

MILITARY ENGINEER SERVICE**NAME OF WORK: REPAIR/MAINTENANCE AND REPLACEMENT OF SECURITY
LIGHT, BOLLARD LIGHT AND ALLIED WORKS AT UMROI MIL STN UNDER GE****UMROI
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Drawings _____ Sheets

Total _____ Pages

Signature of the Contractor
Date _____AGE (Contracts)
For Accepting Officer

TELE: 2227 (Mil)
E-mail: pshlgsez4-mes@nic.in

Garrison Engineer Umroi
Umroi Military Station
PO-Barapani
Shillong – 793103
Mar 2026

8975/ /E8
M/S _____

**NAME OF WORK: REPAIR/MAINTENANCE AND REPLACEMENT OF SECURITY
LIGHT, BOLLARD LIGHT AND ALLIED WORKS AT UMROI MIL STN UNDER GE
UMROI**

Dear Sir(s),

1. Tender documents in respect of above work are uploaded on the site www.defproc.gov.in. The tender is two stage two cover e-tendering system. The contents of Cover I & II are specified in NOTICE OF TENDER.
2. Bid will be received online by ACCEPTING OFFICER upto the 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 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 bid submission start date. You are requested not to write piece meal points and forward your points duly consolidated before the bid submission start date.
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** along with EARNEST MONEY DEPOSIT (EMD) and tender fee on e-procurement portal and submit the physical documents in the office of GE Umroi within time limit specified in **NIT**. Inadequacy/deficiency of documents shall make the bid liable for rejection resulting in disqualification for opening of finance bid.
6. The lowest contractor would be required to deposit **PERFORMANCE SECURITY** within 28 days of receipt of letter of acceptance as per condition of 19 of IAFW-2249. However, rate of Performance Security amount shall be read 3% in lieu of 5% as stated Condition 19.1 of IAFW-2249 subject to no outstanding recoveries against the contractor and the contractor does not intend to abandon the work after entertaining the relief. A certificate to this effect shall be kept on record.
7. Enlisted contractors of MES shall submit the scanned copies (pdf file) of enlistment letter, tender fee and such other documents as mentioned in Appx 'A' to **NIT** on e-procurement portal and submit physical documents in the office of GE Umroi before date & time fixed for this purpose.
8. The contractors 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.
9. 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.
10. 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 the Office of GE concerned and this office.
11. ANY TENDERER, WHICH PROPOSES ALTERATIONS TO ANY OF THE CONDITION, SPECIFICATION LAID DOWN IN THE TENDER DOCUMENTS OR ANY NEW CONDITION, WHATSOEVER, IS LIABLE TO BE REJECTED.
12. The lowest bidder after acceptance shall have to lodge performance Security (03% of the accepted amount) with the Accepting officer within 28 days of receipt of the letter of acceptance/or notified online in the form of following:-
 - (a) A Bank Guarantee in the prescribed form from scheduled bank only.
 - (b) Govt securities, FDR or any other Govt. Instruments
13. Tenderers attention is drawn to the fact that drawings forming part of the tender are not enclosed. The tenderer shall be deemed to have full knowledge of the details contained in these drawings.
14. The Tenderers attention is drawn to the fact that the Work Order No 1 shall be placed after submission of performance security of requisite amount as per Para 12 here in above in favor of Accepting Officer.

Yours faithfully,

Encls: As above

**AGE(CONTRACTS)
FOR ACCEPTING OFFICER**

INSTRUCTIONS FOR COMPLETION OF TENDER DOCUMENTS TO BE COMPLIED WITH BY THE TENDERER(S)

1. **PERFORMANCE SECURITY DEPOSIT (APPLICABLE FOR BOTH UNENLISTED AS WELL AS ENLISTED CONTRACTORS):** In case, the tender submitted by contractor is accepted, the contractor will be required to lodge "Performance Security Deposit" for an amount equivalent to 5% of the Contractor Sum/Lump 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 and shall be debarred from exemption of submitting Bid Security/Earnest Money Deposit for a period of 6 (Six) months, from the date declared disqualified from exemption for submission of Earnest Money Deposit/Security Deposit for all tenders issued by MES during this period.
2. All contractors enlisted with any formation in MES who have deposited standing security deposit and have executed standing security bond fulfilling the eligibility criteria can participate in tendering without depositing EMD.
3. EMD submitted by all un-successful bidders shall be released immediately after acceptance of lowest bid. EMD of lowest bidder (in case its applicable) shall only be released after receipt of performance security.
4. **GENERAL INSTRUCTIONS FOR COMPLIANCE**
 - 4.1 The bid received only in the electronic form will be considered. All bids shall be submitted on www.defproc.gov.in portal. Documents should be scanned and forwarded in 'pdf' form and 'xls' form as indicated.
 - 4.2 Bids shall be uploaded on www.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 will be considered.
 - 4.3 Bid should be DIGITALLY signed using valid DSC. All pages of tender documents, amendments, corrections/alterations shall be signed/ initialed by the lowest bidder after acceptance.
 - 4.4 Drawings, if issued in physical form, must be returned duly initialed by the tenderer/bidder in separate envelope indicating his name and address.
 - 4.5 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 the tender. Any tender/bid, which proposes alterations to any of the conditions whatsoever, is liable to be rejected.
 - 4.6 In the technical bid, a scanned copy of Power of Attorney in favour of the person uploading the bid using his/her DSC shall be uploaded. In case the digital signatory himself is 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. 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 Partners(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 of the Company, as the case may be, in all matters pertaining to the contract including the Arbitration Clause.
 - 4.7 Even in case of Firms or Companies which have already given Power of Attorney to and 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.
 - 4.8 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.
 - 4.9 Bid (Cover 1 & 2) shall be uploaded online well in time.
 - 4.10 The contractor shall employ Indian Nationals after verifying their antecedents and loyalty. Attention is also drawn to special condition 3 referred hereinafter and also conditions 24 & 25 of IAFW-2249 (General Conditions of contract).

**INSTRUCTIONS FOR COMPLETION OF TENDER DOCUMENTS TO BE COMPLIED WITH BY
THE TENDERER(S)(Contd....)**

4.11 Tenderers/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.

4.12 **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.**

4.13 In case the tender/bidder has to revise/modify the rates quoted in the BOQ (excel sheet) he can do so only in the BOQ, through www.defproc.gov.in website only before the bid closing time and date.

5. REVOKATION/REVISION OF OFFER UPWARD/OFFERING VOLUNTARY REDUCTION, AFTER BID SUBMISSION END DATE BY ANY BIDDER

In the event of any tenderer/bidder revoking his offer or revising his rates upward/ offering voluntary reduction, after closing of bid submission end date & time, his offer will 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 Govt Treasury. In addition, bids of such tenderer/bidder and his related firm shall not be opened in second call or subsequent calls. Reduction by the tenderer/bidder on the freak high rates referred for review shall not be treated as voluntary reduction.

6. CPM (Critical Path Method)

6.1 The project planning for work covered in the scope of tender is based on CPM.

6.2 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.

6.3 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 will be taken as his technical inefficiency and will affect his class of enlistment and future prospect/invitation to tenders for future works.

6.4 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 all the errata/amendments/corrigendum, if any, issued by the department.

7. These instructions shall form part of the contract documents.

SIGNATURE OF CONTRACTOR
DATED:

FOR ACCEPTING OFFICER

MILITARY ENGINEER SERVICESN NOTICE OF TENDER IAFW-2162
APPLICABLE FOR LUMP SUM/MEASUREMENT CONTRACTS

1. A tender is invited for the work as mentioned in Appendix 'A' to this 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 it is merely given as rough guide and if the work cost more or less, the tenderer/bidder will have no claim on this account. The tender shall be based 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 the phasing, if any, indicated in the tender from the date of handing over site, which will be on or about two weeks after the date of Acceptance of tender.
4. Normally Contractors whose names are on the MES approved list for the area in which the work lies, and within whose financial category the estimated amount would fall, may tender/bid but in case of term contracts, Contractors of category SS to E may tender/bid. Contractors whose names are on the MES approved list of any MES Formation and who have deposited standing security and have executed standing security bond may also tender/bid without depositing Earnest Money along with the tender/bid. Not more than one tender/bid shall be submitted/uploaded by one contractor or one firm of contractors. 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. A breach of this condition will render the tender/bids of both parties liable for rejection.
5. The Office of GE Umroi, Umroi Mil Station P.O. – Barapani, Shillong -793103 will be the Accepting Officer here in after referred to as such for the 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 with enlistment details/documents shall be uploaded as cover-1 ('T bid) of the tender/bid on e-tendering portal. DD is refundable in case Cover-I is not accepted resulting in non-opening of Cover-2. The applicant contractor shall bear the cost of bank charges for procuring and encashing the DD 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 defproc.gov.in/website for download and shall form part of contract agreement in case the tender/bid is accepted.
 - 6.2 In the case of a contractor who has not executed the Standing Security Bond, the Cover-I shall be accompanied with by Earnest Money of amount as mentioned in Appendix 'A' in the form of deposit at call receipt issued in favour of concerned GE (see Appendix 'A') by Scheduled Bank or receipted treasury Challan the amount being credited to the revenue deposit of the concerned GE (see Appendix 'A')
 - 6.3 A contractor who is not enlisted for the area in which the work lies but whose name is in the MES approved list of any MES formation and who has deposited standing security and executed standing security Bond may bid without depositing earnest money along with the tender.
 - 6.4 The bidder whose bid is finally accepted shall submit **PERFORMANCE SECURITY** as per condition 19 of IAFW-2249 within the stipulated period failing which action as per provisions given in condition 19 shall be taken. Rate of Performance Security amount shall be 5% as stated Condition 19.1 of IAFW-2249 subject to no outstanding recoveries against the contractor and the contractor does not intend to abandon the work after entertaining the relief. A certificate to this effect shall be kept on record.
 - 6.5 The concerned GE will return the earnest money wherever applicable to all unsuccessful tenderers/bidders by endorsing an authority on the deposit-at-call receipt for its refund, on production by the tenderer, bidder a certificate of the Accepting Officer that a bonafide tender/bid was received and lowest bid for the tender has been accepted.
 - 6.6 The concerned GE will either return the Earnest Money to the successful tenderer/bidder by endorsing an authority on the deposit -at-call Receipt for its refund on receipt of performance security or utilize the same for recovery of penalty for non-submission of performance security.
 - 6.7 Copies of the drawings and other documents pertaining to the work signed for the purpose of identification by the Accepting Officer or his accredited representative, sample of material and stores to be supplied by the contractor will also be available for inspection by the tenderers/bidder at the office of Accepting Officer and concerned GE during working hours.

MILITARY ENGINEER SERVICES**NOTICE OF TENDER IAFW-2162****APPLICABLE FOR LUMP SUM/MEASUREMENT CONTRACTS (Contd.....)**

7. The tenderers/bidders are advised to visit the site by making prior appointment with the 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, sites etc, whether they have inspected them or not.
8. 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.
9. 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.
10. Tenderers/bidders must be in possession of a copy of the MES Standard Schedule of Rates (see appendix 'A') including amendments and errata thereto.
11. Invitation for e-tender does not constitute any guarantee for validation of Cover-I bid and subsequent opening of finance bid of any application/bidder, even of enlisted contractors of appropriate class, merely by virtue of enclosing DD. Accepting Officer reserves the right to reject the Cover-I and not open the finance bid of any application/bidder. Cover-I validation shall be decided by Accepting Officer based on, inter alia, capacity of the firm as per criteria given in Appx 'A' to this **NIT**. The applicant contractor/bidder will be informed regarding non-validation of his Cover-I bid assigning reasons thereof through the www.defproc.gov.in website. The applicant contractor/bidder if he so desires may appeal to the next higher Engineer authority **CWE Shillong on email id.: shlgsez3-mes@nic.in** with copy to the Accepting Officer on email before the scheduled date of opening of Finance Bid. The decision of the Next Higher Engineer Authority (NHEA) shall be final and binding. The contractor/bidder shall not be entitled for any compensation whatsoever for rejection of his bid.
12. The Accepting Officer reserves the right to accept a tender submitted by a public Undertaking, giving a price 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 from such tenderer/bidder whose tender/bid is rejected.
13. Accepting Officer does not bind himself to accept the lowest of any tender/bid or to give any reason for not doing so.
14. This **Notice Inviting Tender (NIT)** including Appendix 'A' shall form part of the contract.

