

**MILITARY ENGINEER SERVICES****NAME OF WORK: SPECIAL REPAIRS TO E/M INSTALLATION IN BORJHAR, SADILAPUR AND AMINGOAN, PROVISION OF 1 X SUBMERSIBLE PUMP AT MTN DOU AND PROVN OF LIGHTING CONDUCTOR AT KOTE OF MTN DOU UNDER GE GUWAHATI**

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Signature of Contractor

AGE (Contracts)  
for Accepting Officer

Tele : 0361-2649859  
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Garrison Engineer, Guwahati  
Military Engineer Services  
Post: Satgaon, Dist: Kamrup  
Pin No - 781027 (Assam)

8331/B/60/E8

31 Oct 2023

**ALL ELIGIBLE BIDDERS**

**NAME OF WORK: SPECIAL REPAIRS TO E/M INSTALLATION IN BORJHAR, SADILAPUR AND AMINGOAN, PROVISION OF 1 X SUBMERSIBLE PUMP AT MTN DOU AND PROVN OF LIGHTING CONDUCTOR AT KOTE OF MTN DOU UNDER GE GUWAHATI**

Dear Sir(s),

1. Tender documents in respect of above works are uploaded on the site <http://defproc.gov.in> The tender is on single stage two cover e-tendering system. The contents of cover-I and cover-II are specified in **NOTICE OF TENDER**.
2. Bids will be received online by ACCEPTING OFFICER upto date and time mentioned in the **NOTICE INVITING TENDER (NIT)**. No tender/bid will be received in physical form and any tender/bid received in such manner will be treated as non bonafide tender/bid.
3. Bid will be opened on due date and time fixed for opening in the presence of tenderers/bidders or their authorized representatives, who have uploaded their bid and who wish to be present at the time of opening of the bids.
4. Your attention is also drawn to instruction on filling and submission of tender attached herewith. You may forward your points on tender documents and/or depute your technical representative for discussion on tender/ drawings and to clarify doubts, if any, on or before the dates mentioned in eprocurement portal. You are requested not to write piece meal points and forward your points duly consolidated before last date mentioned in eprocurement portal.
5. Unenlisted contractors are required to submit the scanned copies (in pdf file) of documents required as per eligibility criteria mentioned in instructions for filling the tender documents and **Appendix 'A' to NIT** alongwith **Earnest Money Deposit** and **tender fee** on e-procurement portal **in the form of DD** and submit the physical documents in the office of **GE Guwahati** within time limit specified in **NIT**. Inadequacy/ deficiency of documents shall make the bid liable for rejection resulting in disqualification for opening of financial bid.
6. Enlisted contractors having not executed standing security bond and standing security deposit in any MES formation shall upload scanned copy of **Earnest Money Deposit** mentioned in Notice of Tender and shall ensure receipt of hard copy of **the same** in the office of tender issuing authority before date & time fixed for this purpose. In case of failure to abide by any of these two requirements, the finance bid will not be opened.
7. **PERFORMANCE SECURITY**
  - (a) Within 28 days of receipt of the letter of Acceptance, the successful contractor shall deliver to the Accepting officer a performance security in any of the forms given below for an amount equivalent to 5% of the Contract sum.
    - (i) A Bank Guarantee in the prescribed form.
    - (ii) Government Securities, FDR or any other Government instruments stipulated by the Accepting officer.

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

**Contd...../-**

Signature of Contractor

JE(QS&amp;C)

AGE(Contracts)

- (c) If the performance security is provided by the successful contractor in the form of a bank Gurantee, it shall be issued by Nationalized/Scheduled Indian Bank but its confirmation shall be done only from the Head Office of the Bank.
- (d) Failure of the successful contractor to comply with the requirements of clause 7(a) shall constitute sufficient grounds for cancellation of the award of work. An amount shall be notified to the tenderer for depositing the amount through MRO. Issue of tender to such tenderers shall remain suspended till the aforesaid amount is deposited in Government Treasury.
- (e) All compensation or other sums of money payable by the contractor to the Government under the terms of this contract or under any other contract with Government may be deducted from, or paid by the sale of a sufficient part of the performance Security or from the interest arising there from or from any sums which may be due or become due to the contractor by the Government on any account whatsoever and in the event of his performance security being reduced by reason of any such deduction, or sale as aforesaid, the contractor shall within ten days thereafter make good in cash or securities, endorsed as aforesaid, any sum or sums which may have been deducted form or realized by the sale of his performance Security or any part thereof. Government shall not be responsible for any loss of securities or any depreciation in the value of securities while in their charge nor for loss of interest thereon.
- (f) In the event of contract being cancelled, under condition 52, 53 & 54 of General conditions of contract, the performance security shall be forfeited in full and shall be credited into "Consolidated Fund of India."
8. Enlisted contractors of MES shall submit the scanned copies (pdf file) of enlistment letter and tender fee and such other documents as mentioned in Appendix 'A' to **NIT** on e-procurement portal and submit physical documents in the office of **GE Guwahati** before date & time fixed for this purpose.
9. The contractor must ensure that the tender/bid on the proper form is uploaded in time as the Accepting Officer will take no cognizance of any quotations/ offer received in any other electronic or physical form like email/ fax/ by hand/ through post from tenderer/bidder even if they are received in time.
10. In view of delays due to system failure or other communication related failures, it is suggested that the tender/ bid be uploaded, if necessary, sufficiently in advance of the last due date and time fixed.
11. General Conditions of Contracts (IAFW-2249) (1989 Print) and errata and amendments thereto, Schedule of minimum fair wages and MES SSR (Part-I and Part-II) are not enclosed with these documents. These are available for perusal in all the MES Offices and in this office. Tenderer is also requested to keep the copy of these documents with him as same are available in the market.
12. **ANY TENDERER, WHICH PROPOSES ALTERATIONS TO ANY OF THE CONDITION, SPECIFICATIONS LAID DOWN IN THE TENDER DOCUMENTS OR ANY NEW CONDITION, WHATSOEVER, IS LIABLE TO BE REJECTED.**

Yours faithfully,

SIGNATURE OF CONTRACTOR

AGE (CONTRACTS)  
FOR ACCEPTING OFFICER

**INSTRUCTIONS FOR FILLING AND SUBMISSION OF TENDER****1. EARNEST MONEY DEPOSIT (EMD) (FOR UNENLISTED AND ENLISTED BUT NOT EXECUTED STANDING SECURITY BOUND)**

Contractor(s) who are not enlisted with MES/who are enlisted but have not executed the Standing Security Bond shall submit Earnest Money Deposit (EMD) as defined under:-

Earnest (Money Deposit EMD) as detailed as detailed in Notice of Tender in one of the following forms, along with their tender/bid :-

- (i) Deposit at Call Receipt from a Scheduled Bank in favour of Garrison Engineer Guwahati
- (ii) Receipted Treasury Challan, the amount being credited to the Revenue Deposit of Garrison Engineer Guwahati.

It is advisable that Earnest Money is deposited in the form of deposit call receipt from an approved Schedule Bank for easy refund. In case the tenderer/bidder wants to lodge 'EARNEST MONEY DEPOSIT' in any other form allowed by MES, a confirmation about its acceptability will be obtained from the Accepting Officer well in advance of the bid submission end date and time. Earnest Money Deposit shall be submitted in the name of concerned GE.

**NOTES :** Earnest Money Deposit (EMD) in the form of cheque/ Bank Guarantee etc. will not be accepted. NON-SUBMISSION OF EARNEST MONEY DEPOSIT (EMD) (scanned copy along with Technical Bid & hard copy before the date & time fixed for opening of BOQ) WILL RENDER THE BID DISQUALIFIED FOR OPENING OF COVER II (FINANCE BID).

**2. PERFORMANCE SECURITY**

2.1 Within 28 days of receipt of the letter of Acceptance, the successful contractor shall deliver to the Accepting officer a performance security in any of the forms given below for an amount equivalent to 5% of the Contract Sum.

- (i) A Bank Guarantee in the prescribed form.
- (ii) Government Securities, FDR or any other Government instruments stipulated by the Accepting officer.

2.2 If the performance security is provided by the successful contractor in the form of a bank Guarantee, it shall be issued by Nationalized/Scheduled Indian Bank but its confirmation shall be done only from the Head Office of the Bank.

2.3 Failure of the successful contractor to comply with the requirements of clause 2.1 shall constitute sufficient grounds for cancellation of the award of work. An amount shall be notified to the tenderer for depositing the amount through MRO. Issue of tender to such tenderers shall remain suspended till the aforesaid amount is deposited in Government Treasury.

2.4 If the performance security is provided by the successful contractor in the form of a bank Guarantee, it shall be issued by Nationalized/Scheduled Indian Bank but its confirmation shall be done only from the Head Office of the Bank.

2.5 Failure of the successful contractor to comply with the requirements of clause 2.1 shall constitute sufficient grounds for cancellation of the award of work. An amount shall be notified to the tenderer for depositing the amount through MRO. Issue of tender to such tenderers shall remain suspended till the aforesaid amount is deposited in Government Treasury.

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

Signature of Contractor

JE(QS&C)

AGE(Contracts)

**INSTRUCTIONS FOR FILLING AND SUBMISSION OF TENDER (Contd..)****3. GENERAL INSTRUCTIONS FOR COMPLIANCE**

- 3.1 The received only in the electronic form shall be considered. All bids shall be submitted on <https://defproc.gov.in> portal. Documents should be scanned and uploaded in 'pdf' form and 'xls' form as indicated
- 3.2 Bids shall be uploaded on '<https://defproc.gov.in>' portal on or before the bid closing date mentioned in the tender. No tender/bid in any other electronic or physical form like email / fax / by hand/ through post shall be considered.
- 3.3 Bid should be DIGITALLY signed using valid DSC. All pages of tender documents, corrections/ alterations shall be signed/initialed by the lowest bidder after acceptance.
- 3.4 Drawings, if issued in physical form must be returned duly initialed by the tenderer/ bidder in separate envelope indicating his name and address.
- 3.5 The tender shall be signed, dated and witnessed at all places provided for in the documents after acceptance. All corrections shall be initialed. The Contractor shall initial every page of tender and shall sign all drawings forming part of tender. Any tenderer/bid, which proposes alterations to any of the conditions whatsoever, is liable to be rejected.
- 3.6 In the technical bid, a scanned copy of Power of Attorney in favor of the person uploading the bid using his DSC shall be uploaded. In case the digital signatory himself is the sole proprietor, scanned copy of an affidavit on stamp paper of appropriate value to this effect stating that he has authority to bind the firm in all matters pertaining to contract including the Arbitration Clause, shall be attached in 'pdf' form. In case of partnership concern or a limited company, digital signatory of the bid/tender shall ensure that he is competent to bind the contractor (through partnership deed, general power of attorney or Memorandum and Articles of Association of the Company) in all the matters pertaining to the contracts with Union of India including arbitration clause. A scanned copy of the documents confirming of such authority shall be attached with the tender/bid in 'pdf' form, if not submitted earlier.
- 3.6.1 The person uploading the bid on behalf of another partner(s) or on behalf of a firm or company using his DSC shall upload with the tender/bid a scanned copy (in 'pdf' form) of Power of Attorney duly executed in his favour by such other or all of the Partner(s) or in accordance with constitution of the company in case of company, stating that he has authority to bind such other person of the firm or the Company, as the case may be, in all matters pertaining to the contract including the Arbitration Clause.
- 3.7 Even in case of Firms or Companies which have already given Power of Attorney to an individual authorizing him to sign tender in pursuance of which bids are being uploaded by such person as a routine, fresh Power of Attorney duly executed in his favour stating specifically that the said person has authority to bind such partners of the Firm, or the Company as the case may be, including the condition relating to Arbitration Clause, should be uploaded in 'pdf' form with the tender/bid; unless such authority has already been given to him by the Firm or the Company. It shall be ensured that power of attorney shall be executed in accordance with the constitution of the company as laid down in its Memorandum & Article of Association.
- 3.8 Hard copies of all above documents should be sent by the contractor to the Tender issuing authority well in advance to be received before the date & time fixed for the same.
- 3.9 Bid (Cover 1 & 2) shall be uploaded online well in time.
- 3.10 The contractor shall employ Indian Nationals after verifying their antecedents and loyalty. Attention is also drawn to conditions 24 & 25 of IAFW 2249 (General Conditions of Contracts).
- 3.11 Tenders/bidders who uploaded their priced tenders/bids and are desirous of being present at the time of opening of the tenders/bids may do so at the appointed time.
- 3.12 The tenderer /bidder shall quote his rate on the BOQ file only. No alteration to the format will be accepted else the bid will be disqualified and summarily rejected.
- 3.13 In case the tenderer/ bidder have to revise / modify the rates quoted in the BOQ (excel sheet) he can do so only in the BOQ, through <https://defproc.gov.in> site only before the bid closing time and date.

**INSTRUCTIONS FOR FILLING AND SUBMISSION OF TENDER (Contd..)****4. REVOCATION/REVISION OF OFFER UPWARD/OFFERING VOLUNTARY REDUCTION, AFTER CLOSING OF BID SUBMISSION END DATE AND TIME.**

In the event of lowest tenderer/bidder revoking his offer or revising his rates upward/ offering voluntary reduction, after closing of bid submission end date and time, his offer shall be treated as revoked and the Earnest Money deposited by him shall be forfeited. In case of MES enlisted contractors, the amount equal to the Earnest Money stipulated in the Notice of tender, shall be notified to the tenderer/ bidder for depositing the amount through MRO. Bids of such Contractors/ bidders shall not be opened till the aforesaid amount equal to the earnest money is deposited by him in Government Treasury. In addition, bids of such tenderer/bidder and his related firm shall not be opened in second call or subsequent call. Reduction offered by the tenderer/ bidder on the freak high rates referred for review shall not be treated as voluntary reduction.

**5. C P M (CRITICAL PATH METHOD) :**

- 5.1 The project planning for work covered in the scope of tender shall be based on CPM.
- 5.2 The tenderer/bidder is expected to be fully conversant with the CPM technique and employ technical staff who can use the technique in sufficient details. Sufficient books and other literature on the subject are widely available in the market which the tenderer/bidder may make use of.
- 5.3 The tenderer's/bidder's attention is drawn to special condition of the tender regarding preparation of the detailed network analysis and time schedule for the work and his liability for employing sufficient resources to adhere to this schedule. Any inability on the part of the tenderer/bidder in using the technique shall be taken as his technical inefficiency and shall affect his class of enlistment and future prospect/invitation to tenders for future works.
6. Department may issue amendments/errata in form of CORRIGENDUM to tender /revised BOQ to the tender documents. The tenderer/ bidder is requested to read the tender documents in conjunction with the errata/ amendments/corrigendum, if any, issued by the department.
7. In case the BOQ is revised through the corrigendum and the bidder has failed to quote on revised BOQ (i.e. he has quoted on pre revised BOQ), such bid shall be treated as willful negligence by the bidder and his quotation shall be considered non-bonafide. In such cases the lowest tender shall be determined from amongst the valid/buttone bids only. Accepting Officer may decide whether to re-tender or consider the lowest bonafide tender for acceptance.
8. The contractor shall employ Indian Nationals after verifying their antecedents and loyalty. Attention is also drawn to relevant provisions in Special Condition referred here-in-after and also Conditions 24 & 25 of IAFW-2249 (General Conditions of Contract)

SIGNATURE OF CONTRACTOR

AGE (CONTRACTS)  
FOR ACCEPTING OFFICER

**MILITARY ENGINEER SERVICES**  
**NOTICE INVITING TENDER(NIT)**

1. A tender is invited for work as mentioned in Appendix 'A' to Notice Inviting Tender (NIT).
2. The work is estimated to cost as indicated in aforesaid Appendix 'A'. This estimate, however, is not a guarantee and is merely given as a rough guide and if the work cost more or less, a tenderer/ bidder will have no claim on that account. The tender shall be based on as mentioned in aforesaid Appendix 'A'.
3. The work is to be completed within the period as indicated in aforesaid Appendix 'A' in accordance with phasing, if any, indicated in the tender from the date of handing over the site, which will be on or about two weeks after the date of Acceptance of tender.
4. Contractors whose names are on the MES approved list and within whose financial category the estimated amount would fall and unenlisted contractors may submit tender/bid subject to other criteria mentioned in Appendix A. However, in case of term contracts, enlisted contractors of Class SS to E may submit tender. Not more than one tender shall be submitted/uploaded by one contractor/ firm. Under no circumstances will a father and his son(s) or other close relations who have business dealing with one another be allowed to tender/bid for the same contract as separate competitors. Two firms shall be deemed to have business dealing if any of the partners/proprietor/director is common among both of them. A breach of this condition will render the tenders/bids of both the parties liable for rejection.
5. The Office of **GE GUWAHATI** will be the Accepting Officer here in after referred to as such for purpose of the contract.
6. The Technical Bid and Financial Bid (Cover-1 & Cover-2) shall be uploaded by the tenderer/bidder on or before the date & time mentioned in **NIT**. A scanned copy of DD towards cost of tender with enlistment details/documents as specified in Appendix 'A' shall be uploaded as Cover-1 (Technical bid) of the tender/bid on e-tendering portal. DD is refundable in case the contractor is not considered eligible in technical evaluation of Cover -1 resulting in non opening of Cover 1. The applicant contractor shall bear the cost of bank charges for procuring and encashing the DD Including revalidation of DDs and shall not have any claim from Government whatsoever on this account.
- 6.1. Tender form and conditions of contract and other necessary documents shall be available on <https://defproc.gov.in> site for download and shall form part of contract agreement in case the tender/bid is accepted.
- 6.2. **PERFORMANCE SECURITY**
  - (a) **Within 28 days of receipt of the letter of Acceptance, the successful contractor shall deliver to the Accepting officer a performance security in any of the forms given below for an amount equivalent to 5% of the Contract Sum.**
    - (i) A Bank Guarantee in the prescribed form.
    - (ii) Government Securities, FDR or any other Government instruments stipulated by the Accepting officer.
  - (b) If the performance security is provided by the successful contractor in the form of a bank Guarantee, it shall be issued by Nationalized/Scheduled Indian Bank but its confirmation shall be done only from the Head Office of the Bank.
  - (c) Failure of the successful contractor to comply with the requirements of clause 6.2(a) shall constitute sufficient grounds for cancellation of the award of work. An amount shall be notified to the tenderer for depositing the amount through MRO. Issue of tender to such tenderers shall remain suspended till the aforesaid amount is deposited in Government Treasury.

**Contd/...**

**NOTICE INVITING TENDER (CONTD...)**

7. **EARNEST MONEY DEPOSIT (EMD)**: In case of MES enlisted contractor who has not executed the "Standing Security Bond" and unenlisted contractors, the Cover-1 shall be accompanied with by "Earnest Money" of amount as mentioned in Appendix 'A' in the form of deposit at call receipt in favour of GE Guwahati by a Scheduled Bank or in receipt treasury challan, The amount being credited to the revenue deposit of the GE (See Appendix 'A'). EMD exemption is allowed only in case of tenderers who are on the MES approval list of any MES formation and deposited .
8. In case of successful contractor i.e., the lowest contractor having submitted EMD, he shall have the option of converting the EMD instrument into part of the Performance Security to be deposited by him within 28 days from the receipt of intimation of acceptance of tender from Accepting Officer.
9. Sample of materials and stores to be supplied by the contractor will also be available for inspection by the tenderer/bidder at the office of concerned GE during working hours.
10. The tenderers/bidders are advised to visit site of work by making prior appointment with GE who is also the Executing Agency of the work (see appendix 'A'). The tenderers/bidders are deemed to have full knowledge of all relevant documents, samples, site etc., whether they have inspected them or not.
11. Any tender/bid which proposes any alteration to any of the conditions laid down or which proposes any other condition or prescription, whatsoever is liable to be rejected.
12. The uploading of bid implies that bidder has read this notice and the Conditions of Contract and has made himself aware of the scope and specification of work to be done and of the conditions and rates at which stores, tools and plants etc will be issued to him and local conditions and other factors having bearing on the execution of the work.
13. Tenderers/bidders must be in possession of a copy of the MES Schedule (SSR)(Part-I & Part-II) including amendments and errata thereto.
14. The Accepting Officer reserves the right to accept a tender submitted by a Public Undertaking/Small & Medium Enterprises (SMEs), giving a price preference/purchase preference over other tender(s)/bids which may be lower, as are admissible under the Government Policy. No claim for any compensation or otherwise shall be admissible for such tenderer/bidder whose tender/bid is rejected.
15. Accepting Officer does not bind himself to accept the lowest or any tender/bid or to give any reason for not doing so.
16. This **Notice Inviting Tender (NIT)** including Appendix 'A' shall form part of the Contract.

