Price mentioned in the LoA using for that purpose form of performance security provided in annexure-VII or some other form acceptable to AEGCL. The performance guarantee BG shall be valid through 30 days beyond the guarantee period.

1.11.0 SIGNING OF CONTRACT AGREEMENT

Successful bidder has to sign the contract document with AEGCL within 10(ten) days from issue of LoA at the office of the tender inviting authority.

1.12.0 SITE VISIT

The bidder may visit 220 kV Sarusajai substation at Mirza and examine the site of work and its surroundings and obtain any information that may be necessary for preparing the bid. The costs of visiting the Site shall be at the bidder's own expense.

Concerned officer for obtaining field information: The AGM, 220 KV Sarusajai GSS, Sarusajai, Guwahati – 28.

1.13.0 ESTIMATION OF MATERIAL REQUIREMENT

The estimated quantity of materials required is indicated in the PRICE SCHEDULE.

1.14.0 QUANTITY VARIATION

Purchaser/ Employer shall have the right to increase/ decrease the ordered quantity by 15% within 50 days of the period of completion of supply order and the same shall be supplied at the same rates/ prices and terms and conditions stipulated in the order except in regard to delivery schedule, which shall be mutually agreed upon in case of increase in the ordered quantity.

1.15.0 BID VALIDITY

The validity of this bid shall be for 6 (six) months from the date of bid.

1.16.0 PERIOD OF COMPLETION

Work should be completed within 90 (ninety) days from the date of issue of LoA. Bidder should submit a completion schedule matching with the completion period.

1.17.0 TERMINATION OF WORK ORDER/LoA

Purchaser reserves the right to terminate the work order/LoA at any stage in accordance with the AEGCL's General Condition of Supply and Erection in force.

1.18.0 INSURANCE

The Contractor at his cost shall arrange, secure and maintain all insurance as may be pertinent to the Works and obligatory in terms of law to protect his interest and interests of the Employer / AEGCL against all perils detailed herein. The form and the limit of such insurance as defined herein together with the under-writer in each case shall be acceptable to the AEGCL. However, irrespective of such acceptance, the responsibility to maintain adequate insurance coverage at all time during the period of contract shall be of the contractor alone. The contractor's failure in this regard shall not relieve him of any of his contractual responsibilities and obligations. The insurance covers to be taken by the contractor shall be in a joint name of the Employer and the Contractor. The Contractor shall, however, be authorized to deal directly with Insurance Company or companies and shall be responsible in regard to maintenance of all insurance covers.

1.19.0 LIABILITY FOR ACCIDENTS AND DAMAGE

The contractor shall indemnify the Purchaser (AEGCL) against any loss, damage, and injury to any person or to any property and against any other liability or obligation and against all actions, suits, claims demands costs, charges and expenses arising in connection with such damage , injury, liability or obligation resulting from:-

- (a) The negligence of the contractor and his workers, agents, subcontractors; and/or
- (b) The lack of or inadequacy of safety devices on equipment supplied under this contract.

1.20.0 PROGRESS REPORT :

Contractor shall have to submit monthly progress report or as and when sought by the site engineer.

1.21.0 TERMS OF PAYMENT:

Payment up to 100% will be made against progressive monthly bills within four (4) weeks from the date of submission of bills less deduction of Retention Money amounting to 5% of the progressive bill.

Retention money amount will be held by the Purchaser till the supply under the scope of contract is successfully completed and the completion certificate is issued. For release of retention money, contractor has to apply along with the completion certificate.

1.22.0 PAYMENT PROCEDURE

Invoices along with all relevant documents are to be submitted to the AGM, 220 KV Sarusajai who will verify and forward the passed bill to HQ through concerned DGM for payment at HQ.

1.23.0 PAYING AUTHORITY

Payment shall be made from the office of the HQ, AEGCL. The Managing Director, AEGCL shall be the paying authority.

1.24.0 GUARANTEE

The Contractor shall guarantee that the materials supplied shall be free from defects in the engineering, materials and workmanship.

The term "Period of Warranty" shall mean the period of Twelve (12) months from the date of issue of Completion Certificate.

If during the Period Warranty any defect should be found in the design, engineering, materials and workmanship of the plant and equipment supplied or of the work executed by the Contractor, the Contractor shall promptly, in consultation and agreement with the Employer regarding appropriate remedying of the defects, and at Contractor's cost, repair, replace or otherwise make good as the Contractor shall determine at its discretion, such defect as well as any damage to the facilities caused by such defect.

If the Contractor fails to commence the work necessary to remedy such defect or any damage to the Facilities caused by such defect within a reasonable time (which shall in no event be considered to be less than fifteen (15) days), the Employer may, following notice to the Contractor, proceed to do such work, and the reasonable costs incurred by the Employer in connection therewith shall be paid to the Employer by the Contractor or may be deducted by the Employer from any payment due the Contractor or claimed under the Performance Security.

1.25.0 LIQUIDATED DAMAGES (LD)

As per General Condition of Supply and Erection 2009 of AEGCL.GCSE of AEGCL is available in AEGCL website www.aegcl.co.in.

1.26.0 APPROVALS/CLEARANCES:

The GM (HQ), AEGCL shall be the approving authority for all technical documents related to execution of the work.

1.27.0 ENVIRONMENTAL CONSIDERATIONS:

While carrying out the assignment, no damage to environment /forests will be caused by the contractor. If so done, the contractor will have to compensate the same to the satisfaction of the concerned Authority.

1.28.0 FUNDING OF THE PROJECT

The proposed work is funded under Annual Plan by the Govt. of Assam.

1.29.0 TERMINATION OF CONTRACT ON OWNERS' INITIATIVE.

The Owner reserves the right to terminate the Contract either in part or in full due to reasons other than those mentioned under clause entitled "Contractor's Default." The Owner shall in such an event give fifteen (15) days notice in writing to the Contractor of his decision to do so.