SIGNATURE OF CONTRACTOR

FOR ACCEPTING OFFICER

APPENDIX 'A' TO NOTICE INVITING TENDER (NIT)

1.	Name of work	REPAIR/MAINTENANCE AND REPLACEMENT OF SECURITY LIGHT, BOLLARD LIGHT AND ALLIED WORKS AT UMROI MIL STN UNDER GE UMROI																					
2.	Estimated Cost	Rs 15.00 Lakhs (At par Market)																					
3.	Period of completion	180 Days																					
4.	Cost of tender documents	Rs 500/- in the form of DD/Bankers cheque from any schedule Bank in favour of GE Umroi and payable at Umroi.																					
5.	Website/portal address	www.defproc.gov.in																					
6.	Type of contract	The tender shall be based on IAFW-2249 and IAFW-1779-A with Schedule 'A' (list of items of works) to be quoted by the tenderers electronically in BOQ.																					
7.	Timeline details:	Refer critical dates on the website																					
	(a) Bid submission start date																						
	(b) Bid submission end date																						
	(c) Date of bid opening																						
8.	Eligibility Criteria																						
	(a) For MES enlisted contractors	Contractors shall be enlisted with MES in Class 'E' and above and category b(i) subject to satisfactory remarks wrt performance in respect of works in hand as reflected in Work Load return (WLR) or any other report circulated by competent engineer authority.																					
	(b) For contractors not enlisted with MES	(i) Contractor not enlisted with MES should meet the enlistment criteria of 'E' class MES contractors & category b(i) i.e with regard to having satisfactorily completed requisite value works, with Central/State Government/ Central/ State PSUs/ AWHO/ AFNHB/ CGEWHO / DGMAP, annual turnover, bank solvency, working capital and other requirements given in Para 1.4 & 1.5 of Section 1 of MES Manual of Contracts 2020 as available in all MES formations as well as MES website (www.mes.gov.in). (ii) Not carrying adverse remarks in Work Load Report (WLR) or any other similar report circulated by any competent authority, if already working in MES. (iii) Not suspended/debarred/blacklisted (either permanently or temporarily) from participating in any bid or for business dealings by any Central/State Government Department or any Central/State Government PSU or any Autonomous Body under Central/State Government or any Local Body as on the bid submission end date. (iv) Details of works completed and under progress in MES be submitted in the following format:- <table border="1"> <thead> <tr> <th>Srl No</th><th>CA No & 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> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> (v) 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".				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																		
9.	Tender issuing and Accepting Officer	GE Umroi, Umroi Mil Stn, Barapani, Shillong- 793103 Email- pshlgsez4-mes@nic.in																					
10.	Executing agency	GE Umroi																					

**APPENDIX 'A' TO NOTICE OF TENDER(E-TENDER)
MILITARY ENGINEER SERVICES(Contd...)**

11.	Earnest Money	Rs. 30,000.00 in favour of GE Umroi in the form of DD/Banker's cheque from any Schedule/Nationalized bank payable at Umroi. FDR not acceptable
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NOTES:

1. After opening of Cover 1, if 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 less than 7(Seven), applications in respect of contractors one class or two classes (in case of remote and difficult areas to be decided as per list circulated by CE command/ADG) below the eligible class shall also be considered subject to fulfilment of other eligibility criteria given in the NIT. Therefore MES contractors one class below (two classes below in case of remote and difficult areas) may also bid for this tender. However contractors of one/two classes below the eligible class shall not be considered in case their present residual work in hand is more than twice their present tendering limit. Such bidders shall upload in their Cover-1 bid details of works in hand showing names of work, names of Accepting Officers, Contract amounts, dates of commencement and completion (stipulated) and progress as on bid submission date. These details shall be verified by the Tender Issuing Authority from concerned formations in case bids of such contractors 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 be 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 in Manual on Contracts. Therefore such contractors shall upload the requisite information/documents in the Cover-1.

3. Un-enlisted 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 :-

- (a) Application for tender on Firm's letterhead.
- (b) Enlistment letter issued by the Registering Authority duly renewed for the cycle period in vogue.
- (c) 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.
- (d) Scanned copy of Employees provident fund number.
- (e) Scanned copy of GST registration number.
- (f) Any other document required as described in this Appendix.

(Contractor not in possession of EPF No & GST Regn. No. shall be disqualified in „T“Bid evaluation and his finance bid shall not be opened.)

5. Contractors not enlisted with MES will be required to upload following documents in Cover 1 for checking eligibility:-

- (a) Application for tender on firm's letterhead.
- (b) Scanned copy of DD/Bankers cheque toward cost of tender and Earnest Money Deposit (EMD) instrument.
- (c) 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.
- (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) Scanned copy of EPF registration certificate issued by EPFO.
- (g) GST Registration Number.

APPENDIX 'A' TO NOTICE OF TENDER(E-TENDER)
MILITARY ENGINEER SERVICES(Contd...)

6. Tenders not accompanied by scanned copies of requisite DD/Bankers Cheque towards cost of tender and earnest money (as applicable) in Cover 1 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 05 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 for 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 tenders 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 (Cover 2) 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. 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 i.e **HQ CWE Shillong** on e-mail 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.

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/bonafide bids only. Accepting Officer may decide whether to re-render or consider the lowest bonafide tender for acceptance.

APPENDIX 'A' TO NOTICE OF TENDER(E-TENDER)
MILITARY ENGINEER SERVICES(Contd...)

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, Earnest Money deposited by him shall be forfeited. 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.

13(A) Irrespective of whatever is mentioned in condition 19.3 of IAFW 2249 with regard to suspension of tenders on account of non-submission of Performance Security, issue of tenders to such tenderers shall remain suspended for a period of six months from the date of cancellation of contract under condition 19.3 of IAFW 2249 in case of un-enlisted Contractors. In case of MES enlisted contractor, issue of tenders shall remain suspended till deposit of EMD or six months from date of cancellation whichever is later.

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. **On acceptance of the tender, the Contractor is required to deposit Performance Security for an amount equivalent to 5% of the contract sum in the form of FDR or BGB in favour of the Accepting Officer from any of the Nationalized/Scheduled Indian bank within 28 days of receipt of letter of Acceptance as per condition 19 of IAFW- 2249.**

Signature of Contractor

AGE(Contracts)
For Accepting Officer

File No. 8975/ /E8

Military Engineer Services
GE Umroi
Umroi Military Station
PO : Barapani,
Shillong-793 103

Date: Mar 2026

IN LIEU OF IAFW-1779-A (REVISED 1955)

(To be read in conjunction with General Conditions of contracts IAFW-2249, 1989 print)

MILITARY ENGINEER SERVICES

Military Engineer Services
Garrison Engineer Umroi
Umroi Military Station
PO-Barapani
Shillong-793103

8975/ /E8

Mar 2026

TENDER AND ITEM RATE CONTRACT FOR WORKS BY MEASUREMENT IN THE EXECUTION
OF
NAME OF WORK: REPAIR/MAINTENANCE AND REPLACEMENT OF SECURITY
LIGHT, BOLLARD LIGHT AND ALLIED WORKS AT UMROI MIL STN UNDER GE
UMROI

1. Sarvashri/Shri _____ are/is
hereby authorized to tender for the above work. The online bid only is to be submitted on website
www.defproc.gov.in before date as mentioned in critical dates on www.defproc.gov.in portal.
2. Any correspondence concerning this tender shall be addressed as indicated at the top of this sheet
quoting the reference as given.

**THE PRESIDENT OF INDIA DOES NOT BIND HIMSELF TO ACCEPT THE LOWEST OR
ANY TENDER**

SIGNATURE OF THE OFFICER
ISSUING TENDER
APPOINTMENT: AGE(Contracts)

Dated : Mar 2026

SIGNATURE OF CONTRACTOR
DATED _____

SCHEDULE 'A'
(IAFW 1779-A REVISED 1955)
(LIST OF WORKS AND PRICES)

NAME OF WORK: REPAIR/MAINTENANCE AND REPLACEMENT OF SECURITY
LIGHT, BOLLARD LIGHT AND ALLIED WORKS AT UMROI MIL STN UNDER GE
UMROI

(A) NOTES (GENERAL) APPLICABLE TO ALL SECTIONS:

1. The quantities shown in column 3 are approximate and are inserted as a guide only. However, these shall not be varied beyond the limits laid down in condition 7 of IAFW-2249 General Condition of contracts.

2. Tenderer is to quote his unit rates under column 5.

3. The rates shall be quoted in figure only. Software system will automatically inserted base on the rate inserted by the bidder/ tenderer.

4. Total amount in Column 7 of BOQ is not firm but will be treated as the "Contract Sum" referred to in IAFW – 2249. Tenderer has to visit the BOQ pages of tender for quoting the rates of each item of the schedules. Total amount of schedule of credit has been catered towards Schedule of credit for which details have been made in a separate schedule in the PDF document and tenderer shall study the same before quoting. The amount of schedule of credit shall be deducted from the Total amount of BOQ under col 7. Contract sum shall be arrived accordingly to derived the lowest tenderer (L-I). Contractors are requested to take note of this while quoting for items contained in BOQ (Cover No 2). No cognizance on account of any misunderstanding shall be entertained at a later date.

5. UNIT RATE: The tenderer shall calculate his own amount/rate and insert unit rates in Column 5 against each item of Schedule 'A'. 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 provision of the tender. Government shall not entertain any claim whatsoever on account of inaccuracies/misunderstanding, if any in the aforesaid rates.

6. Tenderers shall be deemed to include in his unit rate for each item for the provision of all materials, labour, operations, tools/plants as required and other requirements as detailed in the Particular Specifications irrespective of whether these appear as specific item or mentioned in the description of items in Schedule 'A' or not and the tenderer shall not be paid any extra for the same.

7. The under mentioned remarks shall be deemed to have been inserted against each item of BOQ:-

- (a) Refer list of drawing
- (b) Refer note No: 11 of Schedule 'A' Notes
- (c) Refer notes to Schedule 'A'.

8. PERIOD OF COMPLETION: Total work under this contract shall be completed within **180 DAYS** from the date of handing over of site.

8A. DEFECT LIABILITY PERIOD: The contract shall have defect liability period of one year from certified date of completion as per condition 46 of IAFW 2249.

9. Unless otherwise specified method of measurement of various items of work shall be as stipulated in MES standard Schedule of Rates (Part I – 2009 and Part II – 2020).

10. The rates quoted by the tenderers shall be deemed to include 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 and decision of the accepting officer on this account shall be final, conclusive and binding.

11.1 TAXES: Tendered rates are inclusive of all taxes, duties, levies etc, payable under respective statutes. Goods and services tax is applicable to all contracts for which end date of bid submission is on or after 01 July 2017. Tax deduction at source shall be done as per laws as applicable

11.2. No increase/decrease in any taxes/duties, statutory or otherwise after submission of tender and during the execution of the works shall be adjusted except as provided in special condition relevant clause herein after.

11.3. Cost of Testing including Transportation of Materials or Equipments or Items, provision of all facilities for Testing in accordance with Specifications and/or IS shall be borne by the Contractor unless otherwise mentioned.

SCHEDULE 'A' (CONTD.)
NOTES (CONTD.)

12. SAFETY MEASURES, PRECAUTION'S, RISKS ETC.,

12.1. The Work shall be carried out with utmost care to ensure that no damage to Existing/Adjoining Work is done failing which the damage, if any done shall be rectified by the Contractor to match with the Existing/ Adjoining Work to the entire satisfaction of Engineer-in-Charge under Contractor's own arrangement and at his own expenses.

12.2. Suitable Tools, Plants, Equipments, Mechanism, etc., as considered necessary shall be adopted during execution of the Work. The Contractor shall take all Precautions, Safety Measures, etc., to avoid any Damage, Miss-happening, Accident, etc., to the Workmen engaged by him to carry out the Work. The UNIT RATES quoted by Contractor shall be deemed to have included the Element of adopting Safety Measures, Precautions and also the Risks, etc. involved in Work and nothing EXTRA shall be admissible on this account.