Signature of Contractor

AGE (Contracts)  
for Accepting Officer



**APPENDIX 'A' TO NOTICE INVITING TENDER (NIT)**

1.	Name of work	<b>SPECIAL REPAIRS TO E/M INSTALLATION IN BORJHAR, SADILAPUR AND AMINGOAN, PROVISION OF 1 X SUBMERSIBLE PUMP AT MTN DOU AND PROVN OF LIGHTING CONDUCTOR AT KOTE OF MTN DOU UNDER GE GUWAHATI</b>															
2.	Estimated Cost	₹ 19.12 LAKHS(At par market)															
3.	Period Of Completion	150 (One hundred fifty ) days															
4.	Cost of Tender Documents	₹ 500.00 in the shape of DD/ Bankers Cheque from any Scheduled Bank in favour of <b>GE GUWAHATI</b> and payable at <b>GUWAHATI</b> . (Scanned copy to be uploaded on-line and original to be forwarded off-line so as to reach this HQ before due date.)															
5.	Website /Portal Address	<a href="http://www.defproc.gov.in">www.defproc.gov.in</a>															
6.	Type of Contract	The tender shall be based on specification and GCC (IAFW-2249) for Measurement contracts (IAFW-1779-A) with Schedule 'A' (List of items of Work) to be priced by the tenderer. The Tenderers are required to quote their rate against items of Schedule 'A'.															
7.	<b>Information &amp; Details</b>																
	(a) Bid Submission start Date	} - Refer critical dates on the website.															
	(b) Last date of Bid Submission																
	(c) Date of Bid Opening																
8.	<b>Eligibility Criteria</b>																
	(a) For MES enlisted Contractors	Contractors shall be enlisted with MES in <b>Class 'E'</b> and <b>Category (a)(i)(Building Works)</b> subject to satisfactory remarks wrt performance in respect of works in hand reflected in Work load return( WLR) or any other report circulated by competent engineer authority.															
	(b) For Other Contractors	<p>(a) Contractor not enlisted with MES should meet the enlistment criteria of <b>Class 'E'</b> and <b>Category (a)(i)(Building Works)</b> contractor with regard to satisfactory completion of requisite value works with Central / State Government / Central / State PSUs / AWHO / AFNHB / CGEWHO / DGMAP, annual turnover, bank solvency, working capital and other requirement given in Section 1 of MES manual of contracts 2020 as available in all MES formations as well as MES website (<a href="http://www.mes.gov.in">www.mes.gov.in</a>).</p> <p>(b) Not carrying adverse remarks in Work Load Return (WLR) or any other similar report circulated by any competent authority, if already working in MES.</p> <p>(c) Not suspended/ debarred / blacklisted (either permanently or temporarily) from participating in any bid or business dealings by any Central / State Govt. Department or any Central / State PSU or any Autonomous Body under Central / State Government or any Local Body as on the bid submission end date.</p> <p>(d) Unenlisted contractor shall submit details of works completed and under progress in MES in the following format:-</p> <table border="1" data-bbox="678 1691 1508 1792"> <thead> <tr> <th>Srl No</th> <th>CA No &amp; Name of Work</th> <th>Value of CA</th> <th>Date of Commencement</th> <th>Date of Completion</th> <th>Extended Date of Completion</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>(e) Un-enlisted Contractor who have secured two works in MES should get themselves registered in the appropriate designated Class with any Registering Authority, else the firm will not be eligible for participation in the tender unless until the firm is enlisted with the MES.</p>				Srl No	CA No & Name of Work	Value of CA	Date of Commencement	Date of Completion	Extended Date of Completion						
Srl No	CA No & Name of Work	Value of CA	Date of Commencement	Date of Completion	Extended Date of Completion												

**APPENDIX 'A' TO NOTICE INVITING TENDER (NIT)Contd/.....**

9.	Tender Issuing and Accepting Officer	<b>GE GUWAHATI</b>
10.	Executing Agency	<b>GE GUWAHATI</b>
11.	Earnest Money	<b>₹ 38,240 in favour of GE GUWAHATI in the form of deposit at call receipt (FDR is NOT acceptable)</b>

1. In case after opening of Cover 1, the number of MES enlisted contractors of eligible Class as well as un-enlisted contractors, if any, fulfilling the other eligibility criteria given in NIT, is less than 7(Seven), applications in respect of MES contractors of one class below the eligible class shall also be considered subject to fulfillment of other eligibility criteria given in NIT. Therefore MES contractors one class below may also bid for this tender. Such contractor shall not be consider in case their present residual work in hand is more than **FIVE TIMES** their present tendering limit. However in case such contractors fulfill the criteria of up gradation to the stipulated eligible class based on past experience of completed works( individual works experience and/or average annual turnover as applicable) and financial soundness (solvency/financial soundness and working capital), the celling of present residual work will not be applied and they will be considered for issue of tender. Such bidders shall upload in their cover I bid, details of residual work in hand like details of works in hand, showing names of accepting Officer, contract amount, Date of Commencement and date of completion (Stipulated) and progress as on bid submission date. Such contractors if claim to fulfill the criteria of up gradation shall also upload the requisite information/documents in support of upgradation. These details shall be verified by the tender issuing authority from concerned formation in case bids of such contractor are considered for evaluation

2. In case after opening of Cover 1, the number of MES enlisted contractors of eligible Class as well as un-enlisted contractors, if any, fulfilling the other eligibility criteria given in NIT, are 7 (Seven) or more, applications of only those one class below the eligible class bidders shall he considered, who have previously completed similar works satisfactorily and are meeting the criteria of upgradation in respect of past experience of completed works (individual work experience and/or average annual turnover as applicable) and financial soundness (solvency/financial soundness and working capital) as per details given in Annexure-I. Therefore such contractors shall upload the requisite information/documents in the Cover-1.

3. Unenlisted contractor shall be considered provided he meets the criteria. Foreign firms shall not be eligible for this tender. However Indian Firms having foreign national / Indian nationals staying abroad / Indian national having taken foreign citizenship, as director(s) shall be considered subject to security clearance from the concerned authorities.

4. Contractors enlisted with MES will upload following documents in Cover 1 for checking eligibility:-

- Application for tender on Firm's letterhead duly signed by proprietor/all partners/all directors of the firm/company as applicable.
- Enlistment letter issued by the Registering Authority duly renewed for the cycle period in vogue.
- Scanned copy of DD /Bankers Cheque toward cost of tender and EMD instrument in case SSD Bond is not signed at the time of registration.
- GST and EPF registration certificate
- Any other document required as described in this Appendix 'A' to NIT.

5. Contractors unenlisted with MES will be required to upload following documents in Cover 1 for checking eligibility:-

- Application for tender on Firm's letterhead duly signed by proprietor/all partners/all directors of the firm/company as applicable.
- Scanned copy of DD/ Bankers cheque toward cost of tender and Earnest Money deposit (EMD) instrument.
- Copy of Police Verification Report/Police Clearance Certificate/ Character Certificate from the Police Authority of the area where the registered office of the firm is located/notarized copy of valid passport of Proprietor/each Partner/each Director.

Signature of Contractor

JE(QS&amp;C)

AGE(Contracts)

**APPENDIX 'A' TO NOTICE INVITING TENDER (NIT)Contd/.....**

- (d) All documents required for enlistment in MES for the class mentioned in Para 8(b) above as per Para 1.5 of section 1 of MES manual on contracts 2020.
- (e) Details of works being executed in MES, if any.
- (f) Any other document required as described in this Appendix 'A' to NIT.
6. Tenders not accompanied by scanned copies of requisite DD/Bankers Cheque towards cost of tender and earnest money (as applicable) in Cover I shall not be considered for validation of 'T' bid and their Financial bids will not be opened.
7. Contractors should ensure that their original physical DDs and Earnest Money Deposit (EMD) instruments (as applicable) reach the office of Accepting Officer within 07 days of bid submission end date failing which following action shall be taken:-
- (a) In case of tenders from an enlisted contractor of MES, where scanned copies of requisite DD/ Bankers Cheque towards cost of tender have been uploaded in Cover 1 but physical copies are not received within the stipulated period, their financial bids (Cover 2) will be opened. However non-submission of physical copies of cost of tender shall be considered as willful negligence of the tenderer with ulterior motives and such tenderer shall be banned from bidding for a period of six months commencing from the date of opening of Financial Bid (Cover 2).
- (b) In case of tenders from unenlisted contractor, where scanned copies of requisite DD/Bankers Cheque towards cost of tender have been uploaded in Cover 1 but physical copies are not received within the stipulated period, their financial bids (Cover 2) will not be opened. Name of such contractors along with complete address shall be circulated for not opening of their bids for a period of six months commencing from the date of opening of Financial Bid (Cover 2).
- (c) In case of tenders from enlisted and unenlisted contractors, where scanned copies of instruments for Earnest Money Deposit (as applicable) have been uploaded in Cover 1 but the same are not received in physical form within stipulated period, such tenders shall not qualify the opening of financial bid (Cover 2).
8. Contractor will not be allowed to execute the work by subletting or through power of attorney to a third party/another firm on his behalf. However a contractor can execute the work through power of attorney to sons/daughters/ spouse of Proprietor/Partner/Director and firm's own employees, director, project manager **provided they are not having a separate enlisted firm in MES in their name as Proprietor/Partner/Director.**
9. After opening of Cover 1 and during its technical evaluation, in case any deficiency is noticed in the documents required to be uploaded by the tenderers as per NIT, a communication in the form of e-mail/SMS/Speed Post etc shall be sent to the contractor to rectify the deficiency within a period of seven days from date of communication failing which their financial bid (Cover2) shall not be opened and contractor shall not have any claim on the same.
10. Invitation for e-tender does not constitute any guarantee for validation of Technical bid and subsequent opening of financial bid of any applicant/bidder merely by virtue of enclosing DD. Accepting Officer reserves the right to reject the Technical bid and not to open the financial bid of any applicant/bidder. Technical bid validation shall be decided by the Accepting Officer based on eligibility of the firm as per criteria given in this Appendix 'A' to NIT. Tenderer/bidder will be informed regarding non-validation of his Technical bid assigning reasons therefore through tender evaluation report which shall be uploaded on the website. Such tenderer, if desires, may appeal to the next higher Engineer Authority (NHEA) i.e. CWE Shillong on email shlgsez3-mes@nic.in with copy to the Accepting Officer on email before the scheduled date of opening of Cover-2. NHEA shall decide the matter within a period of seven working days from the date of receipt of appeal. The decision of the NHEA shall be final and binding. The tenderer/bidder shall not be entitled for any compensation whatsoever for rejection of his bid.
11. In case an unenlisted contractor is already executing works in MES, he shall not be considered eligible for the subject tender if the total value of such works is more than twice the tendering limit of the MES Class of contractor for which it is eligible. For this purpose, details of the works being executed by such a contractor shall be uploaded in the Cover -1 of the bid and shall be checked/verified by the Accepting Officer.

Contd/...

**APPENDIX 'A' TO NOTICE INVITING TENDER (NIT)Contd/.....**

12. In case the BOQ is revised through the corrigendum and the bidder has failed to quote on revised BOQ (i.e. he has quoted on pre revised BOQ), such bid shall be treated as willful negligence by the bidder and his quotation shall be considered non-bonafide. In such cases the lowest tender shall be determined from amongst the valid/butted bids only. Accepting Officer may decide whether to re-tender or consider the lowest bonafide tender for acceptance.

13. Revoking the offer or revising the rates upward or offering voluntary reduction by the lowest tenderer after opening of Cover 2 shall be considered as a wilful default. For this default a penalty of an amount equal to Earnest Money shall be levied. In case of an unenlisted tenderer, firm shall be debarred from exemption of submitting Bid Security / EMD for a period of 06 (Six) months. In case of MES enlisted tenderer having deposited the Standing Security Bond, an amount equal to the earnest money stipulated in the NIT, shall be notified to the tenderer for depositing through MRO and consideration of such tenderer in tender evaluation for future works shall remain suspended till the aforementioned amount is deposited in the Government Treasury. No other disciplinary/administrative action shall be taken against such tenderers. In such a situation, the next lowest offer shall not be considered for acceptance. Instead, retendering shall be resorted to in a transparent and fair manner and the defaulting tenderer and his related firm if any, shall not be eligible for this tender in second call or subsequent calls.

14. Tender to related firms shall not be issued simultaneously. Firms shall be termed as related if Proprietor/one or more Partners/Directors are common. Decision of Accepting Officer on issue/deny the tender to any one of the related firms shall be final and binding.

15. In case the tender submitted is accepted, the contractor will be required to lodge **PERFORMANCE SECURITY DEPOSIT** for an amount equivalent to 5% of the contract sum in favour of the Accepting Officer within 28 (Twenty Eight) days of the receipt by the contractor of notification of acceptance of his tender/bid in the form of BANK GUARANTEE or FDR. Failure of the contractor to comply with the requirements of Performance Security shall constitute sufficient grounds for cancellation of the award of work. In case of MES enlisted contractor, amount equal to the Earnest Money stipulated in the Notice of Tender, shall be notified to the tenderers for depositing the amount through MRO. Issue of tender to such tenderers shall remain suspended till the aforesaid amount equal to the Earnest Money is deposited in Government Treasury.

16. **JURISDICTION OF COURTS:** Court of the place from where tender has been issued shall alone have jurisdiction to decide any dispute out of or in respect of this tender. After acceptance of tender, jurisdiction of court shall be governed as per condition 72 of IAFW-2249.

17. **After acceptance of contract, prior to commencement of Work, Engg-in-Charge shall ensure that the contractor has EPF Registration Code No., if applicable, and keep documentary proof on record. The contractor shall ensure compliance of the EPF & MP Act 1952 as amended till Bid Submission end date.**

**SIGNATURE OF CONTRACTOR  
DATE:**

**AGE(CONTRACTS)  
FOR GARRISON ENGINEER**

**8331/B/44/E8 dt 18 Sep 2023**

Garrison Engineer  
Military Engineer Services  
PO: Satgaon, Dist: Kamrup  
Guwahati-781027

IN LIEU OF IAFW-1779 A (Revised -1995)

(TO BE USED IN CUNJUNCTION WITH GENERAL CONDITION OF CONTRACT IAFW-2249)

Tele : 0361-2642393

Garrison Engineer, Guwahati  
Military Engineer Services  
Post: Satgaon, Dist: Kamrup  
Pin No - 781027 (Assam)

8331/B/60/E8

31 Oct 2023

**TENDER AND ITEM RATE CONTRACT FOR WORK BY MEASUREMENT IN THE EXECUTION OF  
"SPECIAL REPAIRS TO E/M INSTALLATION IN BORJHAR, SADILAPUR AND AMINGOAN, PROVISION  
OF 1 X SUBMERSIBLE PUMP AT MTN DOU AND PROVN OF LIGHTING CONDUCTOR  
AT KOTE OF MTN DOU UNDER GE GUWAHATI"**

1. ALL ELIGIBLE BIDDERS is / are hereby authorized to tender for the above work. Online bid only is to be submitted on website [www.defproc.gov.in](http://www.defproc.gov.in).
2. All documents must be uploaded while forwarding the bid on abovementioned portal.
3. THE PRESIDENT OF INDIA DOES NOT BIND HIM SELF TO ACCEPT THE LOWEST OR ANY TENDER.

SIGNATURE OF OFFICER  
ISSUING THE DOCUMENTS

SIGNATURE OF CONTRACTOR  
DATE : \_\_\_\_\_

AGE(Contracts)  
for Garrison Engineer

SCHEDULE 'A' (BOQ)(SCHEDULE OF WORKS)  
(List of works and Prices)

**NOTES:-**

1. The scope of work covered under this contract is given in Schedule 'A' (BOQ) in a separate Excel sheet. The tenderer is required to quote his unit rates (in Col 5) against each item of Schedule 'A' (BOQ). Rate in words shall be generated automatically. In case of any discrepancy in figures and words, rate quoted in figures shall prevail. **If, the contractor fails to quote his rate for any item(s), in that case contractor has to carry out the work of given quantity without any cost to the Govt. No representation on this account shall be entertained.**
2. Description of items given in Schedule 'A' (BOQ) is in brief. These are deemed to be amplified and read in conjunction with special conditions, particular specifications, specifications for materials and workmanship and conditions given in the relevant sections of MES Standard Schedule of Rates Part-I (2009) and Part-II (2020) including errata and amendments thereto.
3. The entire work included in this contract is required to be completed within **150 (One hundred Fifty) Days** from the date of handing over site mentioned in the work order No 1.
4. **UNIT RATES:-**
  - 4.1 Unit rates quoted by the contractor shall be deemed to allow for all minor details of construction/accessories which are not specifically mentioned in Schedule 'A' (BOQ) or not given in particular specifications or not shown on drawings but which are essential for the completion of works/services in workman like manner and sound Engineering practice. In case of difference of opinion, as to whether or not, any items of work constitute minor details of construction, the decision of the Accepting officer shall be conclusive, final and binding.
  - 4.2 Unless otherwise specified, the rates quoted by the tenderer against schedule "A" items of work are deemed to include material, labour, supplying, laying, fixing, connecting, testing (where required), etc including provision of all necessary tools & plants, testing equipments and labour for testing and all works described under the heading 'Rates' and in the preambles to similar items in MES Schedule for entire completion of works.
  - 4.3 The rate quoted shall be deemed to be inclusive of all taxes and levies of Govt. as applicable such as GST (Central & State) on works contract, toll tax, income tax, workers welfare tax/Cess, royalties to Govt/local bodies, etc and nothing extra shall be paid on this account. Necessary deduction at source shall be made as applicable as per the mandatory statutory requirement of Central, State Government and local bodies.
  - 4.4 Labour Welfare Cess/Tax and element towards ESIC & EPF contribution shall also be applicable besides other applicable taxes/ levies as per law of land. The quoted Rates are deemed to include all these provisions.
  - 4.5 It is an express condition of this contract that the rates quoted by the tenderer in the tender for various items shall be deemed to include for the entire and final completion of the items of work in accordance with provisions of the tender. Government shall not entertain any claim whatsoever on account of inaccuracies/misunderstanding if any, in the aforesaid rates.
5. The quantities shown in column 3 of BOQ are approximate and are inserted as guidance only. They do not constitute any guarantee of the ultimate quantities which will be ordered under the contract. This shall, however, not be varied beyond the limits laid down in condition 7 of IAFW-2249 (General Condition of Contracts).
6. The work lies in various areas and locations under the jurisdiction of GE Guwahati. The tenderer has to visit the site of work to ascertain quantum of work at different locations with prior meeting with GE. No claim whatsoever shall be entertained at a later date on account of any misunderstanding on this aspect, or any variation in quantities at different location.
7. Total amount in "Amount" column of the BOQ is not firm. A Separate 'Schedule of credit' has been made part of this tender in the 'pdf' format. The amount of schedule of credit shall be deducted from the total amount of BOQ to arrive at the "Contract Sum" referred to in IAFW – 2249. Contractors are requested to take note of this while quoting for items in BoQ(Cover 2). No cognizance on account of any variation shall be entertained at a later date.

SCHEDULE 'A' (BOQ) (SCHEDULE OF WORKS)  
(List of works and Prices)

8. **SCHEDULE OF CREDIT:-**

The "Contract Sum" referred to in IAFW- 2249 (and for the purpose of "AOC") shall be calculated after deduction of total amount of credit materials mentioned in "Schedule of credit" from the total amount quoted by the tenderer in finance bid. The quantities given in "Schedule of credit" are provisional and will depend upon the actual executed quantities of items of Schedule 'A' and credit shall be adjusted accordingly. The rate of items of credit inserted in "Schedule of credit" is firm. The contractor shall have no claim whatsoever if the actual value of the retrieved material is different from the value indicated in "Schedule of credit".

9. Unless otherwise specified, method of measurement of various items of work shall be as stipulated in MES Standard Schedule of Rates (Part-I & Part-II) including errata and amendments thereto.

10. **GOODS AND SERVICE TAX (GST):-**

Goods and Service Tax (GST) on works contracts shall be applicable and deducted as per the existing rules and regulations as per Govt statutory rules/provisions. All the bidders shall get themselves acquainted with the relevant provision of GST Act and enrolled for GST as per rules / regulations of the State Govt / Central Govt. Contractor's bid shall be deemed to have included GST and all other taxes, duties, cess etc prevailing at the time of Bid Submission End Date. The deduction of GST at source by the department shall be as per rules and regulation of Govt prevailing at the time of payment.

11. The bidder shall also upload the copy of Provident Fund (PF) code number for coverage of building and construction workers (BACW) in the schemes framed under Employee's Provident Fund & Miscellaneous Provisions (EPF & MP) Act 1952 and not in possession/uploading the copy the same shall be disqualified in 'T' bid evaluation and financial bid shall not be opened. The quoted rates are deemed to be included EPF.

12. The bidder shall note that they will required to strictly ensure engagement of Engineers and deployment of 'T&P', Machinery & Transport as stipulated in the contracts. Inadequate engagement of Engineers/ deployment of T&P Machinery & Transport as per contract conditions shall be considered as serious lapse attracting ban/ removal/ downgrading / debarment of the Firm/Company.

13. No Payments to contractor shall be made unless proof of payment of wages to the workmen is submitted to Engineer-in-charge by the contractor alongwith each RAR/ FB. In case payments are made in current coins or currency notes, certificate shall be submitted by the contractor alongwith undertaking by the concerned workmen asking for payment other than by cheque or by crediting in the bank account to the employee/workmen.

14. The defects liability period for this contract shall be 24 (Twenty Four) Months from the date of handing over of the work to the Government. (Refer condition 46 of IAFW-2249).

15. The contractor to ensure compliance of the "**EPF and MP Act 1952**". Before commencement of work, the contractor should produce the provident fund code number to the Engr-in-Charge (**if applicable**).