The Contractor upon receipt of such notice shall discontinue the work on the date and to the extent specified in the notice, make all reasonable efforts to obtain cancellation of all orders and contracts to the extent they are related to the work terminated and terms satisfactory to the Owner, stop all further sub-contracting or purchasing activity related to the work terminated, and assist the Owner in maintenance, protection, and disposition of the Works acquired under the Contract by the Owner.

In the event of such a termination, the Contractor shall be paid compensation, equitable and reasonable, dictated by the circumstances prevalent at the time of termination.

If the Contractor is an individual or a proprietary concern and the individual or the proprietor dies and if the contractor is a partnership concern and one of the partners dies then unless the Owner is satisfied that the legal representatives of the individual contractor or of the proprietor of proprietary concern and in the case of partnership, the surviving partners, are capable of carrying out and completing the Contract, the Owner shall be entitled to cancel the Contract as to its uncompleted part without being in any way liable to payment of any compensation to the estate of deceased Contractor and/or to surviving partners of the contractor's firm on account of the cancellation of the contract. The decision of the owner that the legal representatives of the deceased contractor or surviving partners of the contractor's firm cannot carry out and complete the contract shall be final and binding on the parties. In the event of such cancellation, the Owner shall not hold the estate of the deceased Contractor and/or the surviving partner of the Contractor's firm liable to damages for not completing the Contract.

1.30.0 GENERAL & SPECIAL CONDITIONS OF CONTRACT

AEGCL's "General Conditions of Supply and Erection of AEGCL 2009", copies of which can be downloaded by the bidders from AEGCL's web site www.aegcl.co.in, forms part of Bidding Document. In case of any contradiction between clauses of GCSE of AEGCL and specifications made under any section of this bidding document, stipulations made in this Bidding Document shall prevail.

1.31.0 DISCLAIMER:

While the Purchaser will make every endeavor to extend necessary facilitation in expediting the work, the contractor shall be responsible to organize and arrange all necessary inputs right from mobilization activities up to completion of the work. Purchaser will not entertain any failure / delay on such accounts.

Also, Purchaser will not be responsible for any compensation, replenishment, damage, theft etc. as may be caused due to negligent working, insufficient coordination with Government / non Government / Local Authority by the contractor and/ or his personnel deputed for work. The contractor shall take necessary insurance coverage under LIC/GIC etc. for his working personnel and the goods in store as well as in transit. The contractor will be deemed to have made him acquainted with the local working conditions at site(s) and fully provide for into the bid submitted.

SECTION - 2

TECHNICAL REQUIREMENTS

2.1.0 INTENT OF THE SPECIFICATION

2.1.1 This section of the specification deals with the technical information & criteria for Supply of various substation materials for construction of 220 KV transformer bay at 220/132 KV Sarusajai Grid substation. The Contractor's proposal shall be based on the use of materials complying fully with the requirements specified herein.

2.2.0 SCOPE

2.2.1 The major items of works included in the scope of this bid are listed below:

- a) Fabrication and supply of GI structures for column, beam and equipment mounting structures as per scope, specification and BoQ.
- b) Supply of PI, Aluminium tubular conductor, ACSR conductor and clamps as per scope, specification and BoQ.
- c) Supply of power and control cables as per scope, specification and BoQ.
- d) Supply of earthing materials as per scope, specification and BoQ.

2.2.2 Construction activities are NOT IN SCOPE of the contractor.

2.2.3 It is not the intent to specify completely herein all details of design and construction of the equipment/materials and accessories. However, the equipment/material and accessories shall conform in all respects to the relevant IS/IEC standards and be capable of performing in continuous operation up to the bidder's guarantees in a manner acceptable to the Employer. The Employer shall be entitled to reject any work or material, which in his judgement is not in full accordance therewith.

2.2.4 Whether called for specifically or not, all materials, accessories and services required for the completion of the work are deemed to be considered as a part of the Bidder's scope, unless and until mentioned very clearly as excluded.

2.2.5 The various items of works are described very briefly in the schedule of Bid Form, Prices & Other Schedules and Annexures. The various items as defined in these schedules shall be read in conjunction with the corresponding section in the technical specifications including amendments and additions if any.

2.2.6 The Bidder's rates shall be based on the description of activities in the schedules as well as specifications detailed in Technical Specifications.

2.2.7 The Bill of Quantities is furnished in **Section –III**. Bidders are requested to note the following points:

- a) The items mentioned in the BoQ shall only be used while preparing the Price Schedules. **If any items which is not specifically mentioned in the BoQ but required to complete the works as per scope & specification shall be deemed to be included in any of the items of the BoQ.**
- b) The quantities in BoQ/price schedule are for bidding purpose and for bid comparison purpose only. Quantities may vary to the extent of (+) 15 % to (-) 15% in terms of total Contract Price.

2.3.0 CONTRACTOR TO INFORM HIMSELF FULLY

2.3.1 The contractor should ensure that he has examined the General Conditions, Specifications and Schedules as brought out in this Bid and has satisfied himself as to all the conditions and

circumstances affecting the contract price and fixed his price according to his own views on these matters and acknowledge that no additional allowances except as otherwise provided therein will be levied.

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

2.4.0 CONFORMITY WITH INDIAN ELECTRICITY RULES & OTHER LOCAL REGULATIONS:

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

2.4.2 The Contractor shall also comply with the Minimum Wages Act 1948 and the payment of Wages Act (both. Of the Government of India and State of Assam) and the rules made there under in respect of any employee or workman employed or engaged by him or his Sub-Contractor.