13. METHOD OF MEASUREMENTS

13.1. The method of Measurements to be adopted in the Contract shall be as laid down in MES STANDARD SCHEDULE OF RATES PART-I & II, IS 1200 and other relevant BIS standard. The General Rules, Special Conditions, Preambles and Other Provisions in MES STANDARD SCHEDULE OF RATES PART-I & II and relevant BIS standard shall be deemed to apply to the Work under this Contract unless otherwise mentioned in the Tender documents. However, where the UNITS of Work given in Column 4 against Items of SCHEDULE 'A' are at variance with that mentioned against respective Items in MES STANDARD SCHEDULE OF RATES , the Measurements of Work against such Items of SCHEDULE 'A' shall be done as per the UNITS given in SCHEDULE 'A'.

14. Unless otherwise specifically mentioned, unit rate of Each Item of Work is inclusive of all 'Material & Labour' or 'Supply & Fixing' or 'Supply & Laying' including Tools and Plants, Installing, Commissioning and Testing complete as required for entire Completion of Works.

15. Works under this contract lies in 'UN-RESTRICTED' Area.

16. As per Ministry of Labour and Employment No. S.35025/2/2014-SS-II dated 17 Oct 2016 and (EPF & MP) Act 1952, the successful bidder shall have the requisite possession no. of EPF from the concerned department if applicable. The compliance of same shall also be ensured by GE before placing Work Order No.1

SIGNATURE OF CONTRACTOR

DATED : _____

AGE(CONTRACTS)
FOR ACCEPTING OFFICER

SCHEDULE 'A' PART – II**(LIST OF ITEMS OF CREDIT TO BE CHARGED FROM THE CONTRACTOR FOR THE MATERIALS RETRIEVED FROM DEMOLITION/DISMANTLING)**

1. All quantities in this schedule are 'PROVISIONAL'.
2. The tenderer shall visit the site of work to assess the nature and extent of work involved in demolition/dismantling and the quantity of material obtained there from. The tenderer shall be deemed to have visited the site and quote their rates accordingly.
3. The serviceable material shall be neatly stacked at site and the contractor shall take all precautions to protect the material from damage from any cause what so ever.
4. The material obtained under this schedule shall be handed over to the contractor by the EIC on a proper gate pass and credit for demolished/dismantled material for these items will be deducted from the RAR paid subsequent to demolition/dismantling of the material.
5. The contractor shall remove the demolished/dismantled material, (other than re-used in the work) whether serviceable or unserviceable, from the site of work without any extra cost to the Govt.
6. Material obtained from demolition/dismantling, other than those listed here-in-after shall be property of the Govt and shall be removed and deposited in the MES Store Yard without any extra cost.
7. Unless otherwise specifically indicated in items of Sch 'A', old material shall not be reused in the work.

Ser No	Description of Items	Unit of Measurement	Approx No of Units Reqd	Rate (Rs)	Amount (Rs)	Remarks
1	2	3	4	5		7
1	Old unserviceable street light fittings any type any size	Each	164.00	50.00	8200.00	
2	Old unserviceable GI brackets any type any size	Each	15.00	30.00	450.00	
3	Old unserviceable PVC alum/copper cable any type any size	RM	210.00	1.00	210.00	
4	Old unserviceable junction box any type any size	Each	30.00	25.00	750.00	
5	Old unserviceable Nature Switch any type any size	Each	01.00	300.00	300.00	
6	Old unserviceable light fittings bollard type	Each	20.00	60.00	1200.00	
7	Old unserviceable light fittings any type	Each	15.00	25.00	375.00	
8	Old unserviceable earthing set including all accessories	Each set	06.00	500.00	3000.00	
9	Old unserviceable battery of solar light	Each	05.00	400.00	2000.00	
10	Old unserviceable cable of size 6/16 sqmm	RM	605.00	25.00	15125.00	
			Total Amt=		31,610.00	

SIGNATURE OF THE CONTRACTOR

AGE(CONTRACTS)
FOR ACCEPTING OFFICER**GENERAL SUMMARY**

1. Total of Sch 'A' Part-I as brought forwarded from : Rs _____
Serial Page No.

2. **DEDUCT**

Credit to be afforded by the contractor for retrieved :
materials as per Sch 'A' Part-II (Schedule of credit) **Rs 31,610.00 (Minus)**
brought forwarded from Srl Page No

3. **Net Total C/O to next Page** **Rs** _____

Note:- Any rebate/Less/discount offered by Contractor shall not be applicable on credit amount.

SIGNATURE OF THE CONTRACTOR

AGE(CONTRACTS)
FOR ACCEPTING OFFICER

SCHEDULE 'B'LIST OF MATERIALS TO BE ISSUED TO THE CONTRACTOR(REFER CONDITION 10 OF GENERAL CONDITIONS OF CONTRACTS - IAFW-2249)

Ser No	Particulars	Rate at which materials will be issued to the contractor		Place of issue (By name)	Remarks
		Unit	Rate		

-NIL-

SIGNATURE OF THE CONTRACTOR

AGE(CONTRACTS)
FOR ACCEPTING OFFICERSCHEDULE 'C'ISSUE OF TOOLS AND PLANTS (OTHER THAN TRANSPORT) WHICH WILL BE HIRED BY THE CONTRACTOR(REFER CONDITION 15, 34 AND 35 OF IAFW-2249)

Ser. No.	Quantity	Particulars	Details of MES Crew supplied	Hire charges per unit per working day	Stand by charges per unit per day	Place of Issue	Remarks
1	2	3	4	5	6	7	8

-NIL -

SIGNATURE OF THE CONTRACTOR

AGE(CONTRACTS)
FOR ACCEPTING OFFICERSCHEDULE 'D'TRANSPORT TO BE HIRED BY THE CONTRACTOR
(REFER CONDITION 16, AND 35 OF IAFW-2249)

Sr. No.	Quantity	Particulars	Rate per unit per working day	Stand by charges per unit per day	Place of Issue	Remarks
1	2	3	4	5	6	7

- NIL -

SIGNATURE OF THE CONTRACTOR

AGE(CONTRACTS)
FOR ACCEPTING OFFICER

TENDER

To
THE PRESIDENT OF INDIA

Having examined and perused the following documents:-

1. Particulars specifications signed by GE/AGE(Contracts).
2. Drawings details in the list of drawings.
3. Schedule 'A', 'B', 'C' and 'D' attached hereto.
4. MES Standard Schedule of Rates Part-I (2009) Specifications and Part-II (2020) Rates (here-in-before and in IAFW-2249 referred to as the MES schedule) together with Errata/amendment nos 1(a) to 3 for Part-I and amendment No 1 to 122 to SSR Part-II(Rates) including Section No 30 for "Runway & Pavement" containing item No 30001 to 30053 in SSR Part-II(Rates) as applicable.
5. General conditions of contracts, IAFW – 2249 (1989 Print) together with errata 1 to 20 amendments 1 to 49 and Schedule of Minimum Wages
6. WATER. Refer Conditions 31 of IAFW – 2249, General Conditions of contracts. Water will be supplied by MES and shall be paid for by the contractor at rate Rs 3.75 (Rupees THREE AND PAISE SEVENTY FIVE ONLY) per every Rs. 1000/- worth of work done priced at contract rates.
7. Should this tender be accepted, I/We agree.

(a) To execute all the work referred to in the said documents upon the terms and condition contained or referred to therein at the item rates contained in the aforesaid schedule 'A' or at such other rates as may be fixed under the provision 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) for contract sum exceeding Rs.10 lakhs and upto a maximum of 20% (Twenty Percent) for contract sum upto Rs.10 lakhs and further agree to refer to all disputes, as required by condition 70 of IAFW –2249 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 surveyors of India, recognized by the Govt. of India to be appointed by the CHIEF ENGINEER, SHILLONG ZONE or in his absence the Officer Officiating as CHIEF ENGINEER, SHILLONG ZONE if specifically delegated in writing by CHIEF ENGINEER, SHILLONG ZONE whose decision shall be final, conclusive and binding.

*Delete if not applicable.

TOTAL BROUGHT FORWARD FROM SERIAL PAGE No.

Rs. _____ (Rupees _____)
_____)

Signature _____ Date _____

in the capacity of _____ duly authorized to sign

the TENDER FOR AND ON BEHALF OF _____
(IN CAPITAL LETTERS)Name of the Signatory : _____
(In block letters)

Postal Address : _____

Telegraphic Address ; _____

Telephone No : _____

Witness _____

ACCEPTANCE

_____ alteration (s) have been made in these documents as evidence that these alterations were made before the execution of the Contract Agreement, they have been initialed by the contractor and AGE(Contracts). The said officer (s) is hereby authorized to sign and initial on my behalf, the documents forming part of this Contract.

The above tender is/was accepted by me on behalf on the President of India at the item rates contained in Schedule 'A' for the contract sum of Rs. _____
(Rupees _____ only)

Signature _____ Dated this _____ day of _____ 2026.

Appointment : Garrison Engineer Umroi
(For and on behalf of the President of India)

Dated this _____ day of _____ 2026.

**NAME OF WORK: REPAIR/MAINTENANCE AND REPLACEMENT OF SECURITY
LIGHT, BOLLARD LIGHT AND ALLIED WORKS AT UMROI MIL STN UNDER GE**

UMROI

GENERAL CONDITIONS OF CONTRACTS (IAFW-2249-1989 PRINT)

FOR

MEASUREMENT CONTRACTS (IAFW-1779-A)

A copy of the GENERAL CONDITIONS OF CONTRACTS (IAFW-2249-1989 print) 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 this tender documents.

It is hereby further agreed and declared by me/us, that the GENERAL CONDITIONS OF CONTRACTS (IAFW-2249-1989 Print) including condition 70 thereof pertaining to settlement of dispute by Arbitration , containing 33 pages (Ser Page No) with errata 1 to 20 and amendment Nos 1 to 49 form part of this tender documents.

Note :-

In case the tenderer is not in possession of any of the documents referred above he should obtain a copy from the office of the **GE Umroi, Umroi Military Station, Barapani, Shillong-793 103** before submission of his tender.

**SIGNATURE OF CONTRACTOR
DATED :**

**AGE(CONTRACTS)
FOR ACCEPTING OFFICER**

In lieu of Minimum Fair wages

**NAME OF WORK: REPAIR/MAINTENANCE AND REPLACEMENT OF SECURITY
LIGHT, BOLLARD LIGHT AND ALLIED WORKS AT UMROI MIL STN UNDER GE
UMROI**

SCHEDULE OF MINIMUM WAGES/FAIR WAGES
(SEE CONDITION 58 OF IAFW – 2249)

1. A copy of the following documents are in my/our possession and I/We have read and understood the provision contained in this documents before submission of tender as under :-
 - (a) Schedule of Minimum Wages/Fair Wages referred to at Serial Page No. to Serial Page No. shall form part of tender documents.
2. I/We abide by the terms and conditions of the contracts.
3. It is hereby, further agreed and declared by me/us that the Schedule of Minimum wages/fair wages and documents referred above shall form part of these tender documents and not enclosed with contract documents.

SIGNATURE OF CONTRACTOR
DATED :

AGE(CONTRACTS)
FOR ACCEPTING OFFICER

Note : -

In case the tenderer is not in possession of any of the documents referred above he should obtain a copy from the office of the **GE Umroi, Umroi Military Station, PO-Barapani, Shillong – 793103** before submission of his tender.

SPECIAL CONDITIONS**1. GENERAL**

The following special conditions shall be read in conjunction with the General conditions of contracts IAFW-2249 including Errata/Amendment thereto. If any provision in these Special conditions is at variance with that of the aforesaid document the provisions in these Special Conditions shall be deemed to take precedence.

2. INSPECTION OF SITE BY THE TENDERER

(a) The tenderer(s) shall 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 this purpose. The tenderer(s) shall also make themselves familiar with 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 tenderer(s) shall be deemed to have visited the site(s) and made themselves familiar with the working conditions, whether they actually inspect the site (s) or not. No claim, whatsoever may be, shall be admissible to the contractor on this account.