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

Signature of Contractor

JE(QS&C)

AGE(Contracts)

**SCHEDULE OF CREDIT****NOTES:-**

- 1 The quantities given under Col 4 are provisional and will depend upon the actual executed quantities of items of Schedule 'A' and credit shall be adjusted accordingly.
2. The rate of items of credit inserted under column 5 is firm. The contractor shall have no claim whatsoever of the actual value of the material is different from the value indicated in column 5.
3. The tenderer shall be deemed to have visited the site & made themselves aware with the nature and extent of quality of materials & value that will become contractor's property as per schedule of credit.
4. The materials indicated in credit schedule shall become the property of the contractor and credit thereof shall be recovered from the contractor's RAR/final bills. The contractor shall remove such material from site only after recovery is affected from RAR/FB subject to approval of Engg-in-charge through proper gate pass.
5. Materials obtained from dismantling/ demolition/ taking down shall not be re-used in the work unless specified in schedule. The materials to be re-used shall be stacked properly for re-use.
6. The dismantling work shall be carried out as instructed by the Engineer-in-Charge. Prior order of Engineer-in-Charge shall be obtained before dismantling.
7. Dismantling work shall be carried out carefully so as not to damage any adjoining structure. Any damage so caused shall be made good by the tenderer at their own cost. The cost of dismantled materials covered in the schedule of credit obtained up to the date of respective RAR will be priced at the unit rate mentioned in the Schedule and adjusted. The material shall be removed from the site after obtaining written permission of the Engineer-in -Charge.
8. Old serviceable retrieved materials which are neither considered in schedule of credit nor considered for re-use shall be the Govt property and shall be deposited in MES store yard without any extra cost. All unserviceable material shall be disposed off as directed by Engineer-in-charge at site

SL. NO	Particulars	Unit	Qty	Rate	Amount
1	2	3	4	5	6
1	Old unserviceable steel tubular pole of any size	Each	4.00	2500.00	10000.00
2	Old unserviceable LT cable of size 4 sqmm 2 core	RM	125.00	20.00	2500.00
3	Scrap Iron	KG	30.00	45.00	1350.00
4	Old unserviceable LT panel complete with all fittings and accessories	Each Set	1.00	1350.00	1350.00
5	Old Earthing materials complete of any description	Each set	1.00	150.00	150.00
6	Old unserviceable light fittings of any type	Each	4.00	150.00	600.00
7	Old unserviceable service bracket of any type/description	Each	3.00	100.00	300.00
8	Old unserviceable brick bats	Cum	3.00	800.00	2400.00
9	Old unserviceable Chowkhats with shutter n exc 1.5 sqm each	Each	10.00	120.00	1200.00
10	Old Unserviceable Chowkhats with shutters exc 1.5 sqm but not exc 4 sqm each including builders hardware	Each	10.00	160.00	1600.00
11	Old unserviceable timber scantling of any description	Cum	0.5	3500.00	1750.00
12	Old unserviceable AC Sheets of any description	Sqm	43.66	35.00	1528.10
Total = Rs.					<b>24,728.10</b>

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

Signature of Contractor

JE(QS&amp;C)

AGE(Contracts)



**SCHEDULE 'B'**  
**ISSUE OF MATERIALS TO THE CONTRACTOR**  
 (See condition 10 of IAFW-2249)

SI No	Particulars	Rate at which materials etc will be issued to the contractor		Place of issue by name	Remarks
		Unit	Rate		
1	2	3	4	5	6

----- NIL -----

Signature of Contractor

AGE(Contracts)

**SCHEDULE 'C'**

List of tools and plants (other than transport) which will be hired to the contractor  
 (See condition 15, 34 & 35 of IAFW-2249)

SI No	Qty	Particulars	Details of MES Crew supplied	Hire charges per unit / per working day	Stand by charges per unit of day	Place of issue (by Name)	Remarks
1	2	3	4	5	6	7	8

----- NIL -----

Signature of Contractor

AGE(Contracts)

**SCHEDULE 'D'**

Transport to be hired to the contractor  
 (See condition 16 and 35 of IAFW-2249)

SI No	Qty	Particulars	Details of MES Crew supplied	Place of issue (by Name)	Remarks
1	2	3	4	5	6

----- NIL -----

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

Signature of Contractor

JE(QS&C)

AGE(Contracts)

TENDER

To,

The President of India,

Having examined and perused the following documents:-

1. Specification signed by AGE (Contracts).
2. Drawings as detailed in the specification.
3. Schedule 'A', 'B', 'C' & 'D' attached hereto.
4. MES Standard Schedule of rates part I (Specification) 2009 Print together with amendments Nos 1 to 3 and part-II (Rates) 2020 Print together with amendments Nos 1 to 122 (here-in-after referred to as the MES Schedule)
5. General Condition of contracts IAFW- 2249 (1989 print) together with amendment No 01 to 49 and Errata 01 to 20.
6. REFER CONDITION 31 OF IAFW: 2249 (GENERAL CONDITION OF CONTRACTS)  
Water will be supplied by the MES @ Rs 3.75 per thousand worth of work done priced at contract rates.
7. Should this tender be accepted I/We agree:-

\*(a) That the sum of Rs. **38,240.00** forwarded as Earnest Money shall either be retained as part of Performance Security Deposit or be refunded by the Govt. on receipt of the appropriate amount of the Performance Security Deposit as per condition 19 of IAFW-2249.

(b) To execute all the works referred to in the said documents upon the terms and conditions contained or referred to therein at the item rates contained in the aforesaid Schedule 'A' or at such other rates fixed under provisions of Condition 62 of IAFW-2249 and to carry out such deviations as may be ordered vide Condition 7 of IAFW-2249 upto a maximum of 10% (Ten Percent) and further agree to refer all disputes, as required by condition 70 to the sole arbitrator of a serving officer having degree in Engineering or equivalent or having passed final/direct final examination of sub Division II of Institution of surveyor (India) recognized by the Govt. of India to be appointed by the Chief Engineer Shillong Zone Shillong or in his absence the officer officiating as Chief Engineer, if specially delegated in writing by the CESZ Shillong, for the above purpose, whose decision shall be final, conclusive and binding.

\* TO BE DELETED WHERE NOT APPLICABLE

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

Signature of Contractor

JE(QS&amp;C)

AGE(Contracts)

**TENDER (CONTD....)**

Signature .....Name ..... in the capacity of ..... duly authorized to sign the tender for and on behalf of \*M/S ..... (\*IN BLOCK LETTERS)

DATED .....

Witness -----

Postal Address -----

Address -----

-----

Tele .....

**ACCEPTANCE**

.....alternations have been made in this document and as evidence that these alternations were made before the execution of the contract agreement, they have been initialed by the contractor and Chetna Anand, AGE(Contracts).

The said officer is hereby authorised to sign and initial on my behalf, the documents forming part of this contract.

The above tender is accepted by me on behalf of the PRESIDENT OF INDIA at the item rates contained in the schedule 'A' on the.....day of .....2023.

Signature .....Dated ..... day of ..... 2023.

APPOINTMENT:  
GARRISON ENGINEER  
GUWAHATI 781027(ASSAM)  
(For and on behalf of the President of India)

**GENERAL CONDITIONS OF CONTRACTS (IAFW- 2249-1989 PRINT)**  
**FOR**  
**MEASUREMENT CONTRACTS (IAFW – 1779 & 1779 –A)**

A copy of the GENERAL CONDITIONS OF CONTRACTS (IAFW-2249-1989 PRINT) with errata **1 to 20** and amendments No **1 to 49** has been supplied to me/us and is in my/our possession. I/We have read and understood the provisions contained in the aforesaid GENERAL CONDITIONS OF CONTRACTS before submission of this tender and I/We agree that I/We shall abide by the terms and conditions therefore, as modified, if any, elsewhere in these documents.

It is further agreed and declared by me/us, that the GENERAL CONDITIONS OF CONTRACTS (IAFW-2249-1989 Print) including conditions 70 thereof pertaining to settlement of disputes by Arbitration, containing 33 pages (Serial Page Nos 20 to 52), with errata 1 to 20 and amendments 1 to 49 form part of these tender documents.

**Note:** - In case the bidder is not in possession of any of the documents referred above, he should obtain a copy from this office before submission of his tender.

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

Signature of Contractor

JE(QS&C)

AGE(Contracts)

**SCHEDULE OF MINIMUM FAIR WAGES**

It is hereby agreed by me/us that the "Schedule of Minimum Fair Wages" as published by Govt of India/State Govt/Govt local authorities whichever is highest and which specifies minimum rates of wages for various categories of workman as applicable on the last due date of receipt of this tender shall form part of these tender documents.

My/Our signature hereunder amounts to my/our having read and understood the provisions contained therein and I/We agree that I/We shall abide by the same and that aforesaid documents form part of this tender. We also hereby agree that payment to labours shall be made as per minimum wages notified by Govt of India/State Govt/Govt local authorities whichever is high.

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

**SPECIAL CONDITIONS**

1. **GENERAL.** These special conditions shall be read in conjunction with the General conditions of contracts (IAFW-2249) and IAFW-1779-A including errata and amendments thereto. Any provisions in these special conditions if at variance with the provision in the above mentioned documents shall be deemed to take precedence there over.

2. **Inspection of Site by the Tenderer.**

(a) The tenderer is advised to contact the Garrison Engineer for the purpose of inspection of site(s) and relevant documents other than those sent herewith, who will give reasonable facilities for the purpose. The tenderer shall also make himself familiar with the working conditions, accessibility of site(s), availability of materials and other cogent conditions which may affect the entire completion of work under this contract.

(b) The tenderers shall be deemed to have inspected the site(s) and made themselves familiar with the working conditions, whether they have actually inspected the site(s) or not.

3. **OTHER AGENCIES.** Contractor's attention is invited to the fact that during the currency of this contract, works on other service, which are outside the scope of work of this contract, may be entrusted for execution to other agencies. The contractor shall permit full access and afford all facilities for such other agencies or departmental workmen, if any, engaged by the Government to carry out their part in the area. No extra payment shall however be made to the contractor on this account whatsoever.

4. **CONTRACTORS REPRESENTATIVE, AGENTS, SERVANTS AND WORKMEN.** Contractor shall employ only Indian Nationals as his representatives, agents, servants and workmen and verify their antecedents and loyalty before employing them for the works. He shall ensure that no person of doubtful antecedents and Nationality is in any way associated with the works. If for reasons of technical collaboration or other consideration employment of any foreign national is unavoidable the contractor shall furnish full particulars to this effect to the Accepting Officer at the time of submission of the tender. The GE shall have full power and without giving reasons to the contractor immediately cease to employ in connection with this contract any representative, agent, servant, workman or employee whose continued employment is in his opinion is undesirable. The contractor shall not be allowed any compensation on this account.

5. **SECURITY OF CLASSIFIED DOCUMENTS.** Contractor's special attention is drawn to condition 2-A and 3 of General Conditions of Contracts (IAFW-2249). The contractor shall not communicate any classified information regarding works either to sub contractor or others without prior approval of the Engineer-in-Charge. The contractor shall also not make copies of the design/drawings and other documents furnished to him in respect of works and he shall return all documents on completion of the works or on earlier termination of the contract. The contractor shall along with final bill attach a receipt from the Engineer-in-Charge in respect of his having returned the classified documents as per condition 3 of General Conditions of Contracts (IAFW-2249)

6. **ACCEPTANCE OF TENDER.** The tender shall remain open for acceptance for a period of 60 days from the next day subsequent to bid submission end date.

7. **Time and Progress using Critical Path Method.**

(a) The Time and Progress Chart to be prepared as per condition 11 of General Conditions of Contracts (IAFW-2249) shall consist of detailed network analysis and a time schedule. The critical path network will be drawn jointly by the GE and the contractor soon after acceptance of the tender. The time scheduling of the activities will be done by the contractor so as to finish the work within the stipulated time. On completion, a firm calendar date schedule will be prepared and submitted by the contractor to the GE who will approve it after due scrutiny. Four copies of the schedule will be submitted within two weeks from the date of handing over the site.

(b) During the currency of the work the contractor is expected to adhere to the time schedule and this adherence will be a part of the contractor's performance under the contract. During the execution of the work the contractor is expected to participate in the reviews and updating of the net work undertaken by the GE. These reviews may be undertaken at the discretion of the GE either as a periodic appraisal measure or when the quantum of work ordered on the contractor is substantially changed through deviation orders or amendments. Any revision of the schedule as a result of the review will be submitted by the contractor to the GE within a week who will approve it after due scrutiny. The contractor will adhere to the revised schedule thereafter.

**SPECIAL CONDITIONS (CONTD...)**

In case of a contractor disagreeing with the revised schedule, the same will be referred to the Accepting Officer whose decision will be final, conclusive and binding. GE's approval to the revised schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount to a grant of extension of time. Extension of time shall be considered and decided by the appropriate authority mentioned in condition 11 of IAFW-2249 and separately regulated

(c) The contractor shall mobilise and employ sufficient resources to achieve the detailed schedule within the broad framework of the accepted methods of working and safety.

(d) No additional payment will be made to the contractor for any multiple shift work or other incentive methods contemplated by him in his work schedule even though the time schedule is approved by the Department.

**8. SAMPLES OF MATERIALS AND INDIAN STANDARDS**

(a) Refer to Condition of 10 of IAFW-2249.

(b) The materials and articles, shall be of makes/manufactures as specified in particular specifications. If the manufacturers specified in tender documents make both ISI marked and conforming to ISI, the materials/articles shall be ISI marked.

(c) The materials and articles, which have not been specified in tender documents by makes/manufacturers, shall be as under : (i) If ISI marked materials are being manufactured, the same shall be ISI marked. For a list of ISI marked manufacturers refer to the website of BIS ie [www.bis.org.in](http://www.bis.org.in). (ii) If ISI marked materials are not being manufactured, the same shall be conforming to IS Specifications.

(d) Materials of local origin shall be as specified and conforming to samples kept in GE's office. The tenderer is advised to inspect samples of materials which are displayed in the office of GE before submitting his tender. The tenderer shall be deemed to have inspected the samples and satisfy himself as to the nature and quality of materials he is required to incorporate in the work irrespective of whether he has actually inspected them or not.

(e) The contractor shall not procure materials and articles unless the samples are first got approved by the GE.

**9. RECORD OF MATERIALS AND PURCHASE VOUCHERS**

9.1 (a) The quantity of materials such as cement, steel, paints, water proofing compound, chemicals for anti-termite treatment and the like, as directed by the Engineer-in-Charge (the quantity of which cannot be checked after incorporation in works) shall be recorded in measurement books and signed by the contractor and the Engineer-in-Charge as a check to ensure that the required quantity has been brought to site for incorporation in the work.

(b) Materials brought to site shall be stored as directed by the Engineer-in-Charge and those already recorded in Measurement Book shall be suitably marked for identification.

(c) Contractor shall produce the original vouchers/invoices in respect of all the materials claimed in RAR as material lying at site.

(d) Original vouchers/invoice for the following items of works applicable will be produced by the contractor before claiming RAR payment or before incorporation in the work whichever is earlier:-

(i) all the BOQ (Sch 'A') items (Other than local materials) costing more than 1 Lakh (ii) Vouchers in respect of cement, steel, major E/M equipment like transformers, DG Sets, pumps, motors, AC and lift equipment will be submitted invariably, (iii) Any other items, which Engineer-in-charge specifically ordered.

9.2 The vouchers/invoice shall be from the manufacturers and /or from their authorized dealers/stocklist for full quantity of the respective materials required for the work under the contract.

9.4 Proprietary materials referred above brought at site shall be stored as directed by the Engineer-in-Charge and those already recorded in measurement book shall be suitably marked for identification.

9.5 Original purchase vouchers shall be defaced by the Engineer-in-Charge as soon as materials are brought to site by the contractor and photocopies shall be kept in record. Genuineness of purchase voucher shall be verified by the Engineer in Charge before considering the same for making payment. Initially JE may verify the vouchers after taking confirmation on phone or through e mail. The contractor shall ensure that the materials are brought to site in original sealed containers/ packing, bearing manufacturer's marking except in the cases of the requirement of materials being less than smallest packing.

9.6 The vouchers will clearly indicate the Contract number and the IS No and specific alternative to which the material conforms in case of various alternatives in IS and other particulars of work for which used. Certified true copies of all such vouchers shall be carefully maintained by the Engineer-in-Charge.

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

Signature of Contractor

JE(QS&C)

AGE(Contracts)

**SPECIAL CONDITIONS (CONTD...)**

10. **QUARRIES**. Reference to condition 14 of IAFW-2249. Quarries are not available on Defence land for use by the contractor.
11. **PERFORMANCE SECURITY DEPOSIT**. Refer condition 19 and 46 of IAFW-2249. The contractor has to deposit performance security for the contract, within 28 days of receipt of letter of acceptance, in the form specified for an amount equivalent to 5%(as applicable) of the contract sum, for a period equal to the sum of contract period and defect liability period.
12. **AVAILABILITY OF LAND FOR STORAGE OF MATERIALS/ TEMPORARY WORKSHOP OFFICE**  
(Refer condition 24 of IAFW-2249) Delete the following in Para 1 of condition 24 of IAFW-2249, 'In the event of ---- of areas of land allotted to him' and following shall be read in conjunction with condition 24 of IAFW-2249. "The contractor shall be permitted to store his materials including erection of temporary sheds thereof and also to erect his temporary workshop and the like at the area of land marked for all purpose on the site plan free of rent if it is on class A1 land. For other types of land he shall be charged a licence fee of Rs 1/- per year or part of year for each and every separate area of land allotted to him".
13. **AVAILABILITY OF LAND FOR ACCOMMODATION OF LABOUR AND CANTEEN**.  
(Refer condition 24 of IAFW-2249). No land will be allotted for labour camp and canteen
14. **FAIR WAGES**  
The contractor shall have no claim what so ever if, for any reason other than those mentioned in condition 63 of IAFW-2249, he is required to pay wages in excess of minimum wages as laid down by Govt of India (shown in the schedule of minimum rate of wages or the minimum wages as fixed by the State Govt whichever is higher.
15. **OFFICIAL SECRET ACT**  
The contractor shall be bound by the official secret act 1923.
16. **ELECTRIC SUPPLY**  
(a) In the case the contractor desires to buy electricity from MES, he shall be charged for the electric energy consumed at Rs. **16.77** per kilowatt hours for KWH lighting and power each.  
(b) The exact location of electric supply shall be shown by the Engineer-in-charge. The main switch and KWH meter to register the electric energy supplied shall be provided by the contractor and installed by MES. Contractor shall provide all necessary connections, cables, fittings etc from the main switch in order to ensure a proper and suitable supply of electricity for the execution of work.  
(d) MES do not guarantee for continuity of supply and no compensation whatsoever shall be allowed for supply becoming intermittent or for breakdown in the system.  
(e) GE or his representative shall be free to inspect all the power consuming devices or any electric lines provided by the contractor. Any device or electric lines provided by the contractor, which is not to the satisfaction of the GE, shall be discontinued from the supply if so desired by him.
- 17 **WATER SUPPLY**
- 17.1 Water will be supplied by MES to the contractor at points as decided by GE from piped system and shall be paid by the contractor @ Rs. 3.75 per Rs 1000/-worth of work done priced at contract rates. The contractor shall arrange at his own expense for storage of water and lifting, pumping, carrying or conveying water to the site of work as required.
- 17.2 The supply of water may not be continuous. The contractor shall be deemed to have ascertained the hours of availability of water before submitting his tender. MES does not guarantee continuity of water supply and no compensation shall be allowed for intermittent or inadequate water supply and break down in the system. If the supply is not sufficient the contractor shall make his own arrangement to supplement the water supply at his own cost. For this purpose the contractor shall be allowed to install hand pumps, tube wells at the site of work at places as directed by the Engineer-in-Charge without any charges from the contractor on this account. The contractor shall remove the hand pumps, tube wells as and when asked to do so by Engineer-in-Charge or GE and in any case on completion of work unless GE desires that these hand pumps, tube wells be left in position and the contractor agrees to do so without claiming cost thereof from the Department. No compensation whatsoever shall be admissible to the contractor if the GE requires him to remove the pumps before completion of work. Use of water from such sources shall be permitted only if found potable after testing, and fit for use in the work. The water from such sources shall be got tested by the contractor from a laboratory approved by the GE, who shall, after satisfying himself, permit the contractor to use the water from such sources. Testing charges shall be borne by the contractor.



**SPECIAL CONDITIONS (CONTD...)**

Use of water from such sources shall be permitted only if found potable after testing, and fit for use in the work. The water from such sources shall be got tested by the contractor from a laboratory approved by the GE, who shall, after satisfying himself, permit the contractor to use the water from such sources. Testing charges shall be borne by the contractor.

18. **Condition for Working in Unrestricted Area.**

All works lie in Unrestricted Area. The restrictions for entry to work site and conditions of working in unrestricted area shall be as under:-

(a) The work lies in an Unrestricted Area. However, the contractor, his agents, servants, workmen and vehicles may pass through the unit lines, in which case, the Engineer-in-Charge at his discretion has the right to issue the passes, control their admission to the site of work or any part thereof. The contractor shall, on demand by the Engineer-in-Charge, shall submit a list of personnel etc concerned and any other information called for by the Engineer-in-Charge and shall satisfy the Engineer-in-Charge as regards the bonafide of such people. Passes shall be returned at any time on demand by the Engineer-in-Charge and in any case on completion of work.

(b) The contractor and his work people shall observe all the rules promulgated from time to time by authority controlling the area where the work is to be carried out eg prohibition of smoking etc. Any person found violating the security rules laid down by the authority shall be immediately expelled from the area without assigning any reasons whatsoever and the contractor shall have no claim on this account. Nothing shall be admissible for any man hours lost on this account.

19. **Employment of Personnel**

(a) Contractor shall employ only Indian Nationals as his representatives, servants and workmen after verifying their antecedents and loyalty. He shall ensure that no person of doubtful antecedents and nationally is, in any way, associated with the work. As a proof that the contractor has employed only Indian Nationals, he shall render a certificate to GE within one month from the date of acceptance of tender to this effect. In case the GE desires, the contractor will have the police verification done of personnel employed by him. If for reasons of technical collaboration or other considerations the employment of foreign national(s) is unavoidable, the contractor shall furnish full particulars to this effect to the Accepting Officer at the time of submission of the tender.

(b) The GE shall have full powers and without giving any reason to order the contractor immediately to cease to employ, in connection with his contract, any agent, servant or employee whose continued employment is, in his opinion, undesirable. The contractor shall not be allowed any compensation on this account.

(c) The contractor's attention is also drawn to condition 25 of IAFW-2249 in this connection.

20. **RETENTION MONEY/COMPENSATION FOR DELAY.** Refer condition 64 and 50 of IAFW-2249.21. **LOSS OR DAMAGE ON ACCOUNT OF ENEMY ACTION**21.1 **CONTRACTOR'S PLANT/EQUIPMENT AT SITE:-**

(a) The contractor shall furnish to the Engineer-in-Charge every morning a distribution return of his plant/equipment on the site of work, stating the following particulars:-

(i) Particulars of plant/equipment, its make, manufacture No, model No if any, registration No, if any, capacity, year of manufacture, year of purchase etc.

(ii) Total No (Quantity) on site of work.

(iii) Location, indicating No (quantity) at each location of site of work.

(iv) Purchase value on the date of purchase. For the purpose of this condition, plant/equipment shall include vehicles i.e. trucks and Lorries but neither the workmen's tools nor any manually operated tools/equipments.

(b) The Engineer-in-Charge shall record the particulars, supplied by the contractor in the work diary and send the return to the GE for record in his office.

22. **REIMBURSEMENT IN CASE OF ENEMY ACTION.** If as a result of enemy action, the contractor suffers any loss or damage, the Government shall reimburse to the contractor such loss or damage to the extent and in the manner hereinafter provided:-

**SPECIAL CONDITIONS (CONTD...)**

- (i) The loss suffered by him on account of any damage or destruction of his plant/equipment (as defined in special condition) here in before or materials or any part of parts thereof. (The amount of loss assessed by the Accepting Officer of the contract or the CWE in case of contracts by GE, on this account shall be final and binding).
- (ii) The compensation paid by him under any law for the time being in force, to any workmen employed by him for any injury caused to him or to the workmen's legal successors for loss of the workman's life.
- (iii) Payment of compensation for loss or damage to any work or part of work carried out (the amount of compensation shall be determined in accordance with condition 48 of General Condition of Contracts (IAFW-2249). No reimbursement shall be made nor shall any compensation be payable under the above provision unless the contractor had taken Air Defence precautions ordered in writing by the GE/OC concerned or in the absence of such orders, reasonable precautions. No reimbursement shall be payable nor any compensation be payable for any plant/equipment or materials not lying on site of work at the time of happening of enemy action.