2.4.3 All registration and statutory inspection fees, if any, in respect of his work pursuant to this Contract shall be to the account of the Contractor. However, any registration, statutory inspection fees lawfully payable under the provisions of the statutory laws and its amendments from time to time during erection in respect of the Substation Works, ultimately to be owned by the Employer, shall be to the account of the Employer. Should any such inspection or registration need to be re-arranged due to the fault of the Contractor or his Sub-Contractor, the additional fees to such inspection and/or registration shall be borne by the Contractor.

2.5.0 TYPE TEST REPORTS

2.5.1 *Materials, which have never been tested for critical performance, shall not be accepted. In such cases, a promise or agreement by a bidder to have the equipment tested after award of a contract is not acceptable.*

2.5.2 *All Bids must be accompanied by the Type Test Certificates of materials offered (refer Clause 2.5.5 below). Such type test certificates shall be acceptable only if:-*

- (a) Tests are conducted in an independent and well known testing laboratory, or
- (b) Tests are conducted in manufacturer's own laboratory. In this case (i) the laboratory must have ISO 9000 (or its equivalent) series certification; and (ii) tests have been witnessed by technically qualified representatives of earlier clients or purchaser.

2.5.3 *Test reports to be acceptable must be related directly to the materials offered. Test reports for higher class of equipment are acceptable with commitment to perform the type tests free of any charge on the particular equipment(s) after the award of contract.*

2.5.4 *Type Test Reports older than five (5) years on the date of Technical bid opening shall not be accepted.*

2.5.5 *Full Type Test Reports of at least the following equipment must be submitted along with the Bid: -*

1. Disc Insulators
2. Power Conductors (ACSR)
3. Power and Control cables

2.6.0 DRAWINGS AND DOCUMENTS

All drawings for fabrication of structures shall be provided by AEGCL during execution. A layout drawing is provided alongwith the bidding document which is for tendering purpose only.

2.7.0 INSPECTION:

2.7.1 AEGCL representatives shall have full facilities for unrestricted inspection of the raw materials and works.

2.7.2 The acceptance of any quantity of material shall be no way relieve the contractor of his responsibility for meeting all the requirements of the specification and shall not prevent subsequent rejection, if such material are later found to be defective.

2.7.3 Any item specification if not available in this document, contractor shall supply and execute the items meeting the relevant IS specification with the approval of the purchaser.

2.8.0 EMPLOYER'S SUPERVISION

2.8.1 The scope of the duties of the Employer, pursuant to the contract, will include but not be limited to the following.

2.8.1.1. Witness or authorize his representative to witness works at site.

2.8.1.2. Inspect, accept or reject any material and work under the Contract.

2.8.1.3. Issue certificate of acceptance and/or progressive payment and final payment certificate.

2.8.1.4. Review and suggest modification and improvement in completion schedules from time to time.

2.8.1.5. Issue completion certificate.

2.9.0 SPECIFICATION FOR DESIGN AND FEBRICATION OF SUBSTATION STEEL STRUCTURES AND MOUNTING STRUCTURES

The structures shall be of structural steel conforming to any of the grade, as appropriate, of IS 2062 (latest edition) Steel conforming IS 8500 may also be used.

Medium and high strength structural steels with known properties conforming to any other national or international standards may also be used.

Bolts

Bolts used shall conform to IS12427 or bolts of property class 4.6 conforming to IS 6639 may also be used.

High strength bolts, if used (only with steel conforming to IS 8500) shall conform to property class 8.8 of IS 3757.

Foundation Bolts shall conform to IS 5624.

Step bolts shall conform to IS 10238

Nuts

Nuts shall conform to IS 1363 (Part 3). The mechanical properties shall conform to property class 4 or 5 as the case may be as specified in IS 1367 (Part 6) except that the proof stress for nuts of property class 5 shall be as given in IS 12427.

Nuts to be used with high strength bolts shall conform to IS 6623.

Washers

Washers shall conform to IS 2016. Heavy washers shall conform to IS 6610. Spring washers shall conform to type B of IS 3663

Washers to be used with high strength bolts and nuts shall conform to IS 6649.

Galvanisation

Structural members, plain and heavy washers shall be galvanized in accordance with the provisions of IS 4759.

Spring washers shall be hot dip galvanized as per service grade 4 of IS 4759 or IS 1537.

Other Materials

Other materials used in the construction of the supporting structures shall conform to appropriate Indian Standards wherever available.

2.9.1 Fabrication

The fabrication of substation steel structures shall be in conformity with the following:

- a. Fabrication shall be done as per drawings supplied by AEGCL.
- b. Except where hereinafter modified, details of fabrication shall conform to IS: 802 (Part-II) or the relevant international standards.
- c. The column and beam structures shall be accurately fabricated to connect together easily at site without any undue strain on the bolts.
- d. No angle member shall have the two leg flanges brought together by closing the angle.
- e. The diameter of the hole shall be equal to the diameter of bolt plus 1.5mm.
- f. The structure shall be designed so that all parts shall be accessible for inspection and cleaning. Drain holes shall be provided at all points where pockets of depression are likely to hold water.
- g. All identical parts shall be made strictly inter-changeable. All steel sections before any work are done on them shall be carefully levelled, straightened and made true to detailed drawings by methods which will not injure the materials so that when assembled, the adjacent matching surfaces are in close contact throughout. No rough edges shall be permitted in the entire structure.
- h. Minimum Thickness of Tower Members shall be as follows: -

ITEM	Minimum thickness in mm
Leg members & main chords of beams in compression	5
Other members	4

2.9.2 Drilling and Punching

2.9.2.1. Before any cutting work is started, all steel sections shall be carefully strengthened and trued by pressure and not by hammering. They shall again be trued after being punched and drilled.