3. EMPLOYMENT OF PERSONNEL

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

3.2 The contractor shall employ Indian National as representative, servants and workmen after verifying their antecedents and loyalty. 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 consideration the employment of any foreign national if for the reasons of technical collaboration or other considerations the employment of foreign national (s) is unavoidable, the contractor shall furnish full particulars to these effects to the Accepting Officer at the time of submission of the tender. 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 contractor will have the police verification done of personnel employed by him.

3.3 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, servant or employee whose continued employment is, in his opinion, undesirable. The contractor shall not be allowed any compensation on this account.

3.4 The Engineer-in-Charge shall at his discretion have the right to issue passes as per rules and regulations of the installation/Area in force to control the admission of the contractor, his agents, employees and work people to the site of the work or any part thereof. Passes should be returned at any time on demand by the Engineer-in-Charge or the authorities concerned and in any case on completion of work.

4. CONDITIONS FOR WORKING

4.1 The work lies in **UNRESTRICTED AREA**. However, the contractor, his agents, employees, work people and vehicles may pass through the unit lines in which case the Engineer-in-Charge shall, at his discretion have the right to issue passes, control their admission to the site of work or any part thereof. The contractor shall on demand by the Engineer-in-Charge submit a list of personnel, etc. concerned and shall satisfy the Engineer-in-Charge as to the bonafides 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.

4.2 The contractor and his agents, employees and work people shall observe all the rules promulgated by the authority controlling the area in which the work is to be carried out e.g. prohibition of smoking, lighting and fire precaution, search of persons at entry and exit, keeping to specified routes, restricted hours of working etc. Any person found violating the security rules laid down by the authority, shall be immediately expelled from the area without assigning any reasons what so ever and the contractor shall have no claim on this account. Nothing shall be admissible for any man-hours lost on this account.

4.3 WORK ON HOLIDAYS:-

The contractor shall not carry out any work on gazetted holidays, weekly holidays and other non-working days except when he is specially authorized in writing to do so by the GE. The GE may at his sole discretion declare any day as holiday or non-working day without assigning any reason for such declaration. Nothing extra shall be admissible on this accounted for any man hours lost.

5. CRITICAL PATH METHOD

5.1 The time and progress chart to be prepared as per condition 11 of General Conditions of Contracts (IAFW-2249) shall consist of detailed net work analysis and a time schedule. The critical path net work will be drawn jointly by the contractor and the GE soon after acceptance of 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 of the time schedule a firm calendar date Schedule will be prepared and submitted by the contractor to the GE who will approve it after due scrutiny. The schedule will be submitted in four copies within two weeks from the date of handing over the site.

SPECIAL CONDITIONS(Contd.....)

5.2 During the currency of the work, the contractor is expected to adhere to the time schedule and this adherence will be part of his 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 time 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.

5.3 The contractor shall adhere to the revised time schedule thereafter. In case of contractor disagreeing with revised schedule, the same will be referred to the Accepting Officer, whose decision shall 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.

5.4 Contractor shall mobilize and employ sufficient resources to achieve the detailed schedule within the broad framework of the accepted method of working and safety. No additional payment will be made to contractor for any multiple shift of work or other incentive methods contemplated by him in his work schedule, even though the time schedule is approved by the department.

6. **SECURITY OF CLASSIFIED DOCUMENTS**

Contractor's special attention is drawn to conditions 2A and 3 of IAFW-2249 General Conditions of contracts. The contractor shall not communicate any classified information regarding works either to sub contractors 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 determination 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).

7. **LOCATION OF BUILDINGS AND WORKS.** There may be some changes in location/siting of building shown in site (layout) plan (s) to suit local conditions and/or departmental requirements. The contractor shall have no claim what-so-ever consequent to such changes in the location/sitting of works.

8. **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 entire site on award of work and for giving site gradually, will be tenable.

9. **MINIMUM WAGES PAYABLE**

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

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

9.3 The fair wage referred to in condition 58 of IAFW-2249 will be deemed to be the same as the minimum wages payable as referred to above as upto date from time to time.

9.4 Schedule of minimum wages are not enclosed alongwith the tender documents. However contractor shall be deemed to have verified the minimum fair wages payable as on the last due date of receipt of tender.

9.5 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.

10. **ROYALTIES**

Reference condition 14 of General conditions of contract IAFW-2249. No quarry on Defence land is available and quarrying is not permitted in Defence land.

11. **LAND FOR LABOUR ACCOMODATION, WORKSHOP, STORES ETC**

11.1 Delete the following in Para 1 of Condition 24 of IAFW-2249 General Conditions of contracts.

"In the event of the areas of land..... allotted to him". And the following shall be read in conjunction with Condition 24 of IAFW-2249.

"The contractor shall be permitted to store his materials including erecting temporary sheds thereof, temporary workshops and the like at the area of land marked for the purposed, on the site plan/shown by the GE free of rent, if it is on Class A-1 land. For other types of land he shall be charged license fee of Rs.1/- per year or part of year for each and every separate area of land allotted to him". No land shall be allotted to the contractor for construction of huts for accommodation of labour.

SPECIAL CONDITIONS(Contd.....)**12. WATER**

12.1 Refer Condition 31 of IAFW-2249, if contractor desires to buy water from Government, water will be supplied by the department at point(s) as indicated in the site plan. The water shall be supplied and the contractor shall pay for water used in works and by his workmen at the rate of Rs. 3.75 per Rs. 1000/- worth of work done amount priced at contract rates. The supply of water may however not be continuous the contractor shall be deemed to have ascertained the hours availability of water before submitting his tender. MES do not guarantee the output of water supply, and nor compensation whatsoever shall be allowed for intermittent supply or break down in the system or if supply is not sufficient. The contractor shall make his own arrangements to store and supplement the water supply at his own cost.

12.2 The contractor if he so desires, will be allowed to augment the department's water supply by boring wells at his own cost at site(s) approved by the GE. On completion of the work, the contractor shall remove pipe etc installed and make good the site as directed by Engineer-in-Charge without any extra cost to Government. The contractor shall, however, ensure that water drawn from such sources is clean and free from all impurities and is suitable for mixing concrete, mortar, washing aggregate and curing of concrete as specified in IS-456.

13. CO-ORDINATION WITH OTHER AGENCIES

The contractor shall permit free access and generally afford reasonable facilities to other agencies, departmental workmen engaged by the Government to carry out their part of work, if any under separate arrangements. The contractor shall not be entitled for any extra payment on this account.

14. ELECTRIC SUPPLY

14.1 In case the contractor desires to buy electricity from MES he shall be charged for the electric energy consumed at **Rs. 20.60 per unit.**

14.2. Electric supply required for the work shall be made available by MES (at the point marked on the layout plan). The main switch and KWH meter's to register the electric energy supplied shall be provided and installed by MES. Contractor shall provide all necessary cables, fittings etc, from the main switch in order to ensure a proper and suitable supply of electricity for the execution of works. All contractor's installation shall conform, to and be strictly in accordance with Indian Electricity Act and Rules, Moreover the layout of cables etc, as proposed by him shall be as per plan approved by the Engineer-in-Charge. Any risk either for materials or personnel will be the contractor's responsibility

14.3 MES do not guarantee continuity of supply and no compensation, whatsoever, shall be allowed for supply becoming intermittent or for break down in the system.

15. PERIOD FOR KEEPING THE TENDER OPEN

The tender shall remain open for acceptance for a period of **60 (Sixty days)** from the date on which the tender are due to be submitted. For the purpose of calculating this period, the day on which the tenders are due to be submitted shall be excluded.

16. TAXES AND OTHER DUTIES

16.1 The tenderer's rates shall be deemed to include all mandatory charges and taxes such as GST as referred in Condition 10 of IAFW-2249(All taxes now brought under the umbrella of GST as one single comprehensive tax) and include. Any other conditions stipulated by the tenderer regarding taxes will not be considered and such tender shall be liable for rejection. The contractor shall not include any condition for fluctuation in price of labour and/or materials in his tender. Variation in prices of labour and materials during the progress of work consequent to any act of legislature is already covered in condition 63 of IAFW-2249 as modified by special condition here-in-after.

16.2. **LABOUR WELFARE TAX / CESS** Contractor's quoted rates shall be inclusive of the labour welfare tax/cess levied by labour welfare authorities. The prevailing percentage of which as on date of issue of tender is 1% of the gross payment due to contractor and the same will be recovered by the department from the contractor at source.

17. ACCEPTANCE OF QUALITY OF WORK AND FINISHES

17.1 To determine the acceptable standard of materials and workmanship, sample portion (to be decided by GE) shall be completed by the contractor well in advance (minimum two stages ahead of remaining work) as directed by GE under close supervision of the Engineer-in-Charge and shall be got approved by the GE. The workmanship of various trades and finishes of this portion shall serve as guiding sample for the work in remaining building.

17.2 Approval of the stages and workmanship of sample portion shall be separately entered and approved in stage passing register giving reference to building and name of building for easy identification even at a later date.

18. RECORD OF MATERIALS

18.1 The quantity of materials such as paints, water proofing compound and the like, as directed by the Engineer-in-Charge (the quantity of which cannot be checked after incorporation in the 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.

SPECIAL CONDITIONS(Contd.....)

18.2 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.

18.3 The contractor shall, on demand, produce to the GE, original receipted vouchers/ invoices in respect of the supplies. The vouchers/invoices shall be defaced and stamped by Engineer-in-Charge indicating contract number, name of work, under his dated signature. The contractor shall ensure that the materials are brought to site, in original sealed containers/packing, bearing manufacturer's marking except in the case of the requirement of material(s) being less than smallest packing.

18.4 Contractor shall produce vouchers/invoices from the manufacturers and/or their authorized agents for the full quantity of non perishable materials, as applicable as a pre-requisite before submitting claims for payment for advances on account of the work done and/or materials collected in accordance with Condition 64 of General Conditions of Contracts - IAFW-2249. Production of vouchers by the contractor shall be his MANDATORY contractual obligation and shall be fulfilled by him.

19. REQUIREMENT OF ELECTRICAL LICENSE FOR CARRYING OUT ELECTRICAL WORKS

19.1 The contractor will either obtain a valid Electrical License of required class in his name or engage an agency having valid Electrical License of required class through proper agreement/MOU for execution of all electrical works as well as work under enlistment category (c) including its sub-categories (i) to (vii) and category (d) (v) to the extent Rule 29 under Part III of Central Electricity Authority (Measures Relating to safety and Electric supply) Regulation, 2010 is applicable forming either in full or part of the scope of work of contract awarded. All such works shall be executed by the contractor through such agency only having valid Electrical License of required class. Such Electrical License shall be obtained from the concerned authorities of State Government/Union Territory where the works are to be executed. Any violation of this condition shall be sufficient reason for taking such disciplinary action as deemed fit by the Registering Authority apart from other recourse/remedy available to the Department under the conditions of contract for such lapse.

19.2 Prior to commencement of electrical work/electrical component of works and other works as mentioned above, copy of valid Electrical License in the name of the contractor or copy of agreement with agency having valid Electrical License along with agency's Electrical License shall be submitted by the contractor to the Accepting Officer through GE. In case contractor does not possess valid Electrical License and he intends to get such work executed through agency having valid Electrical License and with whom he has agreement, prior approval of such agency in all contracts shall be got done from Accepting Officer. Copy of License shall be kept on record by GE/AGE(I) as well as Accepting Officer for future reference.

20. MATERIALS AND SAMPLES

20.1 Materials to be provided by the contractor for incorporation in the works shall, unless otherwise specified the make of the materials in Appendix 'D' or in the particular specifications, comply with the requirements of the relevant Indian Standard (IS) of latest edition.

20.2 The contractor shall produce samples of all materials, articles, fittings, etc. that he proposes to use and get these approvals in writing by the Garrison Engineer within 3 months from the date of commencement of work as per work order. The materials, articles, etc as approved shall be labeled as such and shall be signed by the GE and contractor's representative. These samples shall be kept in the custody of the Garrison Engineer /Engineer-in-Charge.