**23. RE-IMBURSEMENT/REFUND ON VARIATION IN TAXES DIRECTLY RELATED TO CONTRACT VALUE**

(a) The rates quoted by the Contractor shall be deemed to be inclusive of all taxes (including GST, Labour Welfare Cess/tax etc.) duties, Royalties, Octroi & other levies payable under the respective Statutes. No reimbursement/refund for variation in rates of taxes, duties, Royalties, Octroi & other levies, and/or imposition/abolition of any new/existing taxes, duties, Royalties, Octroi & other levies shall be made except as provided in sub para (b) here-in-below.

(b) (i) The taxes which are levied by Government at certain percentage rates of Contract Sum/Amount shall be termed as "taxes directly related to Contract value" such as GST on materials, GST on Works Contracts, Labour welfare cess/tax and the like but excluding Income tax. The tendered rates shall be deemed to be inclusive of all "taxes directly related to Contract value" with existing percentage rates prevailing on the bid submission end date. Any increase in percentage rates of "taxes directly related to Contract value" with reference to prevailing rates on the bid submission end date shall be reimbursed to the Contractor and any decrease in percentage rates of "taxes directly related to Contract value" with reference to prevailing rates on the bid submission end date shall be refunded by the Contractor to the Govt/deducted by the Government from any payments due to the Contractor. Similarly imposition of any new "taxes directly related to Contract value" after the bid submission end date shall be reimbursed to the contractor and abolition of any "taxes directly related to Contract value" prevailing on the bid submission end date shall be refunded by the Contractor to the Govt/deducted by the Government from the payments due to the Contractor.

(ii) The contractor shall, within a reasonable time of his becoming aware of variation in percentage rates and/or imposition of any further "taxes directly related to Contract value", give written notice thereof to the GE stating that the same is given pursuant to this Special Condition, together with all information relating there to which he may be in a position to supply. The Contractors shall submit the other documentary proof/information as the GE may require.

(iii) The Contractor shall, for the purpose of this condition keep such books of account and other documents as are necessary and shall allow inspection of the same by a duly authorized representative of Govt, and shall further, at the request of the GE furnish, verified in such a manner as the GE may require, any documents so kept and such other information as the GE may require.

(iv) Reimbursement for increase in percentage rates/imposition of "taxes directly related to Contract value" shall be made only if the Contractor necessarily & properly pays additional "taxes directly related to Contract value" to the Govt, without getting the same adjusted against any other tax liability or without getting the same refunded from the concerned Govt Authority and submits documentary proof for the same as the GE may require."

**24. CONCILIATION****(a) SCOPE OF CONCILIATION**

The scope of conciliation shall be as given under Condition 71 of IAFW-2249 (General Conditions of Contracts).

**SPECIAL CONDITIONS (CONTD...)****(b) COMMENCEMENT OF CONCILIATION PROCEEDINGS**

The party initiating conciliation shall send to the other party a written invitation to conciliate, briefly identifying the subject of the dispute. Conciliation proceedings shall commence when the other party accepts in writing the invitation to conciliate. If the other party rejects the invitation, there will be no conciliation proceedings. If the party initiating conciliation does not receive a reply within 30 days from the date on which he sends or within such other periods of time as specified in the invitation, he may elect to treat this as a rejection of the invitation to conciliate and if he so elects, he shall inform in writing the other party accordingly.

(c) **NUMBER OF CONCILIATORS** There shall be a Sole conciliator.

**(d) APPOINTMENT OF CONCILIATOR**

All disputes shall be referred to the sole conciliator viz Serving Officer not below the rank of Superintending Engineer/ Superintending Engineer (QS&C) having degree in Engineer or equivalent or having passed final/direct final examination of sub division-II of Institution of Surveyors (India) to be appointed by the Chief Engineer Shillong Zone Shillong or in his absence the officer officiating as Chief Engineer, if specially delegated in writing by the CESZ Shillong in writing.

**(e) STATUS OF EFFECT OF SETTLEMENT AGREEMENT**

The settlement agreement signed by the parties as a result of conciliation proceedings shall have the same status and effect as it is an arbitral award on agreed terms.

**25. Damage to Existing Structures.**

Any damage to the existing structures, any existing road etc., during the execution of work shall be made good by the contractor at his own expense. Rectification, replacement, making good and touching up etc shall be carried out, conforming to the materials and workmanship originally provided and to the satisfaction of the Engineer-in-Charge. In case of any dispute on this account the decision of the GE shall be final, binding and conclusive.

**26. Approaches.**

The contractor shall make arrangements for and provide at his own cost all temporary approaches, if required to the site (s), after obtaining approval in writing of the GE to the layout of such approaches.

**27. Watch/Lighting.**

The contractor shall, at his own cost, take all possible precautions to ensure safety of life and property by providing necessary fencing, barrier, light, watchmen etc during the progress of work and as directed by the Engineer-in-Charge.

**28. Cleaning Down.**

Refer Condition 49 of IAFW-2249. The contractor shall clean all floors, remove cement, lime or paint drops, clean joinery, glass panels etc, touch up all paint work and carry out all necessary items of work in connection therewith and have the whole premises clean and tidy to the entire satisfaction of Engineer-in-Charge before handing over the items/works. No extra payment shall be admissible to the contractor for his operation.

**29. Minimum Wages Payable.**

(a) Refer Condition 58 of IAFW-2249. The contractor shall not pay wages lower than minimum wages for labour as fixed by the Government of India/State Govt/Union territory, whichever is higher.

(b) Contractor's attention is also drawn, amongst other things, to the 'explanations' to the schedule of minimum wages referred to above.

(c) The fair wages referred to in Condition 58 of IAFW-2249 will be deemed to be the same as the minimum wages referred to above as updated from time to time.

(d) Schedule of minimum wages are not enclosed along with tender documents. However, the contractor shall be deemed to have verified the minimum fair wages payable as on the bid submission end date.

(e) The contractor shall have no claim whatsoever, if on account of local factors and/ or regulations, he is required to pay the wages in excess of minimum wages as described above during the execution of work.

**SPECIAL CONDITIONS (CONTD...)****30. Handing Over of Site.**

Site for execution of work will be available as soon as the work is awarded. In case it is not possible to make the entire site available on the award of work, the contractor will have to arrange his working programme accordingly. No claim whatsoever, for not giving the entire site on award of work and for giving site gradually, will be tenable. However Work Order No 1 shall specifically indicate phased handing over of site as proposed in consultation with users.

**31. Testing of Materials.**

31.1 Refer condition 10 A of IAFW-2249.

31.2 (a) **'A' Level Tests-** The contractor may set up a site laboratory at his option for testing of materials (except Schedule 'B' materials) for 'A' level tests as listed in Annexure-I hereto. The contractor shall arrange all equipment/machines for the tests specified in Annexure-I as 'A' level tests at his own cost with prior approval of GE. This cost shall be included in the rates quoted by the contractor. The contractor shall employ a competent technical representative as approved by the GE for the purpose of testing and all such tests shall be carried out in the presence of Engineer-in-Charge. The successful tests results thereof shall be recorded and signed jointly by the contractor and the Engineer-in-Charge. The charges for these tests ie 'A' level tests carried out in the site laboratory of the contractor shall not be recovered. However in case the contractor has not set up the site laboratory and tests are carried out in Zonal or any other laboratory approved/setup by GE, the recovery shall be made at rates applicable ie as given in Annexure –I.

(b) **'B' & 'C' Level Tests.** For tests of 'B' and 'C' level as indicated in Annexure-I, the contractor shall provide all facilities for testing of materials at Zonal laboratory/NABL Accredited laboratories /IITs at his own cost. The rates quoted by the contractor shall be deemed to be inclusive of these tests. The rates of various tests conducted in the laboratory of MES are indicated in Annexure –I. The contractor shall bear the actual charges of 'C' level tests (to be done in labs other than MES labs) irrespective of rates indicated in Annexure-I. Wherever it is convenient to get 'B' level tests done at NABL Accredited laboratory, the same can be done at the cost of the contractor and no separate recoveries will be made by the Department for the same.

(c) The recoveries on account of testing charges wherever applicable shall be effected from the Running Account payments due to the contractor payable after completion of the respective tests or whenever the test is due whichever is earlier.

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

Contd.../-

SPECIAL CONDITIONS (CONTD...)**Annexure I to special condition****MATERIALS AND THEIR TESTS**

SL No	Materials	Test	Method of testing	Frequency of tests			Level of test	Rate per test Rs Ps	Remarks
1	2	3	4	5			6	7	8
1	Bricks	[I] Compressive strength	IS-3495 [ Part II ]	As per IS-5454 as given under			'A'	180/-	Check for visual and dimensional characteristics shall also be carried out
		[ii] Water absorption	-do-	Lot size	Sample Size	Permissible no of defective bricks	'A'	150/-	
		[iii] Efflorescence	-do- Part I	1001 to 10000	5	0	'A'	180/-	Legend A - Site Lab B - Zonal Lab C - National Test house/ SEMT wing Pune / Engg College
				10001 to 35000	10	0			
35001 to 50000	15	1							
2	Coarse aggregate	[I] Sieve analysis	IS-2386 [Part I]	One test for every 15 Cum of aggregate or part thereof brought to sit			'A'	120/-	
		[ii] Flakiness index	-do-	-do-			'A'	90/-	
		[iii] Estimation of deleterious materials	-do-	One test for every 100 Cum of aggregate or part thereof brought to site			'A'	120/-	
		(iv) Organic impurities	-do-	One test per source of supply			'C'	120/-	
		(v) Moisture content	-do- Part II	Regularly as required			'A'	120/-	
		(vi) Specific gravity	-do-	One test for each source of supply			'B'	180/-	
3.	Fine aggregate	(i) Sieve analysis	IS-2386 (Part I)	One test for every 15 Cum of aggregate or part when brought to site.			'A'	180/-	
		(ii) Test for clay, silt and Organic impurities	IS-2386 (Part I)	-do-			'A'	90/-	
		(iii) Specific gravity	-do- (Part ii)	One for each source of supply			'B'	180/-	

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

Signature of Contractor

JE(QS&amp;C)

AGE(Contracts)

SPECIAL CONDITIONS (CONTD...)

## Annexure -I to special condition Contd.../-)

MATERIALS AND THEIR TESTS

SL No	Materials	Test	Method of testing	Frequency of tests		Level of test	Rate per test		Remarks
							Rs	Ps	
1	2	3	4	5		6	7		8
		(iii) Specific gravity	-do- (Part ii)	One for each source of supply		'B'	180/-		
		(iv) Moisture content	-do- (Part II)	Regularly as required subject to 2 tests/day when being used		'A'	180/-		
		(v) Test for organic impurities	-do-	One test for each source of supply		'C'	180/-		
4.	Structural concrete (M-15 grade and above)	(i) Slump test or compacting factor test or Vee-bee time	IS-119	The minimum frequency of sampling of concrete of each grade shall be as under:-		'A'	180/-		Random sampling shall be carried to cover all mix units.
		(ii) Compressive strength	IS-516	Qty of concrete in the work (Cum)	No of samples	'A'	120/-	As per IS-456 Clause 15.2.2 for frequency of sampling.	
				1-5	1				
				6-15	2				
				16-30	3				
				31-50	4				
51 and above	4+1 for each addl 50 cum of part there of								
5.	[a] PCC block for walling [hollow block]	[i] Compressive strength	IS-2156-1984 [Appx 'B']	08 blocks out of 14		'A'	60/-		Sample: 14 blocks from consignment of every 5000 blocks or part thereof.
		[ii] Water absorption	-do- [Appx 'B']	03 blocks out of 14		'B'	120/-		
		[iii] Density	-do- [Appx 'C']	03 blocks out of 14		'B'	90/-		
	[a] PCC solid block for walling	[i] Compressive strength	IS-2185	12 blocks out of 18		'A'	60/-		Sample: 18 blocks from consignment of every 10001 blocks or part thereof.

Signature of Contractor

JE(QS&amp;C)

AGE(Contracts)

**SPECIAL CONDITIONS (CONTD...)****Annexure -I to special condition Contd.../-)****MATERIALS AND THEIR TESTS**

SL No	Materials	Test	Method of testing	Frequency of tests	Level of test	Rate per test Rs Ps	Remarks
1	2	3	4	5	6	7	8
		(ii) Water absorption	-do-	03 blocks out of 18	'B'	120/-	These blocks to be checked for dimension and weight.
		[iii] Density	-do-	03 blocks out of 18	'B'	120/-	
6.	Cement flooring tiles/terrazzo tiles	[i] Water absorption	IS 1237 [Appx'D']	06 tiles out of 18	'B'	180/-	Sample of 18 tiles from each source of supply selected at random
		[ii] Wet transverse strength	-do- [Appx'E']	-do-	'B'	144/-	
		[iii] Resistance to wear	-do- [Appx'F']	-do-	'C'	540/-	
7.	Burnt clay roofing tiles [machine made] As per IS-2690 [part I]	[i] Water absorption	IS-3495 [Part II]	06blocks out of 12	'B'	216/-	Sample: 12 tiles from each source of supply selected at random.
	Length 150 mm to 250 mm, width 100 mm to 200 mm, thickness 35 mm to 50 mm.	[ii] Compressive strength	-do- [Part I]	-do-	'A'	180/-	
8.	Mangalore pattern roofing tiles	[i] Water absorption	IS-654 [Appx 'A']	06 tiles out of 32	'B'	180/-	Sample: 32 tiles from each consignment of 3000 tiles or part thereof.
		[ii] Breaking load	-do- [Appx'C']	-do-	'B'	120/-	These tiles shall be checked for dimension.
9.	TIMBER	[i] Specific gravity and weight	IS-1708-1960	Minimum '3' samples from a lot of 4 cum or 250 pieces of seasoned timber	'B'	120/-	
		[ii] Moisture content	-do-		'A'	120/-	

Signature of Contractor

JE(QS&amp;C)

AGE(Contracts)

**SPECIAL CONDITIONS (CONTD...)**

Annexure -I to special condition Contd.../-)

**MATERIALS AND THEIR TESTS**

SL No	Materials	Test	Method of testing	Frequency of tests	Level of test	Rate per test Rs Ps	Remarks	
1	2	3	4	5	6	7	8	
10	Water for construction purposes, flooring tiles/terrazzo tiles.	[i] Test for acidity	IS -456 & 3015	One at the stage of approval of source of water.	'B'	240/-	Also refer clause 6.4 OF IS-456 and its subsequent sub clauses regarding suitability of water.	
		[ii] Test for alkalinity	-do-	-do-	'B'	240/-		
		[iii] Test for solid content	-do-	-do-	'C'	300/-		
11.	Welding of steel work	Visual inspection test	IS-822-1970 Clause 7.1	100% by visual inspection	Work site	360/-	Specialized tests, their method and frequency to be decided on consideration of their importance by the Accepting Officer.	
12	Timber paneled & glazed door/window shutter [including factory made shutter]	[a] Dimensions, sizes, workmanship and finish	IS-1003-1977 [Pt I]	Frequency of sampling from each lot shall be as under:-	'A'	180/-		
				Lot size				Sample size
				26 to 50				5
				51 to 100				8
				101 to 150				13
				151 to 300				20
				301 to 500				32
				501 to 1000				50
1001 and above	80							

Signature of Contractor

JE(QS&amp;C)

AGE(Contracts)



**SPECIAL CONDITIONS (CONTD...)**

Annexure -I to special condition Contd.../-)

**MATERIALS AND THEIR TESTS**

SL No	Materials	Test	Method of testing	Frequency of tests	Level of test	Rate per test Rs Ps	Remarks
1	2	3	4	5	6	7	8
		(b) Strength test (i) Slamming	IS-1303-1990	From the each lot 5% of the factory made shutters shall be tested by manufacturers for strength			
		[ii] Impact identification	-do-				
		[iii] Shock resistance	-do-				
		[iv] Edge loading	-do-				
13.	Plywood [IS-303-1989]	Moisture content	IS-1734-1983 [Pt I]	Six test pieces cut from each of the boards selected as per table shall be subjected to test.	'C'	240/-	Sampling shall be as per IS-7835-1975 Tables.
14	Wood particles board[Medium density] IS-3097-1985	[a] Density	IS-2360 [Part III]	Three test specimen from each sample [size 150 mm x 75 mm]	'A'	60/-	Sampling shall be as per IS-3487-1983.
		[b] Moisture content	-do-	-do-	'A & B'	60/-	
		[c] Water absorption	-do-[Part 16]	-do- [Size 300mm x 300mm]	'A'	60/-	
		[d] Swelling due to surface absorption	-do-[Part 17]	-do- [Size 125mm x 100mm]	'A'	60/-	
		[e] Swelling in water	-do-	-do- [Size 200mm x 100mm]	'A'	60/-	
		[f] Modulus of rupture	-do- [Part 4]	Three test specimen as per IS-2380-77	'B'	90/-	
		[g] Screw withdrawal strength	-do- [Part 4]	-do- as per Is-2385	'C'	120/-	

Signature of Contractor

JE(QS&amp;C)

AGE(Contracts)

**SPECIAL CONDITIONS (CONTD...)**

Annexure -I to special condition Contd.../-)

**MATERIALS AND THEIR TESTS**

SL No	Materials	Test	Method of testing	Frequency of tests	Level of test	Rate per test Rs Ps	Remarks
1	2	3	4	5	6	7	8
15	Cement	[i] Setting Time	IS-4031-63 Affirmed 1980	Once for each consignment or as and when required	'B'	180/-	
		[ii] Soundness	-do-	-do-	'B'	120/-	
		[iii] Compressive strength	-do-	-do-	'B'	360/-	
		[iv] Fineness	-do-	-do-	"B"	120/-	

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

**SPECIAL CONDITIONS (CONTD...)****MATERIALS TESTING & TESTING CHARGES**  
**NOTES TO ANNEXURE-I TO SPECIAL CONDITIONS:**

1. The materials listed hereinbefore shall be tested as per the frequency indicated therein, expenses of these shall be borne by the contractor.
2. Level of testing shown as A, B and C are defined as under:-  
A : Site Lab.  
B :MES Lab/Zonal Lab/Command Test Lab.  
C : NABL Accredited Lab/IITs
3. Records shall be maintained at work site. These test results shall be signed by contractor or his authorised representative and aforesaid departmental official.
4. Within 15 days of placement of work order No 1 site lab shall be established and fact reported by the contractor to GE in writing who will verify the fact and satisfy himself of the facilities provided. There after GE shall issue a certificate to this effect in writing listing out equipment particulars etc., of each material test. Only after issue of this certificate by GE the tests shall be carried out and materials so approved shall be incorporated in the work.
5. Manpower, material, land infrastructure like electricity, water etc. required for conducting these tests shall be provided by the contractor.
6. Tender is deemed to cater for above provisions in his quoted rates.
7. Remedial measures, if any, required achieve/obtain desired results for each test shall be taken promptly by contractor.
8. In case during any point of time contractor fails to adhere to the laid down frequency of the tests for any reasons whatsoever the contractor shall get the tests done from any other lab whose name shall be approved by GE in writing. The testing charges payable by contractor to such labs shall be paid by the contractor. Contractor's quoted rates is deemed to include for this eventuality and nothing extra shall be payable to the contractor. No extension of time shall be admissible on this account.
9. However, in case GE in his opinion considers that contractor is purposely not adhering to the laid down frequencies of the tests, he shall reserve the right to deduct panel recovery which shall be double the rates of tests indicated in Annexure 'I'. However besides affecting panel recovery for non-compliance of contractual testing frequency, for adhering to quality control norms of testing, simultaneously GE will get tests done from zonal lab as per laid down frequency and necessary testing charges given against level 'A' shall be recovered from running bills. In case facilities are not available to conduct tests in Zonal lab, then GE will get them tested from any other source and necessary testing charges paid by GE shall be detailed to the running payments. GE's decision shall be final and binding on recoveries.

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

**PARTICULAR SPECIFICATION****1. GENERAL.**

(a) The following specifications shall be read in conjunction with the General conditions of contract (IAFW-2249) and IAFW-1779-A including Errata/Amendments thereto. If any provision in the special conditions is at variance with that of the aforesaid documents, the former shall be deemed to take precedence there over.

(b) The work under this contract shall be carried out in accordance with schedule 'A' the particular specifications the drawings forming part of this contract and general specification and other provisions in the MES standard schedule of rates 2009 Part I & 2020 Part II including errata/amendments as applicable thereto.

(c) The term "General Specifications" referred to here-in-before as well as in IAFW-2249. (General Conditions of contracts) shall mean the specifications contained in the MES standard schedule of rates 2009 Part I & 2020 Part II including errata/amendments as applicable thereto.

(d) General rules, specifications, special conditions and all preambles in the MES schedule shall be deemed to be applicable to the work under this contract unless stated otherwise in these documents in which case the provisions in these documents shall take precedence over the aforesaid provisions in the MES Schedule.

(e) Rates quoted by the tenderer shall be deemed to include for any minor details/items of work and/or construction which are obviously and fairly intended and which may not have been included in these documents but which are essential for the execution and entire completion of the work.

(f) Decision of the Accepting Officer as to whether any minor details of work and/construction is obviously and fairly intended to be included in the contract shall be final conclusive and binding.

**2. SCOPE OF WORK.**

(a) This contract comprises full, final and entire completion of all works described in schedule 'A' and specified in particular specifications for the following works :-

(i) 51SA/Spl Rep/MES Instln/04/2022-23: Special repair to E/M Instln in Borjhar, Sadilapur & Amingaon under GE Guwahati

(ii) 51SA/MW/41/2022-23: Provn of 01 x Submersible pump at 21 Mtn Dou Borjhar under GE Guwahati

(iii) 51SA/MW/15/2022-23: Provn of lighting conductor at kote of 21 Mtn DOU under GE Guwahati

(b) The tenderer is advised to inspect the site(s) by prior appointment with the Garrison Engineer to ascertain the nature of work/site(s), access thereto, local facilities for procurement of materials, working hours and labour rates prevalent in the area in fact all matters affecting his price in the tender for execution and completion of the work. The Tenderer shall be deemed to have full knowledge of the site (s) whether or not he actually visits.

(c) Probable sources of local materials are given in Appendix 'A' to particular specifications. However the samples shall be got approved by GE before bulk procurement of the material. The contractor may bring materials conforming to the specifications from other sources without any price adjustment. If the contractor proposes to use materials from such sources samples thereof shall be submitted to the GE before procurement in bulk and incorporation in the work.