2.9.2.2. Holes for bolts shall be drilled or punched with a jig but drilled holes shall be preferred. The punching may be adopted for thickness up to 16mm. Tolerances regarding punch holes are as follows:

- a) Holes must be perfectly circular and no tolerances in this respect are permissible.
- b) The maximum allowable difference in diameter of the holes on the two sides of plates or angle is 0.8mm. i.e. the allowable taper in a punched holes should not exceed 0.8 mm on diameter.
- c) Holes must be square with the plates or angles and have their walls parallel.

2.9.2.3. All burrs left by drills or punch shall be removed completely. When the tower members are in position the holes shall be truly opposite to each other. Drilling or reaming to enlarge holes shall not be permitted.

2.9.3 Erection mark

2.9.3.1. Each individual member shall have erection mark conforming to the component number given to it in the fabrication drawings. The mark shall be marked with marking dies of 16mm size before galvanizing and shall be legible after galvanizing,

2.9.4 Galvanizing and painting

2.9.4.1. Galvanising of the various members of the structures shall be done only after all works of sawing, shearing, drilling, filing, bending and matching are completed. Galvanising shall be done by the hot dip process as recommended in IS: 2629 or other such authoritative international standards and shall produce a smooth, clean and uniform coating of not less than 610 gm per square meter. The preparation for galvanising and the galvanising process itself must not affect adversely the mechanical properties of the treated materials.

2.9.4.2. All assembly bolts shall be thoroughly hot dip galvanized after threading. Threads shall be of a depth sufficient to allow for the galvanized coating, which must not be excessive at the root of the threads, so that the nut shall turn easily on the completed bolts without excessive looseness. The nut threads shall not be galvanized, but oiled only.

2.9.4.3. The outside surface shall be galvanised. Sample of galvanised materials shall be supplied to the galvanising test set out in IS 729 or other such authoritative international standards.

2.9.5 EARTHING

To keep provision in the structures for earthing, holes shall be drilled on two diagonally opposite legs of the towers/columns/mounting structures. The holes shall be suitable for bolting 65 mm X 12 mm GI strips and shall be such that the lower hole is about 350 mm above the ground level, clear of the concrete muffing, for connecting the earthing strip.

2.9.6 TEST AND TEST CERTIFICATE

Each consignment ready for inspection shall be offered to AEGCL for inspection before dispatch giving a minimum time of not less than 10 days. Samples of fabricated structure materials shall be subjected to following tests: -

- a. Steel: The structural steel shall conform to IS 226 and IS 8500, BS 4360-1068 or ISO / R 630 other such authoritative international standards. Manufacturer's test certificate shall be submitted for all used steel.
- b. Galvanising: The galvanising shall be as per IS 2633 or BS 729 other such authoritative international standards. Zinc coating over the galvanised surfaces shall not be less than 610 gm per square meter.
- c. Bolts and nuts: Manufacturer's test certificate as per standard practice shall be submitted.

No structure or any member thereof, which failed under the test shall be supplied.

2.10.0 EARTHING SYSTEM

2.10.1 General

2.10.1.1. The galvanizing and Testing of materials shall conform to the latest edition of the following standards except otherwise specified in the specification.

1. Recommended practice for hot dip galvanized of Iron Earthing Strips IS: 2629(1966)
2. Methods of testing weight, thickness & uniformity of coating on hot dip galvanized articles IS: 2633(1972)
3. Specification for hot dip galvanized coating on fastness IS: 5358(1969)
4. Specification for Electroplating IS: 3203
5. Specification for hot dip Zinc coating on structural & other allied products IS: 4759(1968)

2.11.0 PROTECTION AGAINST DIRECT LIGHTNING

2.11.1 Protection against direct lightning shall be provided by stringing GI shield wires and/or by lightning masts (SPIKES) as per layout drawings.

2.11.2 G.I. wires for shielding shall conform to IS 2141. Parameters of galvanised steel wires shall be as follows:

- | | |
|------------------------------|-------------------------|
| a) No of Strand | : 7 |
| b) Diameter of single strand | : 3.66 mm |
| c) Minimum Breaking Load | : 6970 KG |
| d) Overall Diameter | : 10.98 mm |
| e) Area | : 72.25 mm ² |

2.12.0 POWER CONDUCTORS (ACSR)

2.12.1 The Conductor shall conform to IS: 398 (latest edition) except where otherwise specified herein.

2.12.2 The details of the ACSR Zebra conductors are given below:

Sl. No.	DESCRIPTION	ACSR 'ZEBRA' specifications
1	Code name	
2	Number of strands & size	Al: 54/ 3.18 mm St: 7/ 3.18 mm
3	Overall diameter	28.62 mm
4	Breaking load	130.32 kN
5	Weight of conductor	1621 kg / km
6	Co-efficient of linear expansion	$19.35 \times 10^{-6} / ^\circ\text{C}$
7	Number of strand	One
	Steel centre	1
	1 st Steel Layer	6
	1 st Aluminium Layer	12
	2 nd Aluminium Layer	18
	3 rd Aluminium Layer	24
8	Sectional area of Aluminium	428.90 mm ²
9	Total sectional area	484.50 mm ²
10	Calculated d.c. resistance at 20 ^o C	0.06869 ohm/km
11	Ultimate tensile strength	130.32 kN

2.13.0 POWER AND CONTROL CABLES

2.13.1 General

- 2.13.1.1. Aluminium conductor PVC insulated armoured power cables shall be used for various other applications in switchyard area/control room except for control/protection purposes.
- 2.13.1.2. For all control/protection/instrumentation purposes PVC insulated armoured control cables of minimum 2.5 sq. Mm Size with stranded Copper conductors shall be used.
- 2.13.1.3. Standard technical data sheets for cable sizes are given below. Cable sizes shall be offered /manufactured in accordance with parameters specified in standard technical data sheets. Technical data sheet for any other cores/sizes required during detailed engineering shall be separately offered for Employer's approval by the contractor/supplier.
- 2.13.1.4. The cables shall be suitable for laying in racks, ducts, trenches, conduits and underground buried installation with uncontrolled back fill and chances of flooding by water.
- 2.13.1.5. The PVC insulated cables shall be capable of withstanding a conductor temperature of 160°C during a short circuit.
- 2.13.1.6. The Aluminium/Copper wires used for manufacturing the cables shall be true circular in shape before stranding and shall be uniformly good quality, free from defects. All Aluminium used in the cables for conductors shall be of H2 grade. In case of single core cables, armours shall be of H4 grade Aluminium.