20.3. The brand of all materials, articles, fittings, etc, together with the name of the manufacturers and firms from which samples have been arranged shall be recorded in the works passing Register.

21. 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.

22. RELEASE OF PERFORMANCE SECURITY DEPOSIT

22.1 Refer Conditions 19 and 68 of IAFW-2249.

22.2 The contractor, has to deposit performance security for the contract for a period equal to the sum of contract period as given in the contract and defect liability period (condition 46 of IAFW-2249) and the same shall be released after expiry of defect liability period

23. CLEANING DOWN (Refer Condition 49 of IAFW-2249, General Conditions of Contracts):-

The contractor shall clean all floors, walls, remove cement/lime/ paint marks/drops, etc., clean the joinery, glass panes etc., touch up all painters work and carryout all other necessary items of work in connection therewith and have the whole premises in clean and tidy to the entire satisfaction of Engineer-in-Charge before handing over the items / works No. No extra payment shall be admissible to the contractor for this operation.

24. WATCH / LIGHTING.

24.1 The contractor shall at his own cost take all possible precaution 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.

SPECIAL CONDITIONS(Contd.....)**25. CONTRACTOR'S PLANT, EQUIPMENT AT SITE**

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

- (i) Particulars of plant/equipment, items, 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 works.
- (iii) Location indicating No (quantity) at each location on the site of works.
- (iv) Purchase value on the date of purchase. For the purpose of this condition, plant and/or equipment shall include vehicle i.e. trucks and lorries but neither the workman's tools nor any manually operated tools/equipment.

25.2 The Engineer-in-Charge shall record the particulars supplied by the contractor in the works diary and send the return to the GE for record in his office.

26. TESTING OF MATERIALS

26.1.1 Before incorporation in the work and before any payment, the building material, concrete, cement, steel etc are required to be tested for quality. Control in material testing laboratory, as per Appendix 'A' here-in-after.

26.1.2 Testing of various materials under this contract shall be done as per the details mentioned in Appendix 'A' here-in-after

26.1.3 SITE LABOATORY (FOR LEVEL TESTS):- The contractor shall set up site laboratory for testing of materials (except Sch 'B' materials) for 'A' level tests as listed in Appendix 'A' here-in-after.

26.1.4 ZONAL LABORATORY (FOR 'B' LEVEL TESTS):- The tests may also be carried out at CE Eastern Command Test Laboratory located at SE Falls, Shillong at the discretion of Garrison Engineer. The test fees for the tests shall be paid by the contractor and his quoted rates deem to be inclusive of this aspect.

26.1.5 National Test Houses, SEMT Pune/Govt Engineering Colleges/NABL Labs/ Approved Govt Labs (FOR 'C' LEVEL TESTS): Any of the above mentioned Labs nominated by the GE in writing for a particular contract and test.

26.2 Frequency of testing of materials and the charges for testing, if tested in Zonal Lab are given at Appendix 'A'. GE may order additional tests depending upon nature of work as required at site.

26.3 No material will be incorporated in the work unless it has been tested, found fit and approved by the GE.

26.4 The contractor shall set up site laboratory for testing of materials (except Sch 'B' materials) for 'A' level tests as listed in Appendix 'A' here-in-after. The contractor shall arrange all equipment/machines for the tests specified in Appendix 'A' as A level tests at his own cost with prior approval of GE. This cost shall be included in the lumpsum costs 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 result thereof shall be recorded and signed jointly by the contractor and the Engineer-in-Charges. The charges for these tests i.e. A level tests carried out in site laboratory of the contractor shall not be recovered.

26.5 Level 'B' tests as described in Appendix 'A' will be conducted in Zonal Lab and charges for tests shall be recovered from contractor.

26.6 If any of the Level B tests cannot be conducted in Zonal Lab for whatsoever reason, the same will be got done under the arrangements of the contractor in a laboratory other than Zonal Lab approved by the GE in writing and charges for the same shall be borne by the contractor.

26.7 The GE will lay down, in writing, the approved laboratory for conduct of each of level 'C' tests. The charges for 'C' level tests shall be borne by the contractor as actual (where charges not given in Appx) or as given in Appendix 'A' except in case of SEMT Pune where they shall be recovered from the contractor.

26.8 Contractor shall provide all facilities such as materials and labour, tools/equipment for moulding, casting of cubes, conveyance of test cubes and other materials to be tested, to the laboratory as directed by the GE.

26.9 The samples for the tests will be drawn by the GE in the presence of the contractor/his authorized representative.

26.10 The lump sum amount quoted by the contractor shall deem to include: -

- (a) Expenses on account of testing in zonal lab and/or in pursuance of Para 26.1.1, 26.1.2, 26.4 & 26.5.
- (b) Expenses on account of testing in any laboratory approved by the GE in pursuance of paragraphs 26.1.3, 26.6, 26.7 & 26.8 above.

26.11 The Accepting officer may order independent testing for which expenditure will be borne by the Govt. The charges for the independent testing will be borne by the contractor if test fails.

SPECIAL CONDITIONS(Contd.....)

26.12 The recoveries on account of testing charges, wherever applicable, shall be effected from the running account payment due to the contractor payable after completion of the respective tests or whenever the test is due whichever is earlier.

27. REIMBURSEMENT / REFUND ON VARIATION IN PRICES

Refer condition 63 of IAFW -2249.

28. USE OF EXISTING BUILDINGS ETC

28.1 The contractor shall not use the existing latrines bath and other existing buildings if any for use by his work people or for storage of his materials or for any other purpose unless permitted to do so in writing by the GE.

29. RECORD OF CONSUMPTION OF CEMENT

29.1 For the purpose of keeping and record of cement consumed in works, the contractor shall maintain a pucca bound register in the form approved by the Engineer-in-Charge showing interalia cement received, quantity used in works and the balance in hand. The register shall be signed daily by the contractor's representative and the Engineer-in-Charge in token of their verification of its correctness. The check will not, however, absolve the contractor of his responsibility to justify the consumption of cement at the rate of utilization of his account.

29.2 The register shall be kept at site in the custody of the contractor during progress of the work and shall on demand be produced for verification of Inspecting Officers. On completion of the work, the register shall be handed over to the Engineer-in-Charge for record.

30. GUARANTEE FOR WATER PROOFING TREATMENT:

30.1 The period of Guarantee for water proofing treatment shall be 10 (ten) years from the certified date of completion. The contractor shall be responsible for effectiveness of the water proofing treatment during the period and any leakage noticed therein during this period shall be made good by him at his own cost.

30.2 The contractor shall furnish guarantee in favour of the GE for the efficacy of the water proofing treatment during the guarantee period.

30.3 An amount of security deposit equal to the individual security deposit calculated based on the amount of water proofing treatment at contract rate for the building for which treatment to be carried out shall be retained from the contractor's final bill as security deposit for the water proofing treatment which shall be released to the contractor only after expiry of guarantee period. The contractor may alternatively furnish a fixed deposit receipt in favour of GE in lieu of sum to be retained as security deposit for water proofing treatment from any approved Schedule Bank. Condition 46 of General conditions of Contracts (IAFW 2249) shall be deemed to be amended to extend mentioned above.

31. SPECIAL/STAR RATES

31.1 The star rate as approved by competent authority shall be referred as "the rate decided by GE" under Para 62 (G) of IAFW-2249.

32. RE-IMBURSEMENT/REFUND ON VARIATION IN "TAXES DIRECTLY RELATED TO CONTRACT VALUE"

32.1 The rates quoted by the Contractor shall be deemed to be inclusive of all taxes (including GST and Labour Welfare cess/tax etc.), & other levies payable under the respective Statutes. No reimbursement /refund for variation in rates of taxes & other levies, and/or imposition/abolition of any new/existing taxes & other levies shall be made except as provided in special condition 31.2 to 31.5 here-in-after.

32.2 The taxes which are levied by Govt at certain percentage rates of Contract Sum/Amount shall be termed as "taxes directly related to Contract value" such as GST, Labour Welfare Cess/tax and 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 as prevailing on last due date for receipt of tenders. Any increase in percentage rates of "taxes directly related to Contract value" with reference to prevailing rates on last due date for receipt of tenders 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 last due date for receipt of tenders shall be refunded by the Contractor to the Govt/deducted by the Govt from any payments due to the Contractor. Similarly imposition of any new "taxes directly related to Contract value" after the last due date for receipt of tenders shall be reimbursed to the Contractor and abolition of any taxes directly related to contract value" prevailing on last due date for receipt of tenders shall be refunded by the Contractor to the Govt/deducted by the Govt from the payments due to the Contractor.

32.3 The contractor shall, within 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 of the Special Condition, together with all information relating thereto which he may be in a position to supply. The Contractors shall submit the other documentary proof/information as the GE may require.

32.4 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.

SPECIAL CONDITIONS(Contd.....)

32.5 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 the 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.

33. **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 any 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.

SIGNATURE OF CONTRACTOR
DATED:

AGE(CONTRACTS)
FOR ACCEPTING OFFICER

PARTICULAR SPECIFICATIONS**1. GENERAL REQUIREMENT**

- 1.1 This particular specification shall be read in conjunction with MES Schedule.
- 1.2 General specifications referred to/mentioned in IAFW-2249 and other tender documents mean specifications including other provisions & preambles given in MES Schedule.
- 1.3 Reference to some paragraphs of MES Schedule has been made in these particulars specifications but other paragraphs and provisions as applicable are also be followed e.g. reference to paras pertaining to general workmanship for brick work, block walling, joinery, iron and steel work, etc, have not been made but provisions therein as required for work are applicable.
- 1.4 Where specifications for any item of work are not given in MES Schedule or in these particular specifications, specifications given in relevant Indian Standard Specifications or of practice shall be followed.
- 1.5 Where specifications/provisions given in these particular specifications are at variance with the provisions/specifications given in MES Schedule, Specifications provisions given in these particular specifications shall be followed.

2. SCOPE OF WORK

- 2.1. This contract includes for the full final and entire completion of works described in Sch 'A' all as specified in these particular specifications and / or shown in drawings forming part of this tender

3. EXCAVATION IN TRENCHES AND OVER AREAS

- 3.1 Excavation in trenches and over areas in soft soil shall be carried out as described in Paras 3.13.1 to 3.13.4 of MES Schedule Part-I. Bailing and pumping of water, if required, will be done as described in Para 3.17 of MES Schedule Part-I. No extra payment shall be admissible for the above mentioned operation. In the event of deviation no adjustment shall be made for cost of bailing pumping and de-watering as specified here-in-before.

3.2 FILLING IN TRENCHES, PLINTH, UNDER FLOOR AND TRENCHES FOR PIPES/CABLES

- 3.3 Filling excavated earth in foundation trenches shall be carried out as per Para 3.19 and 3.20 and its relevant sub paras of MES Schedule Part-I. Earth obtained from excavation and not approved for filling or surplus to the requirement shall be removed to a distance not exceeding 50 meters spread and leveled. If any additional earth is required in filling, it shall be obtained from sources approved by Engineer-In-Charge outside of MD land without any extra cost to the Government. No royalty shall be charged for earth obtained from MD land for using to the work.

4. CEMENT CONCRETE WORK**4.1 MATERIALS**

- 4.1.1 **CEMENT:** - Refer paras 4.3 & 4.3.1 of MES Schedule Part I.
- 4.1.2 **TYPE OF CEMENT :** Cement shall be Ordinary Portland cement Grade 43 conforming to IS: 8112 of 2013 or Portland Pozzolana cement conforming to IS 1489.
- 4.1.2 The following checks and procedures shall be followed before the cement supplied by the contractor is accepted and is approved for incorporation in the works.
- 4.1.3 **PROCUREMENT.**
- 4.1.3.1 Cement supplied by the contractor shall be procured from main producers of cement. In case the requirement is less than 1200 bags for the entire work the same can be procured from authorized dealers of manufacturers
- 4.1.3.2 The following are the main producers of OPC and PPC:-

Ser No	Company Name	Address	Approved grade of cement
1	The Associated Cement Companies Ltd Brand : "ACC"	414-421 , Splendor Forum (4th Floor}, 3, District Centre, Jasola, New Delhi 110044, Ph- 011 46583600	All
2	The India Cement	Dhun Building,827,Anna Salai,Chennai,Pin- 600002	All
3	Ultra Tech Cement Ltd Brand : "ULTRATECH"	'B' Wing, 2nd Floor, Mahakali Caves Road, Andheri (East), Mumbai- 400093 Ph – 022 – 66917800	All
4	Dalmia Cement (Bharat) Ltd Brand : "DALMIA INFRA PRO"	Dalmiapuram, Distt- Tiruchirappalli, Tamil Nadu - 621651	All

PARTICULAR SPECIFICATIONS(Contd....)