(d) In Appendices/Annexures to particulars specifications, list of manufacturers of items have been given. Contractor shall obtain these items from one of the approved manufacturers only. However, it will not absolve the contractor from ensuring that the products supplied are conforming to the relevant IS in all respects before procuring the same for approval by the GE and before procuring bulk product for incorporation in work.

**3. EXCAVATION AND EARTH WORK****3.1 EXCAVATION IN TRENCHES AND OVER AREA**

3.1.1 Excavation in trenches and over areas shall be carried out as described in Para 3.13 of MES SSR part I, Bailing and pumping of water, if required will be done as described in Para 3.17 of MES SSR Part I. No extra payment shall be admissible for the above mentioned operation, if, however, inflow of water into excavation is caused by powerful springs or river seepage, broken water mains or drains and the like (other than those broken through the contractor's negligence) the contractor shall immediately, inform the GE and if in the opinion of the GE, the inflow is due to any of these causes, he shall issue instructions in writing as to the method to be employed in clearing the water and additional payment shall be allowed as deviation order.

**PARTICULAR SPECIFICATION (Contd/.....)**

3.1.2 Excavation in hard rock shall be carried out as specified in Para 3.15 of MES SSR part I and shall be measured in MB as described in preambles Para 3.1 of MES SSR part II. The hard rock so obtained shall become the property of contractor for which recovery as mentioned in the "Sch of credit" (if not mentioned the recovery shall be made at the rate of Rs **646.20** per cubic metre (Solid contents)) shall be made from the contractor. It will be the responsibility of the contractor to remove the hard rock outside MD land without any extra cost to the Government.

3.1.3 Blasting shall not be permitted.

**3.2 FILLING IN TRENCHES, PLINTH AND UNDER FLOORS**

3.2.1 Filling under floors, in plinth and in and around foundations, and other situation shall be done with approved earth/soft disintegrated rock. It shall be ensured that turf, peat and vegetable and other organic and deleterious matter is removed from the soil used for filling. Black cotton soil shall not be used for filling. Filling in general shall be done in layers as specified in clause 3.19 of MES SSR Part I and filling in trenches for pipes, drains, cable etc shall be done carefully as per clause 3.20 of MES SSR Part I.

3.2.2 Earth/soft disintegrated rock obtained from excavation shall be used for filling only after approval of Engineer-in-Charge. No charge shall be levied against contractor for use of approved soil/ soft disintegrated rock obtained from excavation. Soil/ soft disintegrated rock not approved for filling or surplus to the requirement shall be removed to a distance mentioned in Sch 'A'.

**4. CONCRETE.****4.1 AGGREGATE**

Coarse aggregate for all cement concrete works unless otherwise specified, shall be crushed or broken and graded hard stone. Coarse aggregate and fine aggregate (sand) shall be from the sources as mentioned in Appx 'A' and approved by the GE and shall confirm to IS 383 and to the samples kept in GE's office.

**4.2 WATER**

Quality of water to be used for mixing and curing of concrete work shall conform to the requirement of clause No 5.4 of IS-456. GE will ensure that testing of water is carried out at regular intervals to comply with the requirement. Cost of testing of water will be borne by the contractor.

**4.3 CEMENT. (For concrete as well as for all other cement work)****4.3.1 GENERAL**

Cement required for the work under the contract shall be procured, supplied and incorporated in the works by the contractor under his own arrangement. Cement shall be of tested quality and shall comply with the requirements mentioned in SSR, IS specifications as amended and particular specifications given here-in-after.

4.3.2 Cement shall be ordinary portland cement (OPC) grade 43 confirming to IS-8112-1989 (Latest revision) or portland pozolana cement (PPC) Confirming to IS-1489-1991. Cement bags shall bear ISI mark and date of manufacture.

4.3.3 Blank

4.3.4 Control on cement supplied by Contractors. Following checks shall be carried out before the cement supplied by the contractor is accepted and is approved for incorporation in the works:-

Procurement. The cement shall be procured from the following manufactures / main producers. However in case the total quantity of cement required in the work is less than 1200 bags then the same can be procured from authorised dealers of the main producers at the discretion of the Contractor.

Srl No	Company Name	Brand Name	Type of cement
(i)	M/S Sanghi Industries Ltd	SANGHI	OPC 43 Gr, OPC 53 Gr & PPC
(ii)	Ultra Tech Cement Ltd.	ULTRATECH	OPC 43 Gr & PPC
(iii)	Dalmia Cement(Bharat) Ltd	DALMIA INFRA PRO	OPC 43 Gr & PPC
(iv)	M/S Chettinad Cement Corporation Ltd	CHETTINAD Cement	OPC 43 Gr & PPC
(v)	M/S My Home Industries Ltd	MAHA CEMENT	OPC 43 Gr, PSC & PPC

**PARTICULAR SPECIFICATION (Contd/.....)**

(vi)	M/S Parasaki Cements Ltd	PARASAKI Cement	OPC 43 Gr & PPC
(vii)	Mangalam Cement Ltd	MANGALAM	OPC 43 Gr & PPC
(vii)	Birla Corporation Ltd	BIRLA	OPC 43 Gr & PPC
(ix)	Orient Cement	ORIENT	OPC 43 Gr & PPC
(x)	Shree Cement	SHREE	OPC 43 Gr & PPC
(xi)	J K Cement	J K	OPC 43 Gr & PPC
(xii)	M/S Shree Guru Kripa Cements Pvt Ltd	SARTAJ	OPC 43 Gr & PPC
(xii)	J K Lakshmi Cement Ltd	J K LAKSHMI	OPC 43 Gr & PPC
(xiv)	Jaypee Rewa Cement	JAYPEE	OPC 43 Gr & PPC
(xv)	Ambuja Cement Ltd	AMBUJA	OPC 43 Gr & PPC
(xv)	Saurashtra Cement	SAURASHTRA	OPC 43 Gr & PPC
(xv)	The Associated Cement Companies Ltd	ACC	OPC 43 Gr & PPC
(xv)	Century Cements	CENTURY	OPC 43 Gr & PPC
(xi)	M/S Meghalaya Cement Ltd	TOPCEM	OPC & PPC
(xx)	M/S Star Cement Meghalaya	-	OPC & PPC
(xx)	The India Cement	-	OPC 43 Gr & PPC
(xx)	The Ramco Cements Ltd	RAMCO	OPC 43 Gr & PPC
(xx)	Nuvoco Vistas Corpoation	NUVOCO	OPC 43 Gr & PPC
(xx)	M/s JSW Cement Ltd	JSW PSC	PSC (Portland Slag Cement)
(xx)	M/s Wonder Cement Ltd	WONDER CEMENT	OPC 43 Gr, OPC 53 Gr & PPC
(xx)	M/s Sagar Cements Ltd	SAGAR	OPC 43 Gr, OPC 53 Gr, PPC & PSC

4.3.5 The contractor shall furnish particulars of the manufacturer/supplier of cement alongwith date of manufacture to the GE for every lot of cement separately. The documents in support of the purchase of the cement shall be verified by the site staff and GE. The cement so brought shall be fresh and in no case older than 60 days from the date of manufacturer. Before placing the order for supply by the contractor, he shall obtain written approval from the GE regarding name of manufacturer, quantity of cement etc. Cement shall be procured for requirement of not more than two months at a time. The cement shall be consumed in the work within three months after receipt. Cement shall conform to the requirement of IS specification and each bag of cement shall bear relevant ISI mark. The weight of each consignment shall be verified by the Garrison Engineer and recorded. The content of cement shall be checked at random to verify the actual weight of cement per bag.

4.3.6 **USE OF PPC.** For using PPC, the following requirements should be met:-

(a) PPC should meet the strength criteria of 43 grade OPC as laid down in IS-8112(Latest revision).

(b) The minimum period for curing and off form work shall be as under in lieu of that specified in clause 4.11.6.3 of MES Schedule Part-I :-

- |       |   |               |
|-------|---|---------------|
| (i)   | Curing : Structural RCC work, PCC work, Plaster etc   | : 21 days     |
| (ii)  | Off form work from walls, columns and vertical sides of beams   | : 3 to 4 days |
| (iii) | Slabs (Props left under)  | : 8 days      |
| (iv)  | Beams Soffits (Props left under)  | : 9 days      |
| (v)   | Removal of props to slab / beam :-  |               |
|       | (aa) Spanning upto 6 M span   | : 16 days     |
|       | (ab) Spanning beyond 6 M span   | : 22 days     |
| (vi)  | For cantilever portion of slab form work with support shall be retained until the completion of the casting of the entire frame work of the building. |               |

(c) Mixing of OPC & PPC shall not be allowed in the work. However with strict control of the ground executives, different buildings can have different types of cement.

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

Signature of Contractor

JE(QS&C)

AGE(Contracts)

**PARTICULAR SPECIFICATION (Contd/.....)**

(d) While procuring PPC, the following requirements are to be ensured and certificate to the effect is to be obtained by the Contractor for each batch from the manufacturer and the same shall be submitted to the GE before approval to procure PPC.

- (i) The quality of fly ash is strictly as per IS-1489 (Part-I)-2002 and as amended up to date.
- (ii) Fly ash is inter-ground with clinker not mixed with clinker.
- (iii) The fly ash content in PPC does not exceed the limits laid down in IS-1489 (Part-I)-2002 and as amended up to date.

(e) For using PPC non availability of OPC shall not be insisted upon. Also no price adjustment shall be made for use of PPC.

4.3.7 **TESTING OF CEMENT.** The manufacturer/main producer shall carry out inspections and testing of cement in accordance with the relevant BIS provisions. The Contractor shall submit the Manufacturers Test Certificate in original alongwith the test sheet giving the result of each physical test as applicable and the chemical composition of the cement or authenticated copy thereof, duly signed by the manufacturer with each consignment. The Engineer-in-Charge shall record these details in the Cement Acceptance Register (Annx `A`) given here in after, after due verification. The GE shall also organize dependent physical testing of random samples of cement drawn from each lot from the NATIONAL TEST HOUSE, SEMT WING CME, REGIONAL RESEARCH LABORATORIES, GOVERNMENT APPROVED LABORATORIES, ZONAL LABORATORIES as per IS 3535-1986 (Method of sampling hydraulic cement), IS-4031 (Method of chemical analysis of hydraulic cement) and record the results in the relevant portion of Cement Acceptance Register (A `A`).

In order to undertake departmental testing, requisite facilities alongwith materials, conveyance etc shall be organized by the contractor without any extra cost to the Govt. The random samples of cement to be tested shall be drawn as per Quality Assurance Manual. The cost of materials for testing, samples, conveyance etc shall be borne by the contractor irrespective of the test result. However the cost of testing charges shall be governed in terms of condition 10 (A) of IAFW-2249. In case as per the result of independent test, the cement is found to be not of requisite standard despite manufacturer's test certificate, the contractor shall remove the total consignment from the site within 24 hrs at his own cost after written rejection order of consignment by the GE.

4.3.7.1 The record of random samples selected by the GE for testing shall be properly maintained in the cement testing register giving cross reference to relevant consignment of cement and quantity received etc.

4.3.7.2 The contractor shall be required to set up the adequate testing facilities at site to the entire satisfaction of GE for conducting setting time test and compressive strength test as per IS codes referred to here-in-before for the samples collected from the lot brought at site. These tests shall be carried out within 7 days of receipt of cement at site. The test can alternatively be carried out at the Zonal laboratory, or any other recognized laboratory so designated by GE.

The contractor shall be allowed to use the cement only after satisfactory compressive strength of 7 days. 7 days strength will be relied upon to accept the lot of cement; 28 days compressive strength test will be final criteria to accept / reject the lot.

4.4 **STORAGE.** Cement shall be stored over dry platform at least 20 cm high in such a manner as to prevent deterioration due to moisture or intrusion of foreign matter. In case of store room, the stack shall be at least 20 cm away from floors and walls. The stacking of cement shall not be more than 10 bags high. It shall be ensured that tested and untested cement are segregated and stored separately with distinct identification.

Signature of Contractor

AGE (Contracts)  
for Accepting Officer

**PARTICULAR SPECIFICATION (Contd/.....)**

**CEMENT SUPPLY & ACCEPTANCE REGISTER**

**ANNEXURE 'A'**

1. CA No & Name of work
2. Contract No
3. Name of Manufacturer/Brand Name/Gde of Cement (A) Manufacturer \_\_\_\_\_ (b) Brand \_\_\_\_\_ (c) Grade \_\_\_\_\_
4. Qty of Cement/Lot No/Week No (in Bags) (Qty \_\_\_\_\_ (b) Lot No/ Week No \_\_\_\_\_)
5. Manufacturer test certificates No \_\_\_\_\_.
6. Random test Details (a) Physical test report from \_\_\_\_\_ vide their letter No \_\_\_\_\_ (Name of approved Lab/Engg College)  
(b) Chemical test report from \_\_\_\_\_ vide their letter No \_\_\_\_\_ (Name of approved Lab/Engg College)
7. Details of Physical & Chemical properties:-

1	Physical Requirements (As per IS 4031)									Chemical Requirements (As per IS 4032)								
	2 Specific surface Area (Sqm/Kg)	3 Soundness by Le Chatellier	4 Soundness by Auto Clave	5 Initial setting time (Minute)	6 Final setting time (Minute)	Compressive Strengths (Mpa)			10 Temp during testing 'C	11 Standard consistency (%)	12 Lime saturation factor (Ratio)	13 Alumina Iron Ratio (Ratio)	14 Insoluble Residue (%)	15 Magnesium (%)	16 Sulpheric Anhydride (%)	17 Loss on ignition (%)	18 Alkalies (%)	19 Chlorides (%)
						7 03 Days	8 07 Days	9 28 Days										
As per relevant IS																		
As per manufacturer test certificate																		
As per manufacturer test certificate																		

Remarks with Signature

Accepted / Rejected

Contractor

Junior Engineer

Engineer-in-Charge

GE

Remarks of BOO/Inspecting Officer/CWE

\*To be allotted serially by the GE consignment wise

Signature of Contractor

JE(QS&C)

AGE(Contracts)



**PARTICULAR SPECIFICATION (Contd/.....)**

- 4.5 **DOCUMENTATION.** The contractor shall submit original vouchers from the main producers/manufacturers for the total quantity of cement supplied under each consignment to be incorporated in the work. All consignment received at the work site shall be inspected by the GE along with the relevant documents before acceptance. The original vouchers and the test certificates shall be defaced by the Engineer-in-Charge and kept on record in the office of the GE duly authenticated and with cross reference to the control number recorded in the cement acceptance register. The cement acceptance register will be signed by the JE (Civil), Engineer-in-Charge, GE and the contractor. The Accepting officer may order board of officer for random check of cement and verification of connected documents. The entire quantity of all cement shall also be suitably recorded in the measurement book for record purpose before incorporation in the work and shall be signed by the Engineer-in-charge and the Contractor.
- 4.5.1 Identification of cement bags by the manufacturer shall be as per relevant BIS codes.
- 4.5.2 The entire lot of cement brought by Contractor to the site shall be removed by contractor under his own arrangements and at his own cost, whenever the test results are not found within the prescribed acceptable limits. Decision of GE in this respect shall be final and binding.
- 4.6 The proper accommodation for storage, preservation and maintenance of cement shall be provided by the contractor at his own cost till consumption of cement in the work at the place (s) decided by GE. All arrangement for proper storage and safely of cement as indicated here-in-before shall be made by Contractor at his own cost. The cement storage accommodation shall be provided with two locks at each door. The key of one lock at each door shall remain with the Engineer-in-Charge or his representative and that of other lock shall remain with the contractor's authorized agent at site of works so that cement is removed from the godown/storage accommodation according to daily requirement with the knowledge of both the parties.
- 4.6.1 Schedule of supply of cement shall be worked out by Contractor in consultation with GE so as to match with the progress contemplated in CPM Chart prepared for this Project.
- 4.7 **WEIGHING AND PAYMENT FOR CEMENT.**
- 4.7.1 Random samples of 5 bags per 100 bags shall be got weighed by Engineer-in-Charge in presence of representative of Contractor from each consignment to arrive at average weight per bag for calculating total quantity of cement brought at site for incorporation in the work. All arrangement for weighing of cement bags including labour etc shall be provided by the contractor at his own cost.
- 4.7.2 The quantity of cement arrived at as aforesaid shall be considered for payment as applicable in accordance with IAFW-2249, General Conditions of Contracts.
- 4.7.3 Payment for cement shall only be allowed after production of original purchase vouchers, manufacturer's test certificates for each consignment of cement brought by contractor and after the results of random testing carried out by GE are found satisfactory as specified here-in-before.
- 4.8 **SCHEDULE OF SUPPLY.** The contractor shall procure the cement timely as required in accordance with CPM network agreed between GE and the contractor. The contractor will forfeit his right to demand extension of time if the supply of cement got delayed due to his failure in placing order in time to the manufacturer.
- 4.9 **MEASUREMENT AND PAYMENT OF CEMENT.**
- 4.9.1 The entire quantity of cement as brought at site, from time to time shall also be suitably recorded in the Measurement book for record purposes as 'Not to be abstracted' before incorporation in the work and shall be signed by the Engineer-in-Charge and the contractor.
- 4.9.2 The payment shall only be allowed after production of original purchase vouchers, certified copies of test certificates from manufacturer for each consignment and if results of testing carried out in laboratory on receipt of cement (7 days compressive test) are found satisfactory after testing as specified herein before. Cement shall be paid as material lying at site as per condition 64 of IAFW-2249. Rate of cement given in MES SSR shall be applicable for cement irrespective of grade of cement specified for use in the work.
- 4.9.3 For the purpose of pricing deviations for the items involving cement the rates given in MES SSR shall be applicable.
- 4.10 **SPECIFICATION FOR NOMINAL MIX CONCRETE.**
- 4.10.1 **CEMENT** Cement shall be as specified here-in-before.

**PARTICULAR SPECIFICATION (Contd/.....)****4.10.2. AGGREGATES.**

(a) Aggregates shall conform to both IS-383 of 1970 and IRC-29 of 1968. Aggregate shall be non porous, hard strong, durable clean and free from various impurities and adherent, coating and shall not contain any deleterious materials exceeding the limits specified in the above referred IS/IRC. When required by Engineer-in-Charge. The contractor shall at his own expense to carry out any test laid down in both IS-383 of 1970 and IRC-29 of 1968 to verify that the aggregate comply with the requirements of the IS/IRC. The test will be carried out in any laboratory approved by the GE.

(b) Coarse aggregate shall consist of crushed stone aggregate.

(c) Fine aggregate shall consist of naturally occurring coarse sand. Fine aggregate shall conform to Zone II of table IV of IS-383.

(d) Sample of the aggregate proposed to be used shall be approved by the GE prior to bulk delivery of the same at site of work. Fields test for deforming the contents of salt loam clay etc for fine aggregate shall be carried out by the Engineer-in-Charge from time to time to ensure that materials brought at site are in conforming with the samples approved by the GE.

(e) **GRADING OF AGGREGATES.** The grading of coarse and fine aggregate grading Zone II. The grading of coarse and fine aggregate shall be checked as frequently as possible. The frequency for the aggregate testing shall be determined by Engineer-in-Charge to ensure that the specified grading is being maintained.

**4.10.3 TRANSPORTING, PLACING, COMPACTION.**

Transporting placing in position and compaction of concrete shall be carried out all as specified in clause 4.11.9 to 4.11.11.1 of MES SSR Part-I.

**4.10.4 MIXING AND COMPACTION OF CEMENT CONCRETE**

(a) All cement concrete shall be mixed in an approved mechanical mixer. Mixing of concrete shall all as per clause 4.11.5 on page 4-9 of MES SSR Part I (2009).

(b) All RCC work shall be thoroughly compacted with approved mechanical vibrators except where not practicable in the opinion of the Engineer-in-Charge. RCC in slab shall be compacted with plate/surface vibrated and needle/pin vibrators in beams/columns etc.

**5. BRICK WORK**

5.1 Bricks shall be well burnt (Kiln burnt), best quality, locally available with crushing strength not less than 75 Kgs/Sqcm and maximum water absorption of 20%. The nominal size of bricks shall be 230 mm long, 115 mm wide and 75 mm high with a tolerance of  $\pm 8\%$  on each dimension.

5.2 Sand for mortar shall be from the source as mentioned in Appendix 'A' and as approved by the GE. Sand shall be as specified in Para 5.4 of MES Schedule Part-I.

5.3 Brick work shall be built in cement mortar as specified in Sch 'A' and shall be carried out all as specified in section 5 of SSR Part-I.

**6. FORM WORK**

Form work shall be as per clause 7.15 of MES SSR Part-I and shall comply with requirement of Para 4.11.6 of MES SSR Part-I and as described in BOQ. Form work shall be only with steel/plywood. Only steel props shall be used to support the formwork of slabs and beams. Screws need not be used in the formwork except at the discretion of the contractor for his own convenience.

**7. WOODWORK & JOINERY.**

7.1 Unless otherwise specified in Sch 'A', all timber for wood work and joinery (except particle boards, block boards and ply wood unless otherwise specified hereinafter) shall be of first class hard wood 'TEAK' (Tectona grandis), well seasoned and shall conform or superior to the sample kept in the office of GE.

7.2 Maximum permissible moisture contents in timber for various purposes is stipulated in Para 7.7 of SSR, Part-I. For clarification of zones for moisture content, this contract shall be deemed to fall under climatic Zone-II.

7.3 Use of nails in joinery work unless otherwise specified is prohibited. Wooden screws of appropriate size shall be used.

7.4 All woodwork & Joinery work shall be carried out as specified in MES SSR Part-I.

**PARTICULAR SPECIFICATION (Contd/.....)****7.5 WOODEN SHUTTERS FOR DOORS.**

(a) Shutters shall be factory made second-class hard wood (Non coniferous) Bonsum (Phoebe species)/ Chaplash (Artocarpus chaplash)/Hollock (Terminalia myrio capra) kiln seasoned and chemically treated.