- 2.13.1.7. The fillers and inner sheath shall be of non-hygroscopic, fire retardant material, shall be softer than insulation and outer sheath shall be suitable for the operating temperature of the cable.
- 2.13.1.8. Progressive sequential marking of the length of cable in metres at every one metre shall be provided on the outer sheath of all cables.
- 2.13.1.9. Strip wire armouring method shall not be accepted for any of the cables. For control, cables only round wire armouring shall be used.
- 2.13.1.10. The cables shall have outer sheath of a material with an oxygen index of not less than 29 and a temperature index of not less than 250°C.
- 2.13.1.11. All the cables shall pass fire resistance test as per IS:1554 (Part-I)
- 2.13.1.12. The normal current rating of all PVC insulated cables shall be as per IS:3961.
- 2.13.1.13. Repaired cables shall not be accepted.
- 2.13.1.14. Allowable tolerance on the overall diameter of the cables shall be plus or minus 2 mm.

2.13.2 PVC Power Cables

- 2.13.2.1. The PVC (70°C) insulated power cables shall be of FR type, C1 category, conforming to IS: 1554 (Part-I) and its amendments read along with this specification and shall be suitable for a steady conductor temperature of 70°C. The conductor shall be stranded aluminium. The Insulation shall be extruded PVC to type-A of IS: 5831. A distinct inner sheath shall be provided in all multicore cables. For multicore armoured cables, the inner sheath shall be of extruded PVC. The outer sheath shall be extruded PVC to Type ST-1 of IS 5831 for all cables.

2.13.3 PVC Control Cables

- 2.13.3.1. The PVC (70°C) insulated control cables shall be of FR type C1 category conforming to IS: 1554 (Part-1) and its amendments, read along with this specification. The conductor shall be stranded copper. The insulation shall be extruded PVC to type A of IS: 5831. A distinct inner sheath shall be provided in all cables whether armoured or not. The over sheath shall be extruded PVC to type ST-1 of IS: 5831 and shall be grey in colour.

- 2.13.3.2. Cores shall be identified as per IS: 1554 (Part-1) for the cables up to five (5) cores and for cables with more than five (5) cores the identification of cores shall be done by printing legible Hindu Arabic Numerals on all cores as per clause 10.3 of IS 1554 (Part-1).

2.13.4 DATA SHEET FOR CABLES

A. For Power Cables

Sl. No.	Description	3 ½ C 300mm ²	Other Power Cables	
			70 mm ² , 35 mm ² , 25mm ² , 16 mm ²	6 mm ² & 4mm ²
1	Applicable Standard	IS: 7098/PT-I & its referred standards	IS: 1554/PT-I& its referred standards	
2	Type Designation	A2XWY	AYFY	AYWY
3	Rated Voltage(volts)	1100	1100	1100
4	Type & Category	FR & C1	FR & C1	FR & C1
5	Suitable for earthed or unearthed system	Suitable for both		
6	Conductor			
	a) Material	Stranded Aluminium as per IS : 8130		
	b) Grade	H 2 (Electrolytic grade)		
	c) Number of wires(No.)	As per IS 8130		

	d) Form of Conductor	Stranded compacted circular/sector shaped	Stranded compacted circular/sector shaped	Non-compact Stranded circular
	e) Direction of lay of stranded layers	Outermost layer shall be R.H lay & opposite in successive layers		
7	Insulation			
	a) Composition of insulation	Extruded XLPE as per IS-7098 Part(1)	Extruded PVC type A as per IS-5831	Extruded PVC type A as per IS-5831
	b) Thickness of insulation(mm)	As per applicable Standard		
8	Inner Sheath material	Extruded PVC type ST-2 as per IS-5831	Extruded PVC type ST-1 as per IS-5831	
9	Type and material of armour	Gal. Steel wire	Gal. Steel strip	Gal. Steel wire strip
10	Outer Sheath (PVC)	ST-1 & FR	ST-2 & FR	ST-2 & FR
11	Overall diameter of cable	As per applicable Standard		

B. For Control Cables

Sl. No.	Description	Particulars
1	Applicable Standard	IS: 1554/PT-I & its referred standards
2	Type Designation	YWY
3	Rated Voltage(volts)	1100
4	Type & Category	FR & C1
5	Suitable for earthed or unearthed system	Suitable for both
6	Conductor	
	a) Material	Plain annealed High Conductivity stranded Copper (as per IS 8130)
	b) Grade	Electrolytic
	c) Number of wires(No.)	As per IS 8130
	d) Form of Conductor	Non-compact Stranded circular
	e) Direction of lay of stranded layers	Outermost layer shall be R.H lay
7	Insulation	
	a) Composition of insulation	Extruded PVC type A as per IS-5831
	b) Thickness of insulation(mm)	As per applicable Standard
8	Inner Sheath material	Extruded PVC type ST-1 as per IS-5831
9	Type and material of armour	Gal. Steel wire
10	Outer Sheath (PVC)	ST-1 & FR
11	Overall diameter of cable	As per applicable Standard
12	No.ot Cores	As per Price Schedule

2.14.0 Insulators and Hardware Fittings and Clamps

2.14.1 General

- The Contractor shall supply disc insulators for suspension and tension strings as required complete with all necessary hardware and accessories, including fittings for fixing insulators to steel structures as required and clamps.
- The porcelain shall be sound, free from defects, thoroughly vitrified and smoothly glazed.
- Unless otherwise specified, the glaze shall be brown colour. The glaze shall cover all the porcelain parts of the insulators except those areas which serve as support during firing or are left unglazed for purpose of assembly.