5	Century Cements Brand : "CENTURY"	Industry House, 159 Church gate Reclamation, Mumbai -400020 ,Ph-22-22023936	All
6	Saurashtra Cement Brand : "SAURASHTRA"	Gala No A-1, Ground Floor. Udhyog, Sadan No 3 MIDC, Central Road, Andheri (East), Mumbai- 400093 Ph – 022 – 32955557 / 67, Mo- 9320290081	All
7	The Ramco Cements Ltd (Formerly Madras Cement) Brand : "RAMCO"	Auras Corporate Centre, 98-A, Dr., RadhakrishnanSalai, Mylapore, Chennai – 600004, Ph-044 28478666	All
8	Mangalam Cement Ltd Brand : "MANGALAM"	PO Adityanagar, Morak, Dist- Kota,Rajasthan-326520 Ph-9351468076	All
9	Birla Corporation Ltd Brand : "BIRLA"	Birla Building (3rd &4th Floor) ·9/1 , R.N Mukherjee Road, Kolkata -700001, Ph-033-30573700	All
10	Orient Cement Brand : "ORIENT"	5-9-22/57/0, 2nd and 3rd Floor, GP Birla Centre, Adarsh Nagar, Hyderabad-500063, Pin-044 23688600	All
11	Nuvoco Vistas Corporation Ltd. (Formerly Lafarge Cement) Brand : "NUVOCO"	Equinox Business Park Tower-3, East Wing, 4th Floor LBS Marg, Kurla (West),Kurla, Mumbai, Maharashtra-400070	All
12	Shree Cement Brand : "SHREE"	Bangur Nagar, Beawar, Dist:-Ajmer, Rajasthan-305901 Ph -01462 228101-06	All
13	J K Cement Brand : "J K"	Kamla Tower Kanpur - 208001	All
14	J K Lakshmi Cement Ltd Brand : "J K LAKSHMI"	Jaykaypuram, Dist-Sirohi, Rajasthan Ph-02971 244409/10	All
15	Jaypee Rewa Cement Brand : "JAYPEE"	Jaypee Nagar, PO – Jaypee Nagar Rewa – 486450 (MP)	All
16	Ambuja Cement Ltd Brand : "AMBUJA"	Kodinar, PO-Ambujanagar, Taluka-Kodinar, Dist- Junagadh, Gujarat-362715 Ph-02795 237000	All
17	M/s Shree Guru Kripa Cement (Pvt) Ltd Brand : "SARTAJ"	4/4 Trikuta Nagar Jammu, Phone No-0191 2472043	(a) OPC 43 (b) PPC
18	M/S Parasakti Cements Ltd Brand : "PARASAKTI CEMENT"	123/3 RT, Plot # 8-3-214/21 , Srinivasa Nagar Colony(West), Hyderabad-500038 Tel- 040-44119100 /200, Fax- 040-23747562	(a) OPC 43 (b) PPC
19	M/s My Home Industries Ltd Brand : "MAHA CEMENT"	9th Floor, Block-3, My Home Hub, I Madhapur, Hyderabad- 500081, Ph- 040-66929696, Fax- 040-66929797/98	(a) PSC
20	M/s Chettinad Cement Corporation Ltd Brand : "CHETTINAD CEMENT"	4th Floor, Rani Seethai Hall Building, 603, Anna Salai Hall, Chennai-600006, Tel No. 044-42951800, Fax No. 044-28291558, EMail: -info@chettinadcement. com Website- www.chettinadcement.com	(a) OPC 43 (b) PPC
21	M/S Kesoram Industries Ltd. Brand : "Birla Shakti"	Cement Division, Office No 613 to 616 White house, block-III, VI Floor,6-3-1192/1/1, Kundanbagh, Begumpet, Hyderabad-500016, Tele-040-4334-4555	(a) OPC 43 (b) PPC (c) OPC 53
22	Ms JSW Cement Ltd, A.P Brand "JSW PSC (Portland Slag cement) Brand "JSW OPC 53" Brand "JSW OPC 43"	JSW Centre Opp MIMRDA Ground,Bandra kurla Complex,Bandra(East),Mumbai-400051 Tele 022-42865047	(a) OPC 43 (b) PSC (c) OPC 53
23	M/s Sagar cement Ltd Brand "SAGAR"	M/s Sagar Cements Ltd, Plot No 111, Road No 10, Jubilee Hills Hyderabad-500033 Tele-040-23351571	(a) OPC 43 (b) PPC (c) OPC 53 (d) PSC
24	M/S Star Cement Meghalaya	Lumshnong, PO-Khliehriat, Dist-Jantia Hills, Meghalaya, Ph-03655 278215/16/18	(a) OPC (b) PPC
25	M/S Meghalaya Cements Ltd Brand : "TOP CEM"	Lohia House, M. G Road Factory Bazar, Guwahati-781001.Tel 0361 -260367/671	(a) OPC (b) PPC
26	M/s Hill Cement Company Ltd. Brand : "TAJ CEMENT"	Shivam Complex, Bharalmukh, AT Road, Guwahati, Assam-781009, Mob-7086085118	(a) OPC 43 (b) PPC

PARTICULAR SPECIFICATIONS(Contd....)

		Ph(No.) (0361) 2735527, 2735552, Email:kchakraborty@tajcement.com	(c) OPC 53
27	M/s Green Valley Industries Ltd. Brand : "MAX CEMENT"	4 th Floor, LB Plaza, GS Road, Bhangagarh, Guwahati-781005, Tele +91-361-2465482/84 FAX +91-361-2465481 Email – info@greenvalliev.com Website – www.maxcement.co.in	(a) OPC 43 (b) PPC (c) OPC 53

Note : Proper validity of approval by E-in-C's branch has to be ensured before approval of make by GE..

4.1.3.3 The following conditions shall have to be satisfied before PPC shall be allowed to be used in the work:-

(a) The minimum period before striking off form work while using PPC shall be as given in here-in-after.

(b) In cold climate regions where temperature is lower than 15°C only OPC shall be used.

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

(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 for approval to procure PPC :-

(i) The quality of fly ash is strictly as per IS-1489(Part-I)- 2002.

(ii) Fly ash is inter-ground with clinker not with clinker.

(iii) Dry fly ash is transported in closed containers and stored in silos. Only pneumatic pumping has been used.

(iv) The fly ash received from thermal power plants using high temperature combustion above 1000°C have been used.

4.1.3.4 The particulars of the manufacturer /main producer of cement along with the date of manufacture shall be submitted by the contractor for every lot of cement separately. The documents in support of purchases of cement shall be verified by the site staff and GE.

4.1.4 **STORAGE**

4.1.4.1 There will be two separate go down provided by contractor at site of works exclusively for storage of cement: -

4.1.4.2 "First Go down" will have the cement lot(s) for which independent testing is to be got done and/or under process.

4.1.4.3 "Second Godown" will have the cement lot(s) whose independent testing has been got done and which after successful testing stands approved by GE for incorporation in the work.

4.1.4.4 Cement shall be stored over dry platform with gap of 20 cm from walls around and at least 20 Cm high from floor level. Compliance of provisions in clause 4.3.1 of MES Schedule Part I shall be ensured. Godowns shall have easy access for proper inspection and cement shall be protected from dampness/moisture to minimise storage deterioration or intrusion of foreign matter. Both the godowns shall be provided with two locks on each door. The key of one lock at each door shall remain with the Engineer-in-Charge or his representative and that of the other lock with the contractors' authorised agent at the site of works so that cement is removed from the godown only according to the requirements for independent testing purposes or for daily consumption purposes with the knowledge of both the parties

4.1.5 -----**BLANK** -----

4.1.6 **TESTING OF CEMENT**

4.1.6.1 Contractor shall submit particulars of manufacturer of cement along with the date of manufacture for every lot of cement separately. The manufacturer is to carry out inspections and testing of cement in accordance with the relevant BIS provisions. Contractor shall also submit manufacturer's test certificates in original alongwith the test sheet or an authenticated copy thereof giving results of each physical test as applicable and the chemical composition of cement. The documents giving above particulars shall be verified by site staff and GE in support of the purchases of cement and these details shall be recorded in the Cement Acceptance Register as per proforma given in Appendix 'B' to the tender documents here-in-after.

4.1.6.2 The GE shall organise independent testing of random samples of cement drawn from the various lots which shall be got tested by the contractor under his own arrangements and the cost of both materials and labour required for sampling, testing, packing, transportation of samples to the testing places and testing charges thereof, and for subsequent identification of cement sampled, shall be borne by the contractor. The independent testing shall be got done from any of the following where facilities exist for all the tests required, viz, National Test House, SEMT Wing CME, Regional Research labs, IITs, National Institutes of Technology, NABL laboratories, Govt Engineering Collage or Any Govt laboratories.

4.1.6.3 The independent testing shall be got done as per :-

(a) IS-3535 : Method of sampling hydraulic cement.

(b) IS-4031 : Methods of Physical test for hydraulic cement.

(c) IS-4032 : Method of chemical analysis of hydraulic cement.

PARTICULAR SPECIFICATIONS(Contd....)

The other relevant IS shall also be followed. However the tests shall be restricted to those indicated in Appendix 'B' to the tender documents here-in-after.

4.1.6.4 The above tests shall be independent tests. The samples shall be taken immediately within one week of delivery at the site of works and all the tests got carried out by contractor within one week of sampling. In case it is not possible to test the samples within one week, the samples shall be packed and stored in air tight containers as decided by GE till such time that they are tested.

4.1.6.5 The entire lot(s) of Cement shall stand rejected, if it does not comply with any of the requirement of IS specifications and the test results on samples are not within the acceptable limits. The rejected lot(s) shall be removed from the site of works by the contractor under their own arrangement and cost. The cost of tests shall be borne by the contractor irrespective of the results.

4.1.6.6 The contractor shall use only one type brand of cement for entire structural/reinforced concrete work. In the event of contractor desiring use of any different brand of cement, fresh design mix shall be carried out and submitted for approval without any extra cost to the Govt.

4.1.7 DOCUMENTATION

4.1.7.1 The contractor shall submit original paid vouchers from the main manufacturers for the total quantity of cement supplied under each consignment brought to the site of work.

4.1.7.2 All consignments so received at the work site shall be inspected by GE alongwith the relevant documents for permitting storage in the "first godown" defined here-in-before.

4.1.7.3 The original vouchers and the test certificates shall be kept in record in the office of GE duly authenticated and with cross reference to the Control Number recorded in the Cement Register as per format given in Appx 'B' in the tender, maintained for "first godown" duly signed by JE (Civ), Engineer-in-charge, GE and the contractor.

4.1.7.4 After the independent testing has been got done by GE and satisfactory results obtained and kept on record, the consignment so got tested shall be removed from the "first godown" and transferred to "second godown" as defined here-in-before. Original vouchers and the test certificates submitted by the contractor alongwith the consignment and test certificates of independent testing shall be defaced by Engineer-in-charge and kept on record of GE duly authenticated and with cross reference to the control Number rendered in the cement register maintained for the "Second Godown". This second register shall be termed as "Cement Acceptance Register" which shall be signed by JE (Civ), Engineer-in-Charge, GE and the contractor. It shall be as per format given at Appx 'B' to this tender as an extra provision similar to "Details of test certificates" and termed as "Details of Independent test certificate". Besides this the quantity of cement shall be also suitably recorded in the Measurement Book for record purposes before incorporation in the work and shall be signed by Engineer-in-charge and the contractor.