(b) (i) **FACTORY MADE PANELLED DOORS.** Factory made panelled door shutters shall be made of kiln seasoned as per IS 1141 and chemically treated as per IS-401 second-class hard wood (Non coniferous) Bonsum (Phoebe species)/ Chaplash (Artocarpus chaplash)/ Hollock (Terminalia myrio-capra) for styles and rails. Panels shall be of 12 mm thick particle board veneered commercial (both faces) BWP grade bonded with liquid phenol formaldehyde synthetic resin adhesive conforming to IS-3097 (ISI marked) for all type of doors except in case of external doors directly exposed to weather. Panels for external doors directly exposed to weather shall be 9 mm thick BWP marine grade ply wood bonded with high quality liquid phenol formaldehyde conforming to IS : 710 (ISI marked)

(ii) **FACTORY MADE FLY PROOF DOORS.** Factory made fly proof door shutters shall be made of kiln seasoned and chemically treated second class hard wood (Non coniferous) Bonsum (Phoebe species)/ Chaplash (Artocarpus chaplash)/Hollock (Terminalia myrio-capra) fixed with galvanised wire cloth as specified in Sch 'A'.

(c) The overall sizes and dimensions of door shall be as per requirement and as directed by Engineer-in-Charge at site.

(d) The overall door shutters shall conform to the IS-1003

(e) Factory made wooden doors shutter shall be obtained from one of the manufacturer given in Appendix 'C'. Contractor will produce manufacturer's test certificate as per BIS code along with each consignment.

**7.6 PVC SOLID PANEL DOOR SHUTTER.**

Factory made solid panel PVC door shutter 30mm thick (style) consisting of frame made out of MS tubes for top and bottom rails. MS frame shall be covered with heat moulded plain colour PVC `C` channel having a PVC sheet strip of 20mm width stuck inside with solvent cement for stiles and plain colour PVC sheets for top rail, lock rail and bottom rail on either side and as gap insert for top rail and bottom rail; Panelling of plain colour PVC sheet to be fitted in the MS frame welded/sealed to the stiles and rails with suitable PVC sheet beading and jointed together with solvent cement and supplying and fixing in the frame at site.

**7.7 PVC SOLID FRAME FOR DOOR SHUTTER.**

PVC Solid door frame shall be of size 50mmx47mm made out of 5mm plain colour PVC sheet reinforced with MS square tube all as specified in MES SSR Part-I. PVC frame and shutter shall be of make as specified in Appendix 'C'.

**7.8 FLUSH DOOR SHUTTERS**

Flush door shutter shall be 30mm thick. Flush door shutters shall be solid core construction with block board core and plywood face panels, exterior grade, bonded with phenol formaldehyde BWP grade conforming to IS-3087-1985 Type I. Flush door shutters shall be factory made and shall be procured from manufacturer specified in Appendix `C`.

**8.0 BLANK****9. BUILDERS HARDWARE.**

9.1 All articles of builder's hardware shall confirm to the specifications given in Section 9 of MES Schedule Part-I. The contractor shall produce the samples of each articles of builder's hardware and get approved in writing. The articles of builder's hardware shall bear ISI mark wherever available.

9.2 Butt hinges shall be as per Clause 9.7.2 and 9.7.9 of SSR Part I and shall be of naturally bright finish with smooth surfaces.

9.3 **TOWER BOLTS.** Aluminium Tower bolts shall be of Aluminium anodized (extruded section) conforming to specifications given in Clauses 9.3.1 & 9.3.3 of SSR Part-I. The dia of bolt shall be 10mm for all sizes.

**9.4 SLIDING DOOR BOLTS**

Aluminium sliding door bolt shall be of aluminium anodized all as per clause 9.5 of SSR Part -I. The dia of bolt unless otherwise shown shall be 16mm.

**9.5 HANDLES**

Aluminium handles shall be aluminum anodized as specified in SSR Part-I, clause 9.11 and 9.11.1.

**PARTICULAR SPECIFICATION (Contd/.....)****9.6 MS BUTT HINGES**

MS Butt hinges shall be of cold rolled mild steel, medium weight all as specified in clause 9.7.2 of MES SSR Part-I.

**9.7 STAINLESS STEEL BUTT HINGES.**

Stainless Steel but hinges shall be of stainless steel and shall comply with IS-12817-1997, Specification stainless steel butt hinges. Hinges shall be of medium weight, unless otherwise indicated. Grade of stainless steel for flap and pin shall be as per IS. Unless otherwise indicated, hinges shall be naturally finished bright with smooth surface without chemical coating. The stainless steel hinges shall be rust proof and especially useful in high moisture area.

**10. STEEL AND IRON WORK.**

10.1 Quality of steel to be incorporated in the work shall be as follows:-

(a)	High strength deformed steel bars produced by Thermo Mechanical treatment process (In short called as TMT bars) for reinforcement.	Of Grade Fe 500 D and meeting all requirement of IS 1786-2008.
(b)	Mild steel for miscellaneous works	Shall conform to IS-432(Part-I). Grade wherever not shown/indicated otherwise shall be of Grade I.
(c)	Structural steel	Steel for general Structural purpose shall be Grade Fe-410 WA ISI marked (IS-2062-1999) for all type of steel Structures including those subject to dynamic loading. Structural steel ordinary quality shall conform to IS-1977
(d)	Galvanised steel sheets (Plain & corrugated)	Conforming to IS-277. Galvanised steel sheet shall be of Grade O (120 gm/Sqm zinc coating). The corrugation of CGI sheet shall be Grade 'B'.
(e)	Fabric reinforcement for concrete	Conforming to IS-1566

**10.2 WELDING.**

10.2.1 Welding shall be metal arc welding as specified in Para 10.15 of MES Schedule Part-I.

10.2.2 Unless otherwise specified, the fillet welds shall be of 6mm size.

10.2.3 All butt welds shall be full penetration welds.

**10.3 REINFORCEMENT.**

10.3.1 Reinforcement shall be bent to shape and provided as directed at site.

10.3.2 All laps and crossings shall be tied with mild steel wire (annealed) of size not less than 0.9 mm dia.

**10.4 REINFORCEMENT STEEL AND STRUCTURAL/NON-STRUCTURAL STEEL.****10.4.1 TYPE OF STEEL.****10.4.1.1 REINFORCEMENT STEEL.**

(a) TMT bars of grade Fe 500d shall be used.

(b) Wherever deformed bar(s) have been indicated, TMT bars of grade Fe 500d shall be used by the contractor at no extra cost to the Govt.

**10.4.1.2 STRUCTURAL STEEL.**

(a) Structural Steel shall conform to IS 2062-1999, Grade Fe-410-WA for all types of steel structures including those subject to dynamic loading.

(b) Unless otherwise specified elsewhere, mild steel in grills/guard bars, railing, flat iron, hold fast and in various members of steel windows and steel doors shall be of ordinary quality conforming to IS 1977-1975 Grade Fe-310-O.

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**PARTICULAR SPECIFICATION (Contd/.....)****10.5 SOURCE OF PROCUREMENT.**

10.5.1 All TMT steel bars shall be procured directly from following primary producer:-

Srl No	Company Name	Brand Name	Type of Steel
i.	Steel Authorities of India	SAIL	All
ii.	Rashtriya Ispat Nigam Limited	RINL	All
iii.	Tata Iron & Steel Company (TISCO, or Tata Steel)	TATA	All
iv.	M/S JSW Steel Ltd	NEOSTEEL	TMT Bars of Gde Fe 500D, Fe 550 D & CRS ( Size 8-40 mm)
v.	M/s Kamachi Industries Ltd	KAMACHI	TMT Bars of Gde Fe 500, Fe 500D, Fe 550, Fe 550D & HCRM (Size 8-40 mm)
vi.	M/S Shyam Metalics & Energy Ltd	SEL	TMT Bars of Gde Fe 500 & Fe 500D(Size 8-32 mm)
vii.	M/s Electrotherm (India)Ltd	ET TMT	TMT Bars of Gde Fe 500, Fe 500D & CRS(Size 8-36 mm)
viii.	M/s Shree Nakoda Ispat Ltd	NAKODA TMT	TMT Bars of Gde Fe 500 & Fe 500D (Size 8-32 mm)
ix.	M/s Tulsyan NEC Limited	TULSYAN TMT	TMT Bars of Gde Fe 500 Fe 500D & Fe 550 (Size 8-32 mm)
x.	M/s Bajrang Power & Ispat Ltd, Raipur (CG)	GOEL TMT	TMT Bars of Gde Fe 500 & Fe-500D (Size 8-32 mm)
xi.	M/s Real Ispat & Power Limited (CG)	GK TMT	TMT Bars of Fe-500D (Size 8-36 mm)
xii.	M/s Steel Exchange India Ltd (AP)	SIMHADRI TMT	TMT Bars of Fe-500D

If any primary producer approved by Engr-in-Chief's Br after conclusion of the contract, that make shall also be eligible for inclusion in tender at the request of contractor through amendment to contract. Steel shall be procured directly from manufacturers and not through their agents.

10.5.2 All Structural steel shall be of grade Fe-410 WA ISI marked and shall be procured directly from **SAIL/RINL/TISCO/Jindal Steels and Power Ltd**, Gurgaon-122001. Further in case of non availability of structural steel with these manufacturers, the same can be procured from approved secondary producers who manufacture structural steel out of ISI marked billets and are having BIS certification of ISI marking on their products with minus price adjustment with prior approval of the accepting officer. The minus price adjustment shall be done @ 5% of accepted rates. In case any section is not being manufactured/rolled by the main producer, there shall not be any price adjustment on account of procurement of this section from approved secondary producer.

10.5.3 Galvanised Steel sheet & Fabric Reinforcement for concrete: These shall be ISI Marked and shall be procured directly from approved Main producers.

10.5.4 However reinforcement steel, structural steel, Galvanised steel sheets and Fabric Reinforcement shall be permitted to be procured from authorised dealers of main producers in case of small contracts of value not exceeding Rs. 7.50 lakhs.

10.5.5 Steel sections for railing, gates, fencing, guard bars, grills, steel chowkhat, holdfasts etc., which do not constitute structural members, can be procured from main producers/secondary producers/BIS marked manufacturers or their authorised dealers at the option of Contractor without any price adjustment Testing shall not be insisted upon for such steel sections.  
without any price adjustment Testing shall not be insisted upon for such steel sections.

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**PARTICULAR SPECIFICATION (Contd/.....)**

- 10.5.6 The contractor should place their demand/requisition of steel with the producers with adequate lead time.
- 10.5.7 Steel, when procured from main producers/approved secondary producers/authorized conversion agents of main producers (stipulated in above paras) shall have to be procured directly from the storage depots of the main producers/approved secondary producers/authorized conversion agents and not from their authorized agents/ dealers.
- 10.5.8 The particulars of the manufacturer/supplier of steel shall be submitted by the contractor to the Garrison Engineer prior to procurement for every lot of steel separately. The original documents in support of purchase of steel shall be verified by the site staff and Garrison Engineer and certified true copy of the result shall be retained in GE's office. The form given here in after will be used for this purpose
- 10.6 **TESTING OF STEEL.**
- 10.6.1 The manufacturer is to carry out inspection and testing of steel in accordance with the relevant BIS provisions. The contractor shall submit the manufacturer's test certificate in original along with the Test Sheet giving the result of each mechanical test as applicable and the chemical composition of the steel or authenticated copy thereof, duly signed by the manufacturer with each consignment. The Engineer-in-Charge shall record these details in Steel Acceptance Register after due verification and send a certified true copy of test sheet to GE for his records. Any particular size of bar/steel section of any consignment, not meeting the requirement shall be rejected and the same shall be removed from the site by the contractor at his own cost and the contractor shall have no claim on this account.
- 10.6.2 **INDEPENDENT TESTING.**
- 10.6.2.1 The GE shall also organize independent testing of random samples of steel drawn from various lots from National Test House, SEMT Wing CME Pune, Regional Research Laboratories, Govt approved laboratories, Zonal laboratories as per the recommended minimum frequency. The minimum elongation shall be 18%.
- 10.6.2.2 **REINFORCEMENT STEEL.**
- (a) Independent testing of steel by the GE shall be optional at the discretion of the GE in case of procurement of steel from main producers and testing charges shall be borne in accordance with Condition 10 A of IAFW-2249 i.e. testing charges shall be borne by the Deptt if the test results are found in order, otherwise these shall be borne by the Contractor.
- (b) Independent testing of steel by the GE shall be mandatory in case of procurement of steel from secondary producers/authorized conversion agents of main producers and testing charges shall be borne by the contractor irrespective of the outcome of test results.
- (c) In both the cases at (i) & (ii) above, the contractor at his cost shall provide all facilities required for the testing and cost of materials consumed in tests, samples, conveyance etc shall also be borne by the contractor.
- 10.6.2.3 **STRUCTURAL STEEL.**
- (a) Independent testing of structural steel by the GE shall be optional at the discretion of the GE in case of procurement from main producers and testing charges shall be borne in accordance with Condition 10 A of IAFW – 2249 i.e., testing charges shall be borne by the Deptt if the test results are found in order, otherwise these shall be borne by the contractor.
- (b) Independent testing of structural steel by the GE shall be mandatory in case of procurement from secondary producers/authorized conversion agents of main producers and testing charges shall be borne by the Contractor irrespective of the outcome of test results.
- (c) In both the cases at (i) & (ii) above, the contractor at his cost shall provide all facilities required for the testing and cost of materials consumed in tests, samples, conveyance etc shall also be borne by the Contractor.
- 10.7 **GI WIRE CLOTH**  
GI Wire gauge/fly proofing wherever indicated in Sch 'A' shall be conforming to IS-1568. Wire cloth shall be galvanized iron wire with not less than 0.56 mm nominal diameter of wire and 1.18 mm average width of aperture.
- 10.8 **STAINLESS STEEL WIRE CLOTH**  
Stainless steel wire gauge/fly proofing wherever indicated in Sch 'A' shall be of stainless steel wire with not less than 0.36 mm nominal diameter of wire and 1.40 mm average width of aperture.

**PARTICULAR SPECIFICATION (Contd/.....)****10.9 STEEL WINDOWS /VENTILATORS.**

Steel windows (glazed) shall be provided with horizontal glazing bars. Fixing and glazing of windows shall be in accordance with IS 1081 and shall be tennoned and riveted to the frame. Glazed shutters shall be provided with projecting type hinges, peg stay, pressed handle and all as specified in Sch 'A' and specified in SSR. Peg stays and handles for steel windows shall be of steel and painted with corrosion resistant paint. Handle to fly proof windows shall be pressed type. Various sections for Steel windows shall be ISI marked and steel windows shall confirm to IS-1038. Factory made steel windows and ventilators shall be procured from the firm specified in Appendix 'C'.

**10.10 ANODISED ALUMINIUM DOORS, WINDOWS, VENTS, FIXED GLAZING AND GRILLS**

Aluminium doors, windows, vents and fixed glazing shall be provided all as specified in MES SSR Part-I, clause 10.37 and all as specified in Sch 'A'. The size and section of profile shall be all as directed by Engineer-in-charge. Make of aluminium section for doors/windows/ventilators shall be as given in appendix 'C'. Thickness of glass panes if not shown in Sch 'A', shall be 4mm thick. Glass shall be black tinted glass of selected quality. Glass panes shall be provided with standard glazing clips & rubber gasket as per manufacturer's instructions.

**11. ROOFING****11.1 GALVALUME SHEET ROOFING**

(a) The galvalume steel sheet shall be of thickness as given in Schedule A (total minimum thickness of base metal sheet) and shall have 550 Mpa minimum yield strength. The base metal steel plate shall be coated with minimum 150 gram/sqm (total on both sides) coating of hot dip alloy consisting of 55% Aluminium, 43.5% Zinc and 1.5% Silicon confirming to ASTM792M or AS1397.

The sheet shall then be factory finished with corrosion resistant paint system on both surfaces as per manufacturers instructions and literature. The sheets shall be fixed using hot dip galvanized, self drilling and self tapping screws neoprene and EPDM washers and as per manufacturers instructions and literature. The profile of the sheet shall be trapezoidal as defined in SSR Part I, Clause No. 10.39.4 or similar profile as commercially available and approved by GE. The end laps shall be provided as per manufacturers guidelines to eliminate any possibility of leakage of roof. Penetrations and laps in sheet shall be sealed as per manufacturers instructions and literature. HDPE fillers shall be provided wherever required to close voids between sheets, sheet & fasteners etc. The color of the sheets shall be as approved by GE.

(b) Fixing system shall be as per manufacturers instructions and shall be safe against effects of wind velocity. The work shall be executed completely as per manufacturers instructions and literature. The work shall be executed as per the specifications given in clause 11.3 of SSR Part-I.

**11.2 GALVANISED STEEL SHEET ROOFING**

Galvanized steel sheet, plain or corrugated shall comply with the requirement of IS 227-2003. The zinc coating shall be minimum 120 gm/Sqm (Grade O). The corrugation of CGI sheet shall be Grade 'B'. The corrugated sheet shall be fixed as per clause 11.22 of SSR Part-I.

(a) Corrugated galvanized iron sheet shall be as mentioned in Sch-A. Sheet shall be laid with two corrugation side laps and 150 mm minimum end laps. Sheet shall be fixed to purlins with 8mm dia galvanized hook/ crank bolts and nuts including embossed curved galvanized washers along with bitumen washers. Riveting together of sheet along with side and end laps though specified in MES Schedule is not required to be executed. The CGI Sheet shall be as specified in Para 10.29 of MES Schedule Part-I as per IS-277, 1992 (New addition 2003).

(b) **PGI SHEET:** PGI sheet for ridge, hip, valley gutters etc. shall be as mentioned in Sch-A and girth shall be 500 mm irrespective of what is shown on drawings. The PGI sheet shall be as specified in Para 10.29 of MES Schedule Part-I for class as mentioned in Sch-A.

(c) **WORKMANSHIP** Refer para 11.21 and sub paras 11.21.1, 11.21.2, 11.22.1, 11.22.2 and 11.22.3 of MES schedule Part-1

**11.3 ASBESTOS CEMENT SHEET ROOFING**

The asbestos cement sheet shall be of thickness as given in Schedule A. The AC corrugated and semi-corrugated sheets shall be IS-459 marked and shall not be pigmented. The make shall be as specified in Appendix 'C'. The fixing of AC Sheets shall be all as specified in clause 11.24 of MES SSR Part-I.

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**PARTICULAR SPECIFICATION (Contd/.....)****12. CEILING AND LINING****12.1 FALSE CEILING**

The Standard galvanized iron 18 gauge channel grid frame work shall be as per manufacturer's instruction. Plaster of Paris (Gypsum Anhydrous) tiles shall be made from Gypsum Anhydrous and shall be IS-2547 marked. The thickness of tiles shall be 10 mm or as indicated. The fixing of ceiling shall be all as specified in clause 13.41 of MES SSR Part- 1 and as per manufacturer's instruction. The make shall be as specified in Appendix 'C'.

**12.2 PRE-LAMINATED PARTICLE BOARD.**

Pre-laminated particle board (Interior/exterior grade as specified in Sch'A') shall be 3 layered conforming to IS-12823 and shall be of make specified in Appendix 'C'.

**13. FLOORING.****13.1 GENERAL**

Floors shall be laid to levels and to falls as per site and as directed by Engineer-in-Charge. Floors shall be carried out through threshold of all openings in walls. Type of flooring shall be as specified in BOQ.

**13.2 SUB BASE TO FLOOR**

Sub base to floor shall be provided all as per existing and directed by Engineer-in-charge. Bay system or use of glass dividing strips not to be adopted in case of sub base.

**13.3 CEMENT CONCRETE FLOOR.**

PCC floor up to 50 mm thick shall be laid adopting panel dimension not exceeding 1200 mm x 1200 mm with 3 mm thick (nominal thickness) sheet glass as dividing strips. The width of the glass strips shall be 2 mm less than the thickness of the floor and those strips shall be visible in the finished floor. Wherever 100 mm PCC (1:2:4) type B-1 using 20 mm graded stone aggregate in flooring is specified shall be laid in alternate bay system with panel dimension not exceeding 2 m x 2 m. Glass dividing strips shall not be provided. Unless otherwise specified, top of PCC floor shall be finished even and smooth without using extra cement while PCC is still green. Plaster is prohibited.

**13.4 NON-SKID CERAMIC TILES**

Non skid ceramic tiles where ever indicated in schedule 'A' shall be 1st class superior/premium quality confirming to grade B-II (A) as per IS- 13712-1993, thickness & size if not indicated in Sch 'A', shall be 7 to 8mm thick (minimum 300mmx 300mm). Tiles shall be white/light coloured. Tiles shall be laid set and jointed in neat cement slurry and pointed with white cement (mixed with colour pigment to match colour of tile) all as indicated. Screed shall be as mentioned in schedule 'A'. Make of tiles shall be as per Appx 'C'.

**13.5 GLAZED CERAMIC TILES**

Glazed ceramic tiles where ever indicated in schedule 'A' shall be of size as specified in Sch 'A' and of 1st Class (Premium/superior) quality. Tiles shall be laid set and jointed in neat cement slurry and pointed with white cement (mixed with colour pigment to match colour of tile). Tiles shall be got approved from GE before incorporation in the work. Tile shall be confirming to Grade B-III as per IS-13712-1993. Tiles shall be light coloured and plain shade. Make of tiles shall be as per Appx 'C'.

**13.6 INTER LOCKING PRECAST BLOCK FLOORING**

Interlocking pre-cast coloured (with grey cement & pigment) block shall be 60mm thick & M-35 grade or 80mm thick M-40 grade as specified in BOQ. The make of tiles shall be as specified in Appx 'C'. The colour/size/pattern/design of blocks shall be as approved by GE. The block shall be laid all as specified in BOQ.

**13.7 RUBBER MOULDED INTER LOCKING PRECAST BLOCK FLOORING**

Rubber moulded interlocking pre-cast coloured (as approved by GE) block shall be 60mm thick & M-35 grade as specified in BOQ. The make of tiles shall be as specified in Appx 'C'. The colour/size/pattern/design of blocks shall be as approved by GE. The block shall be laid all as specified in BOQ.

**13.8 PLINTH PROTECTION.**

Plinth protection shall be provided with the thickness and mix as specified in Sch 'A'. The plinth protection shall be laid in bays not exceeding 2 metres in length. Exposed surfaces shall be finished even and fair without using extra cement. Joints of plinth protection shall be filled with bitumen mastic (1:3).



**PARTICULAR SPECIFICATION (Contd/.....)****14. PLASTERING**

Prepare surface to be plastered, wet the surface thoroughly. Curing of plaster work shall be properly done. The type & thickness of plastering shall be all as described in Sch 'A' and shall be carried out all as specified in SSR Part-I, Sec 14. The thickness of plaster/dado/skirting specified in Sch 'A' is the finished thickness (exclusive of dubbing) over proudest portion. Plastering at the junction of walls and floors and to all internal and external angles shall meet at right angle as directed by Engineer-in-Charge. Sand for plastering and pointing shall be from the source mentioned in Appendix 'A' and as approved by the GE.