- d) The design of the insulator shall be such that stress due to expansion and contraction in any part of the insulator shall not lead to deterioration. The porcelain shall not engage directly with hard metal.
- e) Cement use in the construction of insulator shall not cause fracture by expansion or loosening by contraction and proper care shall be taken to locate the individual parts correctly during cementing. The cement shall not give rise to chemical reaction with metal fitting and its thickness shall be as uniform as possible.
- f) Pins and caps shall be made of drop forged steel, duly hot dip galvanized as per IS 2629. These shall not be made by jointing, welding, shrink fitting or any other process.
- g) Security clips/split pins shall be made of good quality of stainless steel.
- h) Suspension and tension insulators shall be wet process porcelain with ball and socket connection. Insulators shall be interchangeable and shall be suitable for forming either suspension or tension strings.
- i) Post type insulators shall be of long rod type or solid core type and preferably of single piece type for all voltage classes. These shall be complete with necessary fittings to hold Aluminium tubes or ACSR conductor as required.
- j) The items of hardware and fittings shall make complete assemblies which are necessary for their satisfactory performance. Such parts shall be deemed to be within the scope of this specification.

2.14.2 Post Insulators

- 2.14.2.1. The post insulators shall conform in general to latest IS: 2544, IEC-60168, IEC60273 and IEC-60815.
- 2.14.2.2. Post type insulators shall consist of a porcelain part permanently secured in a metal base to be mounted on the supporting structures. They shall be capable of being mounted upright. They shall be designed to withstand any shocks to which they may be subjected to by the operation of the associated equipment. Only solid core insulators will be acceptable.
- 2.14.2.3. Porcelain used shall be homogeneous, free from lamination, cavities and other flaws or imperfections that might affect the mechanical or dielectric quality and shall be thoroughly vitrified, tough and impervious to moisture.
- 2.14.2.4. Glazing of the porcelain shall be of uniform brown in colour, free from blisters, burrs and other similar defects.
- 2.14.2.5. All ferrous parts shall be hot dip 17luminium17 in accordance with the latest edition of IS: 2633, & IS: 2629. The zinc used for 17luminium17g shall be grade Zn 99.95 as per IS: 209. The zinc coating shall be uniform, adherent, smooth, reasonably bright, continuous and free from imperfections such as flux ash, rust stains, bulk white deposits and blisters. The metal parts shall not produce any noise generating corona under the operating conditions.

Sl. No	Parameters	220 kV	132 kV
1	Type	Solid Core	Solid Core
2	Highest system voltage	245 kV	145 kV
3	Dry one minute power frequency test voltage	460 kV	275 kV
4	Dry Impulse voltage withstand test	1050 kV	650 kV
5	Wet switching surge withstand voltage (kVp)	-	-
5	Minimum Creepage Distance	6125 mm	3625 mm
6	Minimum Bending Strength (upright)	8 kN	4 kN

2.14.3 Parameters of Disc Insulators

- a) Type : Ball and Socket
- b) Colour : Brown

- c) Surface : Glazed
- d) Locking Device : W or R type security clip
- e) Size of Disc : 255 mm x 145 mm or 280 mm x 145 mm
- f) Size of Pin Ball : 16 mm or 20 mm
- g) Creepage Distance (min) : 430 mm
- h) Electro mechanical Strength : 120 KN for Tension String.
: 90 KN for Suspension String.
- i) Power frequency withstand test voltage : 75 KV Dry
: 45 KV Wet
- j) Minimum dry Impulse withstand : 125 KV peak
Test voltage (+/- wave)
- k) Puncture Voltage : 1.3 X actual dry flash over voltage

2.14.4 Parameters for Disc Insulator Strings

2.14.4.1. Parameters for Insulator Strings

- (i). No. of Disc per string
 - a) 220 kV Single Suspension String : 14
 - b) 220 kV Single Tension String : 15
 - c) 220 kV Double Tension String : 2 x 15
- (ii). Minimum Failing Load
 - a) 220 kV Single Suspension String : 90 KN
 - b) 220 kV Single Tension String : 120 KN
 - c) 220 kV Double Tension String : 240 KN
- (iii). Insulation Level
 - a) Power frequency withstand test voltage : 220 kV String: 460 kV
 - b) Impulse withstand Test voltage : 220 kV String: 1050kV peak

2.14.5 Suspension and Tension Clamps:

- 2.14.5.1. Clamps and connectors shall be made from cold forged Aluminum Alloy plate i.e. Extruded Aluminum (having purity of Aluminum not less than 97.5%.) Clamps and Connectors shall be processed through Cold forging of Aluminum Alloy. The Nuts and Bolts associated with equipment of Connector pieces shall be of MS Hot dip Galvanized, Quality of nuts and bolts shall conform to relevant IS of latest edition. Minimum thickness at any point of current carrying part of any clamp and connector shall not be less than 12 mm.
- 2.14.5.2. The spacer shall have enough strength so as to restore normal spacing between the subconductors after displacement by wind, short circuits etc. without damage or permanent deformation. They shall have long life without fatigue or wear and shall have gentle but firm grip on conductors. They shall be able to withstand all the electromagnetic and electrostatic forces under different operating conditions including dead short-circuit.
- 2.14.5.3. They shall preferably be of one-piece construction. All bolts shall be captive and nuts shall only be needed slackening not removal in order to fit the spacers to the subconductors. The spacer should not slip under any condition and joint with subconductors incorporating a flexible medium is acceptable provided such medium cannot slip under any condition.
- 2.14.5.4. The spacer shall not damage or chafe the conductor in any way. All nuts used for spacers shall be locked in a manner against vibration loosening.
- 2.14.5.5. The spacer shall be flexible enough to avoid distortion or damage of the sub-conductor. The electrical resistance between conductor and spacer shall be

reasonable for satisfactory operation. The material of the spacer shall be of aluminium alloy of an approved type.