4.1.7.5 The Accepting Officer may order a Board of officers in which contractor shall also be a member for random check of cement and verification of connected documents.

4.1.7.6 Daily inspection shall be carried out by Engineer-in-charge or his representative and contractor's authorised agent and separate register shall be maintained in both the godowns duly indicating on daily basis the inspection carried out and indicating holding in godown at beginning of the day, inward supplies in the day, removal in the day and balance at the close of the day duly signed by above persons. In the removal column particulars of lot removed and purpose for which removed shall be indicated.

4.1.7.7 The purchase voucher and test certificate of manufacturer shall be linked.

4.1.8 WEIGHING AND PAYMENT FOR CEMENT.

4.1.8.1 Random sample 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 their own cost.

4.1.8.2 The quantity of cement arrived at as aforesaid shall be considered for payment as applicable in accordance with IAFW-2249, General Conditions of Contracts.

4.1.8.3 Only when the test results of independent tests carried out on the cement are found satisfactory and it is permitted to be stored in the "Second Godown" and quantity entered in MB, then only this lot shall be considered for payment in RARs.

PARTICULAR SPECIFICATIONS(Contd....)

- 4.1.8.4 Payments shall be restricted as per provisions in clause "Advance on Account" of General Conditions of Contracts (IAFW-2249).
- 4.1.9 CURING AND MINIMUM PERIOD FOR STRIKING OF FORM WORK WHEN PPC is used for RCC works in various locations, the minimum period for curing and striking off form work shall be as under in lieu of that specified in clause 4.11.6.3 of MES Schedule Part-I.
- (a) Curing :-
- (i) Structural RCC work : 21 days
 - (ii) PCC work, plastering etc : 14 days
- (b) Striking off form work :-
- (i) Walls ; columns and vertical sides of beams : 3 to 4 days.
 - (ii) Slabs (Props left under) : 8 days.
 - (iii) Beams soffits (Props left under) : 9 days.
 - (iv) Removal of props to slab/beam :-
 - (a) Spanning upto 6 M Span : 16 days
 - (b) Spanning beyond 6 M Span : 22 days
 - (v) For cantilever portion of slab form work with support shall be retained until the completion the casting of the entire frame work of the building.
- 4.1.9.2 In case of bad weather, periods mentioned above may be revised at the discretion of the Engineer-in-Charge. The contractor shall be deemed to have considered the above provision before tendering and quote lump sum accordingly. No claim will be entertained if longer periods required for striking off form work and curing and all such effected matters are looked into upon the use of pozzolana cement as a result being issued to the contractor in full or part of for bad weather.
- 4.1.9.3 Curing shall be carried out using pump of suitable capacity at no extra cost to the Govt. all as directed by Engineer-in-Charge.
- 4.2. **COARSE AND FINE AGGREGATE FOR PLAIN & REINFORCED CEMENT CONCRETE**
- 4.2.1 Refer Clause No. 4.4.1 to 4.4.6 of MES Schedule Part-I. Coarse Aggregate for all Plain and Reinforced Cement Concrete shall be Crushed Stone Aggregate conforming to IS-383. In case Coarse Aggregate does not conform to CA provisions the same shall be replaced by the Contractor, without any Extra Cost to the Govt, so as to conform the aggregate to the relevant IS and CA provisions. Fine Aggregate i.e. Coarse Sand for Concrete Work shall conform to Material Specifications and Grading within the limits of Zone II or III as specified in Clause No. 4.4 of MES Schedule Part-I.
- 4.2.2 **Grading of Coarse Aggregate** - Unless otherwise specified grading shall be as follows:-
- | | | |
|-------|--|-------------------|
| (i) | For reinforced/plain cement concrete of thickness 25 mm or under | : 12.5 mm graded. |
| (ii) | For all reinforced concrete work over 25 mm thickness | : 20 mm graded. |
| (iii) | For plain cement concrete | : 20mm graded |
| | Thickness exceeding 25 mm but not exceeding 75 mm | |
| (iv) | -do- but 75 mm thickness and over | : 40 mm graded |
| (v) | Lime concrete | : 40 mm graded |
- 4.2.3 Grading of coarse aggregate for plain and reinforced concrete i.e. stone aggregate shall be as per Para 4.4.7 (1) of MES Schedule Part I.
- 4.2.4 Grading of fine aggregate i.e. sand shall be as per para 4.4.7(2) of MES Schedule Part-I, for grading Zone II/III.
- 4.2.5 **WATER PROOFING COMPOUND** - Refer Para 4.8 of MES Schedule Part I.
- 4.2.6 **WATER**-Refer paras 4.9 and 4.9.2 of MES Schedule Part-I.
- 4.3 **MIX AND GRADE OF CEMENT CONCRETE** - Refer paras 4.11.1, 4.11.2.1 to 4.11.2.4 of MES Schedule Part-I.
- 4.4 **BATCHING**: Refer to para 4.11.3 of MES Schedule Part-I and clause No 10.2 of IS : 456-2000. The quantity of both cement and aggregate shall be determined by mass in proportioning concrete, for which a Weigh batcher shall be used.
- 4.5 Workability of concrete-Refer to para 4.11.4 of MES Schedule Part-I and para 7 of IS-456 – 2000.
- 4.6 Mixing of concrete – Refer to paras 4.11.5 and 4.11.5.1 of MES Schedule Part-I.
- 4.7 All cement concrete, both plain and reinforced shall be mixed in mechanical mixer of approved type. However, in case of small quantity (i.e. the quantity of concrete required being less than one batch of mix) the contractor may, after obtaining written permission of the GE, be allowed hand mixing. Where hand mixing is permitted, it shall be carried out on a water tight platform and care shall be taken to ensure that mixing is continued until concrete is uniform in colour and consistency.

PARTICULAR SPECIFICATIONS(Contd....)

4.8. **FORM WORK & SCAFFOLDING**4.8.1 **GENERAL**

- 4.8.1.1 Form work shall comply with the requirements of clause No. 4.11.6 & 7.15.1 to 7.15.12 of MES Schedule Part I. The shuttering shall be of steel only except at places where it is not feasible to use steel shuttering on technical grounds plywood shuttering can be used with written approval of GE.
- 4.8.1.2 Exposed Surfaces of RCC Lintel, Beams, Columns and the like which are continuous with plastered surface of Wall shall be Plastered as that for adjoining Walls Surfaces.
- 4.8.1.3 Irrespective of whatever mentioned elsewhere in these Tender documents and/Drawings, all Formwork used in the work shall be properly designed Steel Formwork (both Vertical Propsed and Surfaces). However all other relevant provisions as mentioned in the MES Schedule Part I Clauses reflected above and relevant Drawings and other documents forming part of this Contract shall be followed.

5. **STEEL & IRON WORK**5.1 **GENERAL**

- 5.1.1 Refer relevant Clause No. of MES Schedule Part-I and as approved by GE. All Steels require to incorporate in the Work shall be Contractor's Supply.

5.2 **TYPES OF STEEL**

- 5.2.1 **REINFORCEMENT STEEL**:-Steel bars for concrete reinforcement wherever shown on drawings shall be TMT bars produced by Thermo Mechanical Treatment Process and grade of steel shall be mention on structural drawing, unless otherwise the grade of steel is not specified on drawing , the grade of steel shall be (Grade Fe 550D) and meeting all requirement of IS-1786-2008. Where ever mild steel reinforcement bars are shown on drawings these shall be amended to read as TMT bars of same dia or nearest higher dia and accordingly to be provided.

5.2.2 **STRUCTURAL STEEL**

- 5.2.2.1 **STANDARD QUALITY**: Structural steel except hollow steel sections shall be conform to IS-2062-2006, E-250(Fe 410W). This steel shall be provided as mentioned in the Schedule 'A' and as specified in Clause 10.4.1 of MES Schedule Part-I. In case the quality of structural steel i.e. A, B or C is not mentioned then quality A shall be used.

- 5.2.2.2 **ORDINARY QUALITY** : Unless otherwise specified/mentioned, Mild Steel Members in Grills/Guard Bars, Holdfasts, Door and Window, Frames, Railing, Steel Windows, Steel Doors and the like shall be ordinary quality of Steel conforming to IS-2062-2006, E-165 (Fe 290).

- 5.2.2.3 **HOLLOW STEEL SECTIONS FOR STRUCTURAL USE** : Hollow steel sections for structural steel shall conform to IS-4923-1997 and grade of steel shall be YSt 310.

5.3 **SOURCE OF PROCUREMENT**

- 5.3.1 **REINFORCEMENT STEEL (TMT STEEL Fe 500D)**: TMT steel bars of all sizes shall be procured directly from following primary producer or any other primary producer approved by the department. In case any primary producer of TMT bar approved by HQ Engineer-in-Chief's Branch after acceptance of tender may be procured after written approval of Accepting officer:

1	Rashtriya Ispat Nigam Limited (RINL) Visakhapatnam Steel Plant Visakhapatnam-530 031, India Tel: (91 891) 518226. 518376 Fax: (91 891) 518316 Email: cmdvsp@itpvis.ap.nic.in	2	Tata Iron & Steel Company (TISCO, or Tata Steel) Bombay House,24 Homi Modi Street Mumbai -400 001. India Tel: (91 22) 204 9131 Fax: (91 22) 204 9522/287 0840 Email:corpcomm@isr.tatasteel.com
3	Steel Authority of India Limited Central Marketing Organization. Northern Region: 17th Floor, scope Minar, Laxmi Nagar Distt. Centre. Delhi-110092	4	M/S Jai Balaji Industries Ltd. Registered Office: 5 Bentek street, Kolkata-700001 Delhi Office : 510, Block-B,,Navraung House,21 Kasturba Gandhi Marg,New Delhi110001 011-43620219,43620220 Mob: 7838272772/9958936103 email:Info@jaibalajigroup.com
5	M/S Shyam Steel Industries Ltd, Shyam Towers EN- 32, Sector-V, Salt Lake. Kolkata-700091 Tei.:033- 40074007,Fax-033-40074010, email:marketing@shyamsteel.com	6	M/S SPS Steel Rolling Mills Ltd., 68,Ballygunge Circular Road, Kolkata 700019 Ph-033-2895160/67 Fax-033-22894386 email-spsdelhi@spsgroup.co.in
7	M/S SteelExchange India ltd, My Home Laxminivas Apartments. Ameerpet, Hyderabad-500016, A.P. Tel-040-23403725 Fax-040-23413267, E-mail- info@seil.co.in	8	M/S Jindal Steels and Power Ltd. (TMT) Plot No 2, Sector-32, Gurgaon-1 22001 , Haryana Tel-+91 1662 222471-84 Fax-+91 1662 220476.
9	M/S SRMB Srijan Ltd Smb House, 7, khetra das lane Kolkata-700012 Tel : 033-6600 6600 Fax: 033- 2211 0483	10	M/S Concast Steel & Power ltd, Kokata 21 Heman! Basu Sarani. Suit Nos-511 & 512 5th Floor, Kolkata -700001 Tel -91-33-2213 0481-87 91-33-2213 0488 Email: info@concastgroup.com
11	M/S Adhunik Metaliks Ltd, Orissa Lansdowne Towers. 2/1A Sarat Bose Road. Kolkata -700 020 Tel: 033 3051 7100 Fax: 91 33 2289 0285 Email: mfo@adhunikgroup.com	12	M/S Shri Bajrang Power & Ispat ltd, Raipur,Chhatishgarh Viii -Borjhara, Urla Industrial Area. Raipur 493221, Chhattisgarh. Tel : 0771 4288019/29 / 39

PARTICULAR SPECIFICATIONS(Contd....)

13	M/S JSW Steel Ltd, Karnataka Jindal Mansion, 5A Dr G Deshmukh Marg. Mumbai 400026	14	M/S Electrosteel Steels Ltd, Bokaro, Jharkhand G K Tower, 2 nd & 3 rd Floor. 19 Camac Street. Kolkata, WB-700017 Board No: 91-33-2283-9990
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Note : Proper validity of approval by E-in-C's branch has to be ensured before approval of make by GE..