**15. WHITE WASHING/COLOUR WASHING/CEMENT PAINT/DRY/ACRYLIC/OIL EMULSION DISTEMPER ETC.**

(a) Where white washing/colour washing/cement paint/dry/acrylic/oil emulsion distemper etc mentioned in Sch 'A' shall be carried out all as specified in Sch 'A' and as specified in MES SSR Part-I at the locations directed by Engr-in-Charge. Tint shall be approved by GE.

(b) White washing and colour washing shall be applied with proper brushes as specified in clause 15.12 of MES SSR Part-I, contractor may, at his discretion, do the same by means of spray pump without any extra cost to the Government.

(c) Where oil emulsion distemper and/or dry distemper mentioned in Sch 'A' shall be carried out all as directed by Engr-in-Charge. Prepare surfaces and apply primer as per clause 15.14 of MES SSR Part-I before applying two coats of distemper.

(d) Where plastic emulsion paint mentioned in Sch 'A' shall be carried out all as directed by Engr-in-Charge and all as per clause 17.16 of MES SSR Part-I.

(e) Where snowcem/cement paint is mentioned in Sch 'A' shall be carried out all as directed by Engr-in-Charge. Prepare surfaces and apply white cement as primer (if specified) as per MES SSR Part-I before applying snowcem/cement base paint.

(f) Makes for materials shall be as per Appx 'C'

**16. GLAZING.**

The glass panes shall be of thickness & type as shown in Sch "A". Unless otherwise specified or indicated in the Sch "A", the thickness of glass shall be 3mm (nominal thickness). Glazing to metal frames shall be with putty conforming to IS-419 and steel clips and as specified in clause 16.5 to 16.10 of MES SSR Part-I. Glazing shall be cleaned as specified in clause 16.13 of MES SSR Part-I.

**17. PAINTING**

Members specified to be painted shall first be passed by the Engineer-in-Charge and marked as such before commencement of painting work. Each coat of paint shall be passed by the Engineer-in-Charge before successive coat is applied. Number of coats to be applied shall be as specified in Sch 'A' and directed by Engr-in-Charge. The work shall be carried all as specified in Section 17 of MES SSR Part-I. Surface inaccessible for applying further coats shall be painted before fixing. First quality (grade) paint shall only be used. The make of the paint shall be as specified in Appendix 'C'. The primer and paint shall be of the same manufacturer.

**18. WATER SUPPLY AND PLUMBING****18.1 GENERAL**

The pipes and fittings shall be galvanised steel medium grade ISI marked (IS-1239). Make shall be as per Appendix 'C'. Wherever required necessary cuttings/leaving/ forming holes, chases etc in walls floor and ceiling and making good involved shall be deemed to have been included in the unit rate quoted by the contractor. No adjustment shall however, be made on this account for pricing any deviation in quantities. The work of Water supply lines shall be carried out and tested as specified in MES Schedule Part I. The test shall be carried out in presence of Engineer-in-Charge. All testing instruments, labour etc shall be arranged by the contractor without any extra cost.

**18.2 GI PIPE AND FITTING.**

These shall be ISI marked and make shall be as per Appendix 'C'.

**18.3 BIB TAPS/PILLAR TAP/STOP COCK.**

These shall be as specified in Sch 'A' and shall be ISI marked. Make shall be as per Appendix 'C'.

**18.4 HDPE WATER TANK**

Water tanks shall be of capacity as specified in Sch 'A'. Water tank shall be single piece rotational moulded polyethylene, (cylindrical vertical with top closed) double layer (ISI marked). The quoted rate of water tank shall include for making arrangement for inlet/outlet/over flow and vent pipe with standard size of GI medium grade fittings. Water tank shall be of any of make specified in Appendix 'C'.

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**PARTICULAR SPECIFICATION (Contd/.....)****18.5 HDPE/PVC/UPVC PIPE AND FITTINGS**

These shall be confirming to relevant IS and make shall be as per Appendix 'C'. Laying/fixing shall be carried out all as specified in Sch 'A' and in Section 18 of MES SSR Part-I.

**19. SANITARY APPLIANCES**

All sanitary fittings unless otherwise specified shall be white glazed vitreous china, first quality, ISI marked. Make of fittings shall be as per Appendix 'C'. The work shall be carried out and tested as specified in MES Schedule Part I.

**19.1 WATER CLOSET (INDIAN TYPE ORISSA PATTERN)**

Water closet Indian type Orissa Pattern shall comprise as under:-

(a) Vitreous china, white, squatting pan, water closet apparatus Orissa pattern of size 580mmx440mm white/coloured with integral foot rests conforming to IS-2556 of Part-III 1981 with CI 'P' trap or CI 'S' trap long arms 900 mm from the centre of socket, set in cement concrete.

(b) The pan shall be set in lime concrete (1:3) at least 15 cm around and finished just below the rim to receive the specified thickness of floor.

**19.2 WATER CLOSET (PADESTAL PATTERN)**

Vitreous china, white, Pedestal pattern wash down apparatus shall be of pattern 2 of IS-2156 Part-II (1981). Wash down water closet pan shall be ISI marked complete with integral 'P' or 'S' trap, the closet screwed to and including wooden plug embedded into the floor and made good ground. Closed seat and cover shall be of thermo setting material, ISI marked and hinged with chromium plated brass hinges and rubber.

**19.3 PVC LOW LEVEL FLUSHING CISTERN**

Low level flushing cistern should be ISI marked 10 litre capacity body moulded from virgin quality high impact polyethylene with clock valve based on buoyancy principle and controlled by a water clock including brass chromium plated bend brass float valve 15mm bore with polythene ball and polythene connection complete of make as mentioned hereunder .

**19.4 WASH HAND BASIN**

Wash hand basin shall be Vitreous china, white, flat back/oval type as directed. Size if not shown in Sch 'A' shall be 550x40. The brackets shall be CI as specified in SSR Part-I.Chain & plug and waste fittings shall be Chromium plated brass.

**19.5 LOOKING MIRROR**

Mirror shall be 5 mm thick of size as given in Sch 'A' and mounted on 6 mm thick plywood backing. The edge of plywood shall be finished smooth with sand paper. Beading as specified in Sch 'A' shall be provided all around. Mirror shall be from the make specified in Appx 'C'.

**20. ELECTRICAL WORK****20.1 GENERAL**

All work of electrifications shall be executed by fully qualified licensed electricians all as per the latest Engineering practice and latest IS codes/IE Rules. Certificate of qualification shall be produced on demand by Engineer-in-Charge. The exact position of electrical fittings and fixtures shall be as directed by Engineer-in-Charge at the time of execution without any price adjustment. The runs of wires and locations of fittings shall be marked on walls and soffits of roof/floor slabs for the wiring for the approval of Engineer-in-Charge. The contractor may have to realign the wiring and or relocate the fittings required after final approval at no extra cost to Government. Looping in system of wiring shall invariably be used throughout the installation. Before starting the work the contractor shall produce samples of all materials including accessories for approval by GE. The contractor shall ensure that the materials used in the work are identical with approved samples and uniform throughout. Notwithstanding, the fact that an equipment has passed the inspection carried out during the stage of manufacture, the contractor is not relieved from his obligations to conform to the quality, workmanship, guarantee of performance etc. Any defective material, equipment or workmanship which may come to the notice of the GE or his representative after installation shall be liable for rejection and the contractor shall to replace such materials, equipments etc or rectify the defects at his own cost. The unit rates quoted in Sch 'A' shall also include the cost of cutting, chesses, opening in walls, ceiling etc, wherever required and making good the same after completion to match with the surroundings. Wherever possible, the existing alignment/layout of wiring shall be followed. The built in gutties does not be taken out. However if new gutties are required to be provided either due to damage in alignment or to maintain proper spacing of gutties, the same shall be provided and the rates quoted by the tenderer shall be deemed to include for the same.

**PARTICULAR SPECIFICATION (Contd/.....)**

- 20.1 **PVC INSULATED SINGLE CORE 1100 VOLTS GRADE CABLE**  
The conductor shall be of copper wires. Cables shall be as specified in Schedule 'A' and shall conform to IS-694 and IS-8130 and shall be ISI marked.
- 20.2 **PVC CONDUIT/CASING CAPING WIRING**  
The system of wiring shall consist of PVC insulated and PVC un-sheathed copper conductor/PVC insulated copper conductor in stove enameled steel/PVC conduit/PVC casing-N-capping as specified in Schedule 'A'. Prior to laying and fixing of conduits/PVC casing-N-capping the contractor shall carefully examine the building, satisfy himself about the sufficiency of number and sizes of conduits, location of junction boxes, sizes and location of switch boxes and other relevant details. Joint between conduits/PVC casing-N-capping and accessories shall be securely made to ensure earth continuity.
- 20.3 **RIGID PVC CONDUIT/PVC CASING-N-CAPPING AND ACCESSORIES**
- 20.3.1 Conduit/PVC casing-N-capping and accessories shall be medium grade and shall be conform to relevant Indian Standards. Each length of rigid PVC conduit/PVC casing-N-capping and accessories shall be marked with the following:-
- (a) Manufacturers name or trademark
  - (b) Nominal size of the conduit
  - (c) ISI certification mark
- 20.3.2 Inspection type conduit/PVC casing-N-capping fittings such as inspection boxes, drawn boxes, bends, elbows and tees shall be so installed that they can remain accessible for such purposes as to withdrawal of existing cables or the installing or additional cables.
- 20.3.3 Conduit pipes shall be fixed by heavy gauge saddles, secured to suitable wood plugs or other plug with screws in an approved manner at an interval of not more than half meters. Saddles shall be fixed at a distance of 30 cm from the centre of such fittings. All necessary bends in the system including diversion shall be done by bending pipes of by inserting suitable solid or inspection type normal bends, elbows or similar fittings.
- 20.3.4 The conduit of each circuit or section shall be completed before conductors are drawn in the entire system of conduit after erection shall be tested for mechanical and electrical continuity throughout and permanently connected to earth wire by means of suitable earthing clamp efficiently fastened to conduit pipe in a workman like manner for perfect continuity between earth wire and conduit. Gas or water pipes shall not be used as earth medium.
- 20.3.5 Inspection type conduit fittings such as inspection boxes drawn boxes, bends, elbows and tees shall be so installed that they can remain accessible for such purposes as to withdrawal of existing cables or the installing or additional cables.
- 20.4 **SWITCHES/SOCKET OUTLETS**  
Switch/socket outlets shall be provided as specified in clause 19.114.1 and 19.114.5 of MES SSR Part-I. Switches and sockets outlets shall be ISI marked.
- 20.5 **FLEXIBLE CORD**  
Flexible cord shall be used for connecting the fan, light points and pendants. The wire used shall be twin core, tinned enameled stranded copper conductor elastomer insulated of nominal cross section not less than 0.5 Sqmm.
- 20.6 **DISTRIBUTION BOARDS**  
Distribution boards shall be Factory made double door type fabricated out of 1.2 mm thick CRCA sheet all as indicated in Sch A and specified in SSR Pt I, 2009. Distribution board shall be provided as specified in clause 19.107 and 19.108 of MES SSR Part-I. Distribution boards and MCBs shall be of same make. Suitable earth terminal shall be provided on the distribution boards for bonding to earth.
- 20.7 **MINIATURE CIRCUIT BREAKER/MCCB**  
MCB/MCCBs shall be as specified in MES SSR Part-I. MCB/MCCBs shall be ISI marked and make shall be as per Appendix 'C'.
- 20.8 **SUNK TYPE BOXES**  
Boxes for housing electrical accessories recessed into wall shall be of sheet steel and conform to IS-5133. The boxes shall be painted black with two coats of black bituminous paint. The boxes shall be covered with 3 mm thick plastic sheet.

**PARTICULAR SPECIFICATION (Contd/.....)**

20.9 **ELECTRICAL FITTINGS AND ACCESSORIES**

All electrical fittings shall comply the relevant Indian standard and shall be of make specified in Appendix 'C'.

21. **DEMOLITION AND DISMANTLING:-**

21.1. Before handing over the buildings to the contractor a joint inspection by Engineer-in-Charge and contractor shall be carried out and the inventories of all fittings / fixtures shall be prepared and signed by the both parties.

21.2. Taking down items shall be carried out carefully without damaging any part of the building / structures which are to be intact any damages caused to the buildings v/ structures shall be made good by the contractor without any extra cost to the Govt.

Signature of Contractor

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**PARTICULAR SPECIFICATION (Contd/.....)**

**STEEL SUPPLY AND ACCEPTANCE REGISTER**

**ANNEXURE 'B'**

1. CA No and name of work : .....
2. Contract No. : .....
3. Name of Manufacturer's T.C. No. : .....
4. Manufacturer : .....
5. Random Test details : a) Physical test report from .....vide letter No. ....  
(Name of NABL approved Lab/Govt. Engg. College)  
b) Chemical test report from .....vide letter No. ....  
(Name of NABL approved Lab/Govt. Engg. College)
6. Types of Steel, Dia & Qty :  
 (a) Type : TMT/CRS  
 (b) Dia : \_\_\_\_\_mm  
 (c) Actual Wt : \_\_\_\_\_MT  
 (d) Conversion Wt : \_\_\_\_\_MT

Chemical Test								Mechanical Test							
	Carbon %	Sulphur %	Phosphorous %	Sulphur+ Phosphorus %	Manganese %	Silicon %	Corrosion Resistant Element	Wt per metre (Kg)	Yield Stress(N/mm2)	Tensile Strength(N/mm2)	Percent Elongation(min 18%)	Bend Test	Rebend Test	Remarks	Chlorides (%)
1	2	3	4	5	6	10	11	12	13	14	15	16	17	18	19
As per IS 1786-2008															
I As per manufacturer's test certificates															
As per independent test															

Remarks with Signature

Accepted / Rejected

Contractor

Junior Engineer

Engineer-in-Charge

GE

Signature of Contractor

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PARTICULAR SPECIFICATION (Contd/.....)**FREQUENCY FOR NORMAL MASS, TENSILE , BEND AND REBEND TEST OF STEEL**  
**ANNEXURE 'C'**

	<b>Nominal Size</b>	<b>Quantity</b>
<b>Steel for Concrete</b>		
1	Bars size less than 10mm	1 Samples (3 specimens) for each test for every 25 tonnes or part thereof.
2	Bars size 10mm to 16mm	1 Samples (3 specimens) for each test for every 35 tonnes or part thereof.
3	Bars size over 16mm	1 Samples (3 specimens) for each test for every 45 tonnes or part thereof.
<b>Structural Steel</b>		
4	Tensile Test	1 test for every 25 tonnes of steel or part thereof.
5	Bend Test	1 test for every 25 tonnes of steel or part thereof.

**NOTE :** For various tests, acceptance criteria, tolerance etc. refer to Appendix 9.1 and relevant BIS codes.

**PARTICULAR SPECIFICATION (Contd/.....)****Appendix 'A'****SOURCES OF MATERIALS**

<b>Ser No</b>	<b>Name of materials</b>	<b>Name of sources</b>
<b>1</b>	<b>2</b>	<b>3</b>
1.	Stone for masonry, coarse aggregate for cement concrete	Pathar quarry/Narangi/Amingaon/Rani/Kukurmara/ Sona Pur/Umirenga (Meghalaya) near Basistha
2.	Fine aggregate (sand) for cement concrete and mortar in masonry	Kukurmara/ Sona Pur/Loharghat
3.	Sand for mortar in plastering and pointing	Sonapur / Kukurmara / Loharghat
4.	Stone for soling, WBM and hard core	Pathar quarry/Narangi/Amingaon/Rani/Kukurmara/ Sona Pur/Umirenga (Meghalaya) near Basistha
5.	Stone for kerb/edging	Pathar quarry/Narangi/Amingaon/Rani/Kukurmara/ Sona Pur/Umirenga (Meghalaya) near Basistha

**NOTES**

- 1 Sources of materials shall be as given in Srl No 1 to 5 above or in the vicinity thereof. The tenderer shall ascertain the actual position/exact location of source before submitting his tender and no additional payment shall be made on account of misunderstanding or its distance from site of works.
- 2 The tenderer shall amongst other things also ascertain all information such as royalties, taxes, duties and other charges etc, on the materials and no additional payment shall be made on account of the foregoing.
3. However, if due to any ban imposed by the state Govt authority on obtaining the materials from the sources specified above and or specified materials is not available at the sources mentioned above these materials conforming to specifications as given in particular specifications will be procured from any other place/source after getting the same approved from GE in writing and without any extra cost to Govt.

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**PARTICULAR SPECIFICATION (Contd/.....)****Appendix 'B'****LIST OF BIS CERTIFICATE NOS OF VARIOUS PRODUCTS**

List of BIS Nos are given below for various items. Items for which Makes are not specified in Appendix 'C' shall be procured from any manufacture holding valid CML No

**1. CONCRETE.**

- (a) Plywood for concrete shuttering work (IS-4990-1981)
- (b) White Portland cement (IS-8042-1978)

**2. CEILING AND LINING.**

- (a) Plywood for general purposes (IS:303-1975(Second revision))
- (a) Block boards (IS:1659-1986)
- (b) Veneered particle board (IS:3097-1985)
- (c) Marine plywood (IS:710-1976)
- (d) Fiber hardboard (IS:1658-1977)
- (e) Pre-laminated particle board (IS:12823)

**3. FLOORING.**

- (a) Cement concrete flooring tiles (IS: 1237-1980)
- (b) Glazed earthenware tiles (IS: 777-1970)

**4. ELECTRICAL WORKS.**

- (a) Ceiling rose (IS:371-1979)
- (b) Tumbler switches (IS:3854-1966)
- (c) Socket, outlet 3 pin plug and socket (IS:1293-1988)
- (d) Switch fuses (Main switch) (IS:4064-1978, Part I & II)
- (e) Rigid steel conduits (IS:9537-Part II-1988)
- (f) Single core cable polyethylene insulated and PVC sheathed cable (IS: 1596-1977)
- (g) Rigid non metallic conduit (IS:9537 – 1983 Part III)
- (h) Starter for tube light (IS:2215-1983)
- (i) Fluorescent lamps (IS:2418-1977 Part I to Part IV)
- (j) Aluminum stranded conductor (IS:398-1976-Part –I& II)
- (k) Switch gear (IS:2268-1969)
- (l) HRC cartridge fuse links up-to 650 volts (IS:9224-1979-Part II)
- (m) Porcelain insulators for overhead power lines (IS:731-1971)

Signature of Contractor

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**PARTICULAR SPECIFICATION (Contd/.....)****Appendix 'C'****LIST OF MAKES/MANUFACTURERS**

SL NO	DESCRIPTION OF ITEM	LIST OF MAKES/BRANDS/MANUFACTURERS
1	2	3
<b>Building Materials</b>		
1	Cement (OPC/PPC)	As mentioned in Particular Specification.
2	Structural Steel	As mentioned in Particular Specification.
3	Structural Steel (Hollow section)	As mentioned in Particular Specification.
4	Reinforcement Steel	As mentioned in Particular Specification.
5	Plasticiser	M/s Fosroc Chemicals India Ltd./ Mc-Bauchemie (India) Pvt. Ltd./ Sika Qualcrete Ltd.
6	ATT Chemicals	ISI marked with valid CML No of BIS
7	Factory made 2nd class hard wood paneled door shutter/skeleton shutter/ flush door shutter (Sample of Item as per Scales of Testing given in IS:1003 shall be subject to Testing at reputed Test House/Govt. Test House as approved by GE at Contractor's Cost and after getting satisfactory Test Result Payment shall be released)	M/s Ascu Hickson Limited. M/s Doorking Industries M/s Goyal Industries Corporation (factory), M/S Joinery Wood Products PVT LTD, M/S Kaji Ranga Wood Products, Pvt Ltd. M/S Narmada Wood Products, M/S Premier Wood Crafts (P) Ltd, M/S Purbanchal Industries, M/S Doorking, M/S Vinod Patterns & Furniture Industry, M/s Jain Wood Industries (Brand: JAYNA)
8	PVC Doors & Frames, Windows, Partitions, False Ceilings & Wall Claddings	M/S Rajshri Plastiwood/ M/S Accucel Polytech Pvt Ltd/ M/S Sintex India Ltd. / Duroplast
9	FRP Door	Krafto Door/ M/S Fibreways technology, M/S Sintex Ind. Ltd, M/S Deelux Poly Fab Pvt Ltd, M/S S M Fibre, M/S Ashoo Model Arts/M/s Jain Wood Industries (Brand: JAYNA)
10	Mild steel builder's hard-wares viz barrel tower bolt, sliding door bolt, butt hinge, handle, door closer, etc.	Crown/ Everlite/ Godrej/ Harrison/ Mowjee/ Sandhu/ Sartaj/ Universal Or Any Make bearing ISI Certification Mark
11	Aluminium builder's hard-wares viz barrel tower bolt, sliding door bolt, handle, door closer, etc.	Argent/ Classic/ Poineer or Any Make bearing ISI Certification Mark
12	Aluminium Door , Window Section, Aluminum Snap Grid or Any Other Aluminium Section	Hindalco/ Indalco/ Jindal/Halco

Signature of Contractor

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## PARTICULAR SPECIFICATION (Contd/.....)