(a) SUSPENSION CLAMPS

The suspension clamps shall be made of aluminium alloy suitable to accommodate the conductor specified. The suspension clamps shall be designed to avoid any possibility of deforming or damaging the conductor. The lips shall be rounded off and the seating and the bell mouths shall be smooth to avoid corona and radio interference noises. The suspension clamps shall be suitable to receive the fittings of the insulator string.

The slipping strength of suspension clamps shall not be more than 25% of the breaking load of the conductor. The ultimate strength of suspension clamps shall be as follows.

- (i) 220 kV Single Suspension String : 90 KN

(b) TENSION CLAMP

The bolted type strain clamps shall also be made of aluminium alloy and shall be suitable to accommodate the conductor specified. The lips shall be rounded off carefully and conductor seating and the ball mouth shall be smooth to avoid corona and radio interference noises.

The minimum slipping strength of strain clamps shall be 90% of the breaking load of the conductor. The ultimate strength of strain clamps shall be as follows:

- (i) For 220 kV Single Tension String : 120 KN
- (ii) For 220 kV Double Tension String : 240 KN

2.15.0 ALUMINIUM PIPE BUS

- 2.15.1** The Aluminium tubular busbar shall be extruded from 63401 grade Aluminium alloy with W.P. range 2 treatment. The rigid tubular conductors shall be of aluminium of standard type and designed to operate within set temperature limits and to withstand thermal and electro mechanical forces developed due to short circuits and vibration by wind.
- 2.15.2** The material shall be clean smooth and free from any harmful effect. Standard Aluminium pipes of dia size 4". Pipe to pipe joint is to be avoided as far as practicable during erection. In case of Al tube jointing Argon welding process is to be adopted. Uses of very small pieces of Al tube is to be avoided as far as practicable in order to minimize no of joints.
- 2.15.3** The finished tubes shall be perfectly straight. Surface of the Aluminium tubes shall have a bright smooth finish, free from seams, cracks and other imperfections.
- 2.15.4** Dimensional tolerances of the aluminium tube shall be as laid down in IS:2673 for the extruded tube.
- 2.15.5** The ingot to be used for producing the Aluminium tubular busbars of grade 63401 W.P. shall comply with the requirements specified in Table 1 (Clause 6.1) of IS:5082 when analyzed in accordance with IS:504 or any other standard instrumental method of analysis.

SECTION – 3

**Price schedule-I
Supply schedule**

All prices in Rs

Sl. No	Description of items	UNIT	Total Qty	Unit Price	unit F&I	Total
1	2	3	4	5	6	7=(5+6)x4
1	Design, fabrication & supply of GI structure for the following column, beam etc including base plate Anchor bolts & nuts with washer etc.					
	i) Column type TC (3.17 MT/column)	MT	9.51			
	ii) Column type TD (2.406MT/column)	MT	2.406			
	iii) Beam type GA17Mtr (1.608MT/beam)	MT	4.824			
2	Design, fabrication & supply of GI mounting structure for the following equipments including base plate Anchor bolts & nuts with washer etc.					
	A) 220KV side					
	i) 220KV CT (0.226 MT/structure)	MT	0.678			
	ii) 220KV LA (0.231 MT/structure)	MT	0.693			
	iii) 220KV isolator (1.0172 MT/structure)	MT	2.0344			
	iv) 220KV PI (0.231 MT/structure)	MT	2.079			
	B) 132KV side					
	i) 132KV CT (0.3493 MT/structure)	MT	1.0479			
	ii) 132KV LA (0.3493 MT/structure)	MT	1.0479			
	iii) 132KV isolator without ES (0.404MT/structure)	MT	0.808			
	iv) 132kV PI for Al. Tubular support (220kV grade) (0.1796 MT/ structure)	MT	4.1308			
3	Supply of earthing system materials					
	i) 75mmx12mm GI flats	Mtr	500			
	ii) Earthing electrode of 75mm dia, 3000mm long GI pipe complete with tunnel, wire gauge conductors, fixing with accessories	Nos.	12			
4	Supply of conductor					
	i) ACSR Zebra	Mtr	2000			
5	Supply of control & power cables					
	A)Control cables					
	i) 19x2.5sqmm copper armoured cable	Mtr	1000			
	ii) 7x2.5sqmm copper armoured cable	Mtr	2000			
	iii) 5x2.5sqmm copper armoured cable	Mtr	2000			
	iv) 2x2.5sqmm copper armoured cable	Mtr	1000			
	B) Power cables					
	i) 2x6sqmm Al armoured cable	Mtr	1000			

	ii) 4x6sqmm Al armoured cable	Mtr	1000			
6	Rigid Aluminium tubular conductor of 114.30mm outside diameter, 6.02mm thickness conform to IS:5082 & IS: 2673 in all respect with all accessories for connecting to the equipments to equipments as required	Mtr	220			
7	Supply of the following equipments with termination clamps suitable for twin Zebra conductor					
	i) 220KV solid core PI	Nos.	9			
	ii) 132KV solid core PI	Nos.	23			
8	Supply of 90/120/240 KN twin anti fog disc insulator string complete with all hardware fittings, clamps etc. suitable for twin Zebra conductor					
	A) 220KV side					
	i) 2x15 disc tension insulator string with HW fittings	Set	12			
	ii) 2x 14 disc suspension insulator string with HW fittings	Set	6			
9	Supply of clamp as per site requirement at the time of erection for twin Zebra conductor & tubular conductor with spare qty					
	i) PG clamp for Zebra – Zebra (220kV)	No.	112			
	ii) PI clamp for double Zebra (220kV)	No.	12			
	iii) Isolator clamp for Twin Zebra (220kV)	No.	18			
	iv) CT clamp for Twin Zebra (220kV)	No.	9			
	v) Breaker clamp for Twin Zebra (220kV)	No.	9			
	vi) LA clamp for Zebra (220kV)	No.	3			
	vii) Spacer suitable for Twin Zebra conductor (220kV)	No.	50			
	viii) PI clamp for tubular pipe (132kV) of 114.3mm dia	No.	24			
	ix) Isolator clamp for tubular pipe (132kV) of 114.3mm dia	No.	18			
	x) CT clamp for tubular pipe (132kV) of 114.3mm dia	No.	9			
	xi) Breaker clamp for tubular pipe (132kV) of 114.3mm dia	No.	9			
	xii) LA clamp for tubular pipe (132kV) of 114.3mm dia	No.	3			
10	GI shield wire(7x3.66 mm)	Mtr.	500			

Note: Prices shall be quoted excluding GST

SECTION-IV

ANNEXURE

Annexure – I

Tender Proforma part – I (Techno-commercial Bid)

**IFB No. AEGCL/MD/TECH-732/AP/ BAY MATERIAL SUPPLY/200 MVA/SSJ/IFB
Bid identification No. AEGCL/MD/TECH-732/AP/BAY MATERIAL SUPPLY/200 MVA/SSJ/BD**

Sl. No.	Particulars	Bidder's response
1	Name and full address of the Bidder	
2	Details of EMD BG	
3	GST registration	
4	Acceptance of LD clause	YES/NO?
5	Acceptance of terms of payment	YES/NO?
6	Bid Validity	
7	List of documents enclosed	i) ii)
8	Bidders representative: Name Designation Phone Email	

Signature with full name and designation of bidder or
his/her authorised representative with seal

BIDDER'S INFORMATION SHEET :

Bidder's legal name	
Bidder's country of constitution	
Bidder's year of constitution	
Bidder's legal address in country of constitution	
Bidder's authorized representative (name, address, telephone numbers, e-mail address)	

Signature with full name and designation of bidder or his/her authorised representative with seal

BIDDER'S QUALIFICATION(A):

Sl No.	Qualification Requirement	Write yes if valid document is available and uploaded
1	Trade License/Firm Registration Certificate	
2	PAN Card	
3	GST registration certificate	

Signature with full name and designation of bidder or his/her authorised representative with seal

BIDDER'S QUALIFICATION(B):

LIST OF ONGOING & COMPLETED WORK/SUPPLY ORDERS:

List of ongoing & completed projects/WO/PO (Include all work in hand PO/WO)				
Sl.No.	Name of the work, Order/PO No with date of WO/PO	Contract value	Completion date	if partially completed, Percentage Completed with remark if any
1				
2				
3				

I/We undertake that I/we have furnished all work in hand and have not suppressed any information related to works being executed by us at present.

Signature with full name and designation of bidder or
his/her authorised representative with seal

Note: Submit supporting documents (Work order, completion certificate, performance certificate etc)

FINANCIAL RESOURCES

Average annual turn over

Particulars	2016-17	2015-16	2014-15
Annual turnover(in `)			
Average			

Financial resources

Sl. No.	Source of funding (Eg. CC limit, Cash in hand etc)	Amount in `
1.		
2.		
3.		

Note: Furnish supporting financial documents (balance sheet/P&L statement/Cash flow statement/Bank's solvency certificate etc)

Signature with full name and designation of bidder or
his/her authorised representative with seal

Form of Bid Security Bank Guarantee

(To be stamped in accordance with Stamp Act)

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

Bank's Name, and Address of Issuing Branch or Office

Beneficiary: *[Name and Address of Employer]*

Date:

Bid Security No.:

We have been informed that *[name of the Bidder in full]*. (hereinafter called "the Bidder") has submitted to you its bid dated *[Date]* (hereinafter called "the Bid") for the execution of *[name of contract]*. under Invitation for Bids No. ("the IFB").

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

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

- (a) Has withdrawn its Bid during the period of bid validity specified by the Bidder in the Form of Bid; or
- (b) Does not accept the correction of errors in accordance with the bid; or
- (c) Having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Agreement, or (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB.

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

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

Bank's seal and authorized signature(s)

NB: To be signed by two Bank official if BG value is equal to or above 50,000.00. BG should be invokable at Guwahati. All italicized text is for use in preparing this form and shall be deleted from the final document

Form of performance security Bank Guarantee

(To be stamped in accordance with Stamp Act)

To:

The Managing Director,
Assam Electricity Grid Corporation Limited
1st Floor, Bijulee Bhawan, Paltanbazar, Guwahati-01

WHEREAS _____ [name and address of Contractor] (hereinafter called "the Contractor") has undertaken, in pursuance of LoA/Contract No. _____ dated _____ to execute _____ [name of Contract and brief description of Works] (hereinafter called "the Contract");

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

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

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

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

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

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

Signature and Seal of the Guarantor _____
Name of Bank _____
Address _____

NB: To be signed by two Bank official if BG value is equal to or above 50,000.00. BG should be invokable at Guwahati.