SL NO	DESCRIPTION OF ITEM	LIST OF MAKES/BRANDS/MANUFACTURERS
1	2	3
13	Factory Made Steel Windows/ Ventilators & Factory Made Pressed Steel Door Frames (ISI-4531) & shall be flash butt welded and pressed steel windows/ ventilators (Sample of item as per scales of testing given in IS:1038 shall be subjected to testing at reputed Lab/Govt. Test House as approved by GE at Contractor's cost and after getting satisfactory test result payment shall be released)	M/S Doorwyn Industries, M/S Hopes Metal Industries Ltd, M/S Madhu Industries, M/S Modern Fabricators, M/S Multiwyn Industrial Corp, M/S Purbanchal Industries, M/S Steel Engineers, M/S The Ankur Industries, M/s Trisul Industries, M/s G S Udyog
14	PRE-COATED FACTORY MADE STEEL WINDOWS/ VENTILATORS (IS 1030) (Sample of item as per scales of testing given in IS:1038 shall be subjected to testing at reputed Lab/Govt. Test House as approved by GE at Contractor's cost and after getting satisfactory test result payment shall be released)	TATA Steel/ Ashwani & Sons/Jindal Ashish Industries/ NCL Alltek & Seccolor Ltd
14	Rolling Shutter	Any make bearing IS certification mark
15	Pre-engineering /galvalume sheet as per IS 15965	DURASHINE/LYSAGHT BY M/S TATA BLUE SCOPE ALUCOLOR/GALVACOLOR BY BHUSHAN POWER & STEEL COLOURON PLUS BY JSW / DYNA ROOF/ SHALINI ROOFINGS (BRAND: SPECTRUM)/ M/S KAMDHENU LTD/DURA ROOF PVT LTD.
16	CGI/PGI Steel Sheet	Jindal/ Sail / Tata
17	Wire mesh for wire crate	ISI Marked with valid CML NO of BIS
18	Poly carbonate sheet	Tufflite/ Flexituff/ Starplast/ Prime Roofing /Prestar Infrastructure Pvt Ltd/ GE/ Fibreways technology
19	Fiber glass / Mineral wool for thermal insulation.	TWIGA INSULATION, UP TWIGA FIBER GLASS LTD, LLOYD INSULATION, ARMACELL
20	Prelaminated plywood/ Plywood Grade BWR type BB /decorative plywood	Green ply /Kit ply / Century ply./ Archid ply / Shirdi Industrial Ltd (asis)/ Nepal board /M/s Jain wood Industries (Brand : JAYANA)
21	Plastic Laminated Sheet	Green Lam / Archid Lam / Century Lam/ Kit Lam
22	Veneered Particle Boards	Ecoboard/ Novapan/ Bhutan Board / Century Ply / Archid Ply / Green Ply/ Shirdi Industrial Ltd (Asis)/ Nepal Board
23	Prelaminated Particle Board/ Prelaminated MDF	Green Lam / Archid Lam/Century Lam / Kit Lam// Shirdi Industrial Ltd (Asis)/ Nepal Board
24	Adhesive	Fevical / Dr Fixit / Dendrite
25	APP Modified Water Proofing Membranes	Moply-FP (M/S Texsa India Ltd.) / Super thermolay ( M / S STP limited) / Torchshield APP by Pidilite Industries / Hyperplas Polyester (M/s IWL India Ltd.)/ Hindcon Chemicals Ltd./ Berger (Proshield membrane)

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## PARTICULAR SPECIFICATION (Contd/.....)

SL NO	DESCRIPTION OF ITEM	LIST OF MAKES/BRANDS/MANUFACTURERS
1	2	3
26	Bitumen Primer, Bitumen, Etc For Roof Treatment Only	Make bear IS Certification Mark
27	High Pressure Steam Cured Non Asbestos Fibre Cement Board as per IS 14862	Armstrong / Saint Gobain (Gyproc) / Everest
28	Gypsum boards	Armstrong / Saint Gobain ( Gyproc) / USG Boral
29	Chequered tiles (IS-13801)	Conforming to IS (Factory made)
30	Ceramic Tiles( Antiskid/Non skid/ Glazed tiles), Outdoor Vitrified Paving Tiles	First quality of Johnson tiles, Somany, Nitco, Cera, Kajaria , Varmora Granito Pvt Ltd.
31	Acid resistance Ceramic Tiles(Industrial type) as conform to IS 4457 with chemical resistant Mortar	Jhonson (Endura, heavy duty) coated series or equivalent quality Somany, Regency, Euro tiles, Asian, Kajaria, Nitco as approved by GE
32	Vitrified tiles	First quality of Johnson tiles, Somany, Nitco, Kajaria , Varmora Granito Pvt Ltd.
33	Precast interlocking paver block	(I) Anjali tiles (ii) Ultra tiles Pvt Ltd (iii) Terra firma (iv) Bansal (v) Wonder crete (vi) A-one tiles (Vii) Mehtab
34	Cement base paint	Shalimar(Maha Cemkote)/ Snowcem Plus/ Durocem/Robbiacem(J&N) / Acrocem Ultra/ Ecocem(TATA Plgments)
35	Acrylic based polymer modified cementitious water proofing	Acrocrete & Acrocote, Cico, Fosroc, MYK Laticrete, Hi Tech, Pidilite, Sika, BASF India Ltd, Blue Seal/ Hindcon Chemicals Ltd/ Berger
36	Dry Distemper / Oil bound Distemper / Acrylic Distemper	Asian paints (tractor uno), Berger (Jadoo), / Dulux Weathershield ( signature or power flex) of ICI
37	Acrylic emulsion	Asian paints (royal), Berger (luxol silk splendor), ICI(dulux velvet touch)
38	Plastic Emulsion Paint	Acrocem/ Durocem/ Super snowcem/ Berger / Asian Paint (Gutucam)
39	Synthetic paint (first quality)	Asian paints (Appcolite), Berger (luxol), ICI(dulux supergloss)
40	PVC Flush cistern (ISI marked) & Plastic seat cover (solid heavy duty)	Cera/ Commander/ Hindware/ Johnson Poddar/ Parryware/ Speed flo (blue star polymers)
41	Stainless steel sink/ plate rack	Anjali/ Blue Star/ Diamond/ Lotus/ Nirali/Prayag
42	Mirror /Glass	Atul/Goldfish/Kohinoor/Modi/Saint Gobain/Swastik//Prayag
43	Chromium plated bath room fitting of cast copper alloy fancy bib taps, stop valves & pillar taps as per IS:8931 & IS:8934	Jaquar(continental)/Marc/ Parryware/ Hindware /M/s Accurate Enterprise (Brand : W J Décor)
44	PVC Over Head tank (multi layered construction) as per IS:12701	Rotax/ Sintex/ Polycon/ Diplast/ Nilkamal

## PARTICULAR SPECIFICATION (Contd/.....)

SL NO	DESCRIPTION OF ITEM	LIST OF MAKES/BRANDS/MANUFACTURERS
1	2	3
<b>WATER SUPPLY ITEMS</b>		
1	GI pipe (any grade)	Bansal/ Bst/ Jindal/ Nezone (NTL)/ Prakash/ Tata/ Swastik/ Zenith
2	GI fittings	Make bearing ISI certification mark
3	PP-R pipes & fittings	Prince/ Reliance/ Savoie-faire manufacturing co. pvt ltd. (SFMC)/ Vectus/ Wet flow/ Fusion /M/s Kanha Plastics Pvt Ltd
4	Cast copper bib cock/stop valve	Leader/Gem/Jaquar
5	Gun metal gate valve	Kirloskar/ L&T/ leader/Zoloto
6	Cast iron pipe (centrifugally cast)	ELECTRO STEEL/ KALINGA/ KESORAM/ TISCO/JAYASWAL NECO INDUSTRIES LTD / SINGHAL IRON FOUNDRY PVT LTD(BRAND : SKF)
7	Vitreous China, WC/HWB/ Urinal/Soap Dish/ Urinal Partition Wall/ Laboratory sink with ISI Marked	Hindustan sanitary ware(Hindware)(regular)/ Parryware (Superfine) / Cera (regular)/ Jaquar
8	Ductile iron pipe	Electrotherm India /Electrosteel Castings Limited / Jindal Saw Limited / Tata Metaliks Kubata Pipes/ Jai Balaji Industries Ltd
9	CI /ductile iron specials	Electrosteel/Electro-Therm/Jindal/ Kesoram/ Lanco
10	Mild steel pipe	Bansal/ Bst/ Hindustan/ Jindal/ Nezone (NTL)/ Prakash/ Swastik/ Tata/ Zenith
11	HDPE /PVC pipes & fittings	Anant/ Om Sree Products/ Tusker/Ori-Plast/ Supreme/ Prince/ Reliance / JAIN IRRIGATION/ HALLMARK/KISAN/FINOLEX/AJAY FLOW// KANHA PLASTICS PVT LTD (BRAND : KPT)
12	UPVC / RWP/CPVC	Anant Extrusions Ltd. (kamal)/ Kisan/ Paras/ Prime/ Supreme/ Prince/ Reliance/Ashivad / JAIN IRRIGATION/ PRECISION PLASTIC / ORI-PLAST
13	Sluice valve/ reflux valve	Kirloskar(KBL)/ L&T/ leader
14	Air release valve/ foot valve/ non-return valve	Kirloskar(KBL)/ L&T/ leader
15	Bleaching dozer	Aquapura/ Avon/ Ion Exchange/ Maic-India
16	Granular chlorination	Briozing/ Declibac (Altoch "Gp")/ Power & Watts
17	Liquid chlorine	Declibac/ Hydriol/ Rmco
18	Chloronome plant /chlorinator	Aqua/ Candy Filters/ Maic/ National Timbers Ltd./ Patterson/ Pearl Filters
19	Liquid Chlorine dosing	Declibac/ Milton Roy/ RMCO/ Technomac
20	Water meter	Capston / Dashmesh / Kirloskar
21	Centrifugal pump	Crompton Greaves/ Johnson/ Kirloskar/ KSB/ Mather & Platt
22	Submersible pump	Kirloskar / KSB/ Crompton Greaves
23	Solar water heater	M/S Best & Crompton/ M/S Bharat Heavy Elect Ltd./ Sun Technics Energy Systems Pvt./ TATA BP solar India Ltd.

## PARTICULAR SPECIFICATION (Contd/.....)

SL NO	DESCRIPTION OF ITEM	LIST OF MAKES/BRANDS/MANUFACTURERS
1	2	3
<b>Electrical Items</b>		
1.	Point wiring cables	Finolex/Havells/RR Kable/RPG / KEI / M/S HPL ELECTRIC & POWER LTD / M/S DYNAMIC CABLES LIMITED / L&T / M/S POLYCAB INDIA LIMITED/
2.	Piano switches, sockets etc	ISI Marked Products Of Anchor / Kinjal/Havells/Legrand
3.	PVC casing capping	Finolex / Modi / Presto Plast/ Plaza/Kalinga / M/S AKG INDUSTRIES / M/S RICHA CABLES PVT LTD
4.	PVC conduits	Finolex / Modi / Presto Plast/ Plaza/Kalinga/ M/S AKG INDUSTRIES / M/S POLYCAB INDIA LIMITED
5.	Steel conduits	Tata/Jindal/AKG/Swastik/Prakash
6.	Modular switches/ fixtures	Crabtree/ Legrand/ Schneider/L&T/ Siemens/ ABB/ Mk/ Philips/Anchor / (INDOASIAN) / M/S HAGER ELECTRO PVT LTD / M/S C&S ELECTRIC LTD / HPL Electric & Power Ltd
7.	MCBs & DBs & isolator	Legrand/ Schneider (Merlin Gerin)/ Siemens/ABB / M/S NOVATEUR ELECTRICAL & DIGITAL SYSTEMS PVT LTD (INDOASIAN) / L&T / M/S HENSEL ELECTRIC INDIA PVT LTD / M/S HAVELLS INDIA LTD / M/S PANASONIC LIFE SOLUTIONS INDIA PVT LTD / M/S HAGER ELECTRO PVT LTD / M/S C&S ELECTRIC LTD /HPL Electric & Power Ltd
8.	ELCB/ RCCB/RCBO	Legrand/ Schneider (Merlin Gerin)/ Siemens/ABB/ M/S NOVATEUR ELECTRICAL & DIGITAL SYSTEMS PVT LTD (INDOASIAN)/ L&T/ M/S HAVELLS INDIA LTD / M/S PANASONIC LIFE SOLUTIONS INDIA PVT LTD / M/S C&S ELECTRIC LTD /HPL Electric & Power Ltd
9.	MCCB	Abb/ Legrand/ Schneider/ Siemens / M/S NOVATEUR ELECTRICAL & DIGITAL SYSTEMS PVT LTD(INDOASIAN) / L&T / M/S HAVELLS INDIA LTD / M/S PANASONIC LIFE SOLUTIONS INDIA PVT LTD / M/S C&S ELECTRIC LTD/ M/S HAGER ELECTRO PVT LTD/HPL Electric & Power Ltd
10.	Switch fuse	L&T/ Schneider (Merlin Gerin)/ Siemens/ABB/ M/S NOVATEUR ELECTRICAL & DIGITAL SYSTEMS PVT LTD(INDOASIAN) / M/S HAVELLS INDIA LTD / M/S PANASONIC LIFE SOLUTIONS INDIA PVT LTD / M/S C&S ELECTRIC LTD
11.	All type fluorescent fitting/ HPMV / HPSV / CFL/etc	Bajaj/ Crompton Greaves/ Havell's/ Philips/ Wipro
12	All type LED light fitting	Bajaj/ Philips/ Wipro/ Syska Led/Havells INDIA LTD / JAQUAR / M/S SIMOCO TELECOM / M/S HPL ELECTRIC & POWER LTD / M/S EVEREADY INDUSTRIES INDIA LTD / M/S CROMPTON GREAVES CONSUMER ELECTRICALS LTD / M/S HALONIX TECHNOLOGIES PVT LTD / M/S CENTURY LED LTD (BRAND : MAGIC) / M/S C&S ELECTRIC / M/S PANASONIC LIFE SOLUTIONS INDIA PVT LTD (BRAND : PANASONIC) / M/S DHANSHREE ELECTRONICS LTD (BRAND : RASHMI) / M/S SORIL INFRA RESOURCES LIMITED / M/S SURYA ROSHNI LIMITED / M/S ORIENT ELECTRIC LIMITED /HPL Electric & Power Ltd

Signature of Contractor

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## PARTICULAR SPECIFICATION (Contd/.....)

SL NO	DESCRIPTION OF ITEM	LIST OF MAKES/BRANDS/MANUFACTURERS
1	2	3
13	High mast GI pole	Bajaj/ Crompton Greaves/ Nezone (NTL)/ M/s Utkarsh India Ltd
14	Flame proof fittings	Baliga / Flexpro / Sudhir / FCG/ Crompton Greaves/ Bajaj
15	LED Solar street light fitting	Tata Power Solar /Bajaj/Philips/ Crompton Greaves/ M/s Halonix Technologies Pvt Ltd/ M/s Dhanshree Electronics Ltd (Brand : Rashmi) /HPL Electric & Power Ltd
16	Exhaust fans/Ceiling fan	Crompton Greaves , Khaitan, Bajaj, Havell's, Orient ELECTRIC LIMITED / M/S RAM RATNA ELECTRICALS LTD
17	Heater water storage type electric geyser	Bajaj / Havell's / Crompton Greaves/ Venus
18	Street light time switches	GE controls / L&T/ Legrand / SR Communications
19	Steel poles (ISI marked)	Bansal Poles / Calcutta Poles / Jindal Poles / Kwalitiy Steel-Kolkata / National tubing company/Neozne M/S SKIPPER LIMITED (BRAND : SKIPPER)
20	HT insulators	BHLE/ Jayshree/ Mysore/ Rastriya
21	GOD with isolator	Pactil/ Jaipuria/BHEL
22	Lightning arrestor	Alpro / Areva/ Oblum/ Rashtriya/ Raychem/Bhal/ABB
23	Change over switches	L&T / Schneider / Siemens/ABB/ M/S NOVATEUR ELECTRICAL & DIGITAL SYSTEMS PVT LTD (INDOASIAN) / M/S HAVELLS INDIA LTD/ M/S PANASONIC LIFE SOLUTIONS INDIA PVT LTD / M/S C&S ELECTRIC LTD/ HPL Electric & Power Ltd
24	Starters	Bch (Bharat Cuttler Hammer)/ Crompton Greaves/ L&T/ Siemens/ M/S C&S ELECTRIC LTD
25	LT XLPE/ PVC cables (UG) (armoured & unarmoured)	KEC (RPG)/ Gloster/ Finolex/ Havells INDIA LTD / M/S RR KABEL LTD / M/S DYNAMIC CABLES LIMITED / M/S KEI INDUSTRIES LTD /HPL Electric & Power Ltd
26	XLPE cable joints	Denson/ M-Seal/ Raychem/3M / M/S ELE CHEM SYSTEMS PVT LTD / M/S VISHWA POWER & INFRASTRUCTURE (P) LTD/
27	LT ACB	ABB/ L&T/ Schneider (Merlin Green)/ Siemens/ M/S HAVELLS INDIA LTD/ M/S PANASONIC LIFE SOLUTIONS INDIA PVT LTD / M/S BCH ELECTRIC
28	Current transformer & Potential Transformer 11 kv range	Areva/ Electrical Control & System/ Kappa/ Pragati
29	Relay (electro mechanical)	ABB / Areva / GE controls / L&T/ BCH ELECTRIC LTD. / M/S NEPTUNE SYSTEMS PVT LTD (BRAND : NEPTUNE) / M/S CG POWER AND INDUSTRIAL SOLUTION LTD
30	Relay numerical	ABB / Areva / GE controls / L&T/ BCH ELECTRIC LTD. / M/S NEPTUNE SYSTEMS PVT LTD (BRAND : NEPTUNE) / M/S CG POWER AND INDUSTRIAL SOLUTION LTD
31	Electronic multi-function energy meter/kwh meter	HPL ELECTRIC & POWER LTD / L&T / Neptune / Secure Meters/AE

Signature of Contractor

JE(QS&amp;C)

AGE(Contracts)

## PARTICULAR SPECIFICATION (Contd/.....)

SL NO	DESCRIPTION OF ITEM	LIST OF MAKES/BRANDS/MANUFACTURERS
1	2	3
32	Thermo-plastics enclo-sures for meters / DBs	Hensel / Secure Meters/L&T/ M/S STERLING GENERATORS PVT LTD
33	Indicator lamp	GE controls / Havell's / L&T / siemens
34	Selector switch	GE controls/ Havell's/ HPL Ltd/ KAYCEE/ L&T/ Siemens/ M/S HAGER ELECTRO PVT LTD
35	Ammeter & voltmeter	AE/ Havell's/ L&T/ Legrand/ MECO/ Rishab/ M/S HAGER ELECTRO PVT LTD
36	Contactors	BCH/ Crompton Greaves/ GE Controls/ Havell's/ L&T / Siemens
37	Panel board	Any Make Having CPRI Approved
38	Capacitor bank/ APFC Panel	Crompton Greaves/ L&T/ Neptune/ Siemens/ABB/ BCH (bharat cuttler hammer) / M/S C&S ELECTRIC LTD
39	Battery chargers	Amara raja / Masstech / Statcon / M/S LIVE LINE ELECTRONICS/ M/S INSTRUMENTS & EQUIPMENT CO
40	Battery maintenance free	Amara raja/ Amco/ Exide/ Okaya/ Prestolite
41	Voltage stabilizer	AE / Brentford / ITE-Gurgaon / Vinetec
42	Electric motors	ABB/ Areva/ Crompton Greaves/ Kirloskar/ Siemens
43	Refrigerator/ water cooler/ deep freezer/split & window& cassette type ac unit	LG /Samsung/ Vediocon / Godrej/ Voltas/ Whirlpool/ Blue Star
44	Voltage stabilizer automatic operation single phase	AE / BRENTFORD / VINTEK / M/S LIVE LINE ELECTRONICS / INSTRUMENTS & EQUIPMENT CO./ SINTRAC/ MICROTECH/ APLAB/ LG/ SAMSUNG
45	Bus bar trunking	L&T, Control & Switch Gear, Schneider, Siemen, GE India

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## PARTICULAR SPECIFICATION (Contd/.....)

SL NO	DESCRIPTION OF ITEM	LIST OF MAKES/BRANDS/MANUFACTURERS
1	2	3
<b>FIRE FIGHTING, FIRE DETENTION &amp; ALARM SYSTEM</b>		
1	Fire pump	Crompton Greaves/Kirloskar/KSB
2	Motor	Crompton greaves/Siemens/ABB/Kirloskar Electronic/KSB
3	Fire hose reel	Minimax/Firex/Safex/New Age
4	Stand post type hydrant	Minimax/Firex/Safex/New Age
5	Rrl hose pipe –	Dunlop/Cosmos/ Jayshree/ Minimax/ New Age
6	Sprinkler head	Minimax/tyco/ceasefire/ safex
7	Pressure switch	Siemens/Honeywell/Danfoss
8	Pressure gauge	Hguru/Taylor/Fiebig
9	CI double flanged sluice valve & non return valve	Kirloskar(KBL)/ L&T/ leader
10	Butterfly valves	Kirloskar(KBL)/ L&T/ leader
11	Alarm valve	Hd/Sprsafe/TYCO
12	Air release valve	Kirloskar(KBL)/ L&T/ leader
13	Gunmetal valve	Kirloskar(KBL)/ L&T/ leader
14	Fire extinguisher (all type)	Minimax/Firex/New Age/Ceasefire
15	Single head landing valves, three/four way brigade inlet, hose reel drum and shut off nozzle, aluminium	Minimax/Safex/SupereX
16	20 mm dia rubber pipe	Jyoti/Dunlop/Minimax
17	Fire alarm control panel / detector device	Siemens/Simplex/ Notifier
18	Hooter	Safex/Honeywell/ Minimax

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## PARTICULAR SPECIFICATION (Contd/.....)

SL NO	DESCRIPTION OF ITEM	LIST OF MAKES/BRANDS/MANUFACTURERS
1	2	3
<b>MISCELLANEOUS</b>		
1	SEALING COMPOUND & JOINT FILLER	STP LIMITED/ SHALIMAR (TAR)/M. K. PETRO PRODUCTS (INDIA) PVT. LTD/CICO/BASF/DR FIXED/ FOSROC/ BASF INDIA LTD
2	WATER PROOF COMPOUND	WATER SEAL, MYK LATICRETE, STP NO 1, PEDILITE(DR FIXIT), ACCO PROOF, FOSROC, CICO. BENGAL BITUMEN, SIKA/BASF INDIA LTD, BLUE SEAL
3	WHITE CEMENT /.WALL PUTTY	BIRLA LAVAL PLAST / BERGER / J&N / SHALIMAR PAINTS / ASIAN PAINTS / JK / JAY PEE / GOLD MOHAR / SHALIMAR HARDWARE / OSWAL PAINTS / GODAVARI PAINTS PVT LTD
4	ROAD SAFETY ANY TYPE FITTING or ROAD FURNITURE	TATA BP/ ABS ENGINEERING / DARK EYE/3M

**Note:-** Materials for which Make have not been mentioned shall be of standard reputed make and shall strictly comply with the latest appropriate IS specifications and shall bear ISI/BIS marking.

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