5.3.2 **STRUCTURAL STEEL (EXCEPT HOLLOW STEEL SECTION)** :- Structural steel any section/plate (except hollow steel sections) shall be procured from main producers like **SAIL, Rashtriya Ispat Nigam Ltd, IISCO, TISCO and M/S Jindal Steels and Power Ltd.** However in case of its non availability with above mentioned primary producers, the same can be procured from approved secondary producers with a reduction of 5% (**Five percent**) of the accepted rates of structural steel. In case the desired section of structural steel is not rolled/manufactured by above mentioned primary producers, there shall be no price adjustment in use of structural steel procured from approved secondary producers for such sections of structural steel. In case the quality of structural steel i.e. A, B or C is not mentioned then quality A shall be used and same shall be followed for deviation if any.

5.3.3 Steel section for railings, gate, fencing, guard bars, grills, steel chowkat, holdfasts, etc which do not constitute structural members, can be procured from main producers/secondary producer/BIS marked manufacturers or their authorized dealers at the option of contractor without any price adjustment. Tests will not be insisted upon for such steel sections.

5.3.4 **STRUCTURAL STEEL (HOLLOW MS TUBE)** :- Structural hollow MS tube for structural steel supplied by the contractor shall be directly procured from TATA (STRUCTURA)/JINDAL/RINL/SAIL/NEZONE (NTL)/ISI marked.

5.3.5 **PRESSED STEEL OVERHEAD TANKS:** Fabrication and erection of pressed steel overhead tank shall conform to IS 804-1967 (re-affirmed 2003).

5.3.5.1 **MATERIALS :**

- (i) Mild Steel Plates & components used in Pressed Steel tanks shall conform to IS : 226-1975
- (ii) Bolts & nuts used shall be of mild steel, hexagonal and finished in black, to IS : 1363-2002
- (ii) Jointing material shall be insoluble in water, capable of withstanding the temp variations of water to be stored in the tank
- (iii) Electrodes used for welding shall conform to IS : 814-2004
- (iv) The surface of the welds should be even, free from cracks or blowholes and the welds should be completely fused to the parent metal without undercut.
- (v) The workmanship should be of the highest order and the finished tank should be free from all defects of manufacture. Accuracy should be observed in the manufacture and erection of every part of the tank. All joints should be leak proof and the edges of flanges finished flush with each other. All similar parts should be interchangeable.

5.4 **TESTING OF STEEL**

5.4.1 The manufacturer is to carry out inspections and testing of steel in accordance with the relevant BIS provisions. The contractor shall submit the manufacturer's test Certificate in original along Nominal mass of any size of finishes bar/section of steel shall be checked as specified in relevant IS code. The nominal mass so determined shall be recorded in steel testing register giving cross reference to consignment number. Nominal mass of any size of finished bar/section of steel if found to be beyond the tolerance limits on minus side as specified in relevant IS code, the same shall be rejected and the contractor shall remove the same at his own cost without any extra cost to the Government. However, if the weight of steel section is beyond the tolerance limit on higher side the same can be provided with approval of the GE but without any extra cost to the Government.

5.4.1.1 **TYPE OF TESTING**

5.4.1.1.1 **REINFORCEMENT STEEL**

(a)	High Strength Deformed Steel Bars	-	Nominal Mass Test, Tensile Test, Bend Test and Re-bend Test shall be carried out as per Clause No. 8 of IS-1786-1985 and Test Specimens shall be as per Clause No. 10 of IS-1786-1985.
(b)	Mild Steel Bars	-	Nominal Mass Test, Tensile Test and Bend Test shall be carried out as per Clause No. 9 of IS-432 (Part-I)-1982. Re-bend Test is not required to be carried out for Mild Steel Bars

5.4.1.2 **STRUCTURAL STEEL**

- (a) Structural Steel (Standard-Quality) Tensile Test and Bend Test shall be carried out as per Clause No. 6, 7 and 8 of IS-226-1975 for Standard Quality of Steel Sections.
- (b) Structural Steel (Ordinary-Quality) Tensile Test and Bend Test shall be carried out as per Clause No. 6, 7 and 8 of IS-1977-1975 for Ordinary Quality of Steel Sections.
- (c) Structural Steel (hollow steel-sections) Tensile Test shall be carried out as per IS-4923-1997 for Standard Quality (Hollow Steel Section) of Steel Sections.

5.4.2 **FREQUENCY OF TESTING**

PARTICULAR SPECIFICATIONS(Contd....)

- 5.4.2.1 **REINFORCEMENT STEEL:** Normal Mass Test, Tensile Test, Bend and Re-bend Test shall be carried out as per Minimum Frequency given below:-

NOMINAL SIZE OF BARS		FREQUENCY	
(a)	Bars size less than 10mm	–	1 SAMPLE (3 SPECIMENS) for Each Test for Every 25 TONNES or Part thereof.
(b)	Bar size 10mm to 16mm	–	1 SAMPLE (3 SPECIMENS) for Each Test for Every 35 TONNES of Part thereof.
(c)	Bar size over 16mm	–	1 SAMPLE (3 SPECIMENS) for Each Test for Every 45 TONNES of Part thereof.

- 5.4.2.2 **STRUCTURAL STEEL:-** Tensile Test and Bend Test shall be carried out as per Minimum Frequency given below :-

NOMINAL SIZE OF BARS		FREQUENCY	
(a)	TENSILE TEST	–	1 SAMPLE (3 SPECIMENS) for Each Test for Each Individual Section for Every 25 TONNES of Steel or Part thereof.
(b)	BEND TEST	–	1 SAMPLE (3 SPECIMENS) for Each Test for Each Individual Section for Every 25 TONNES of Steel or Part thereof.

NOTE : For various Tests, Acceptance Criteria, Tolerance, etc. refer to STEEL SUPPLY & ACCEPTANCE REGISTER given in APPENDIX here-in-after and relevant BIS Codes.

- 5.4.3 **TESTING CHARGES:** The Unit Rate/Amount quoted by the Contractor in the Tender shall be inclusive of Cost of all sorts of Testing to the extent as specified here in before and in relevant Indian Standards.

- 5.4.4 **DOCUMENTATION:-** The contractor shall submit Original Purchase Vouchers and Test Certificate from the Main Producer/ Secondary Producer/BIS marked manufacturer/authorized dealer as applicable for the total quantity of steel supplied under each consignment to be incorporated in the work. All consignments received at the work site shall be inspected by the GE along with the relevant documents before acceptance. The Original Purchase Vouchers and 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 consignment number recorded in the Steel Acceptance Register. The steel Acceptance Register will be signed by the JE (Civil), Engineer in Charge, GE and the Contractor. The Accepting Officer may order a Board of Officers for random check of steel and verification of connected documents. The entire quantity of steel items 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.

- 5.5 **STORAGE, ACCOUNTING, PRESERVATION & MAINTENANCE OF STEEL:** The storage accounting, preservation and maintenance of steel supplied by the contractor shall be done as per standard engineering practice till the same is consumed in the work and the cost of the same shall be deemed to be included in the unit amount quoted by the tenderer. The GE shall inspect regularly to verify that steel lying at site are stored, accounted, preserved and maintained as per the norms. The steel shall be stored so as to differentiate each consignment separately. If the GE is not satisfied with the storage/preservation of any size of bar/section of steel, he may order for any test (s) of steel as applicable for that size of bar/section of steel and as specified in tender documents and relevant Indian Standard to recheck the acceptability criteria for the same. The contractor shall bear the cost of necessary testing(s) in this regard and no claim whatsoever shall be entertained by the Govt.

- 5.6 **MEASUREMENTS AND PAYMENT OF STEEL:**

- 5.6.1 The entire quantity of all steel items 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. The nominal mass conversion factor for various steel sections/size of finished bars as given in relevant IS codes shall be considered standard for measurement. The payment of steel shall only be allowed after production of Original Purchase Vouchers, Test Certificates by the contractor for each consignment of steel and results of testing carried out by the Department are found satisfactory after testing.

6. **INTERNAL ELECTRIFICATION**

- 6.1 General-Refer paras 19.2 of MES Schedule Part-I.
- 6.2 No price adjustment in rates shall be made on account of changes in location of fittings and accessories shown on drawings.
- 6.3 In case the contractor has not set up the side laboratory and the tests are carried out in zonal or any other laboratory, the recovery shall be made at rates applicable i.e. given in Schedule “A”

7. **ELECTRICAL WORKS GENERAL**

PARTICULAR SPECIFICATIONS(Contd....)

- (a) All electrical works shall be carried out in conformity with requirements of the Indian Electricity Act 1910 and Indian Electricity rules 1956 framed there under Fire Insurance Act applicable and also the Regulations of Electric supply authorities concerned amended from time to time.
- (b) Unless otherwise exempted under the rules of the Indian Electricity Rules, the work of electrical installation shall be carried out under the supervision of a person holding a certificate of competency issued by the recognised authority. The workmanship is an essential requirement for compliance with these specifications.
- (c) The contractor shall adhere to safety procedures instructions for working on low medium and high voltage mains and apparatus and safety practices listed in IS-5216-1982 (First revision), Guide for safety procedures and practices in electrical works shall be followed to the extent applicable. The contractor shall provide workman with safety devices and appliance.
- (d) All electrical equipment shall satisfy the requirement laid down in IS-1646-1982, code of practice for fire safety of building (General) electrical installations and IS-1934-1991, code of practice for fire safety of electric generation and distribution stations to the extent applicable.
- (e) All electrical works shall be systematically tested by the contractor in presence of the Engineer-in-Charge to ensure compliance with the specifications laid down. Test results shall be recorded and signed by the contractor and Engineer-in-Charge. If the test results are not acceptable all repairs and replacements and extra work of removal and relaying or refixing shall be carried out by the contractor at his expense and installation retested until test results indicate compliance with the prescribed requirements.
The Contractor shall supply the necessary apparatus, labour and instruments or equipment enquires for testing.

8. EQUIPMENT AND MATERIALS

- 8.1 All equipments and materials to be incorporated in the work shall be one of the make as mentioned and as approved by the Accepting Officer in writing and shall strictly comply with latest appropriate, Indian Standard specifications or where IS specification is not available, those shall comply with the latest BS specification.
- 8.2 Materials and equipments for which make have not been specified shall be of standard makes and shall strictly comply with current appropriate IS specifications or where IS specification has not been issued, they shall comply with the latest BS specifications.
- 8.3 The repairs of all electrical equipments and accessories shall strictly comply with the provisions contained in the latest edition of Indian Standard code of Practice IS- specification as applicable to above mentioned work except where such regulations and rules are modified by these specifications.
- 8.4 (See condition 25 of General conditions of contracts IAFW-2249). All electrical works shall be carried out by properly skilled and licensed electricians under the supervision of qualified electrical supervisors/Engineers. The contractor shall on demand by the Engineer-in-Charge, produce such evidence of qualification of these workman/supervisors/Engineers, either at the commencement of work or at any time thereafter/during the currency of the contract. The entire work shall be of high class with the best workmanship and to the entire satisfaction of the Engineer-in-Charge.

9. GUARANTEE

After completion of work the contractor shall guarantee that materials and workmanship of the equipment and connected items repaired by him are best quality in every respect and he will make good the defects, damages which are not attributed to normal wear and tear or misuse for which decision of the GE/AGE(I) is final and binding. Contractor shall be responsible for repairing and or replacing at his cost any parts which are rendered defective and unserviceable during the defect liability period.

10. INSPECTION OF SITE

- 10.1 Tenderers are requested to inspect the site of work before quoting their rates. No extra claim will be entertained later on due to work site or any other reasons.
- 11. The materials shall be as follows: -

Serial No	Materials	Reference to Para of MES Schedule Part-I
(a)	Cables, cords and earthing leads.	19.24
(b)	Cables for internal wiring for Light, power and sub-mains.	19.25
(c)	Conduit and conduit fittings	19.29
(d)	Plug/gutties.	19.30
(e)	Screws, fastening, link clips.	19.31 & 19.17
(f)	Ceiling rose.	19.32

PARTICULAR SPECIFICATIONS(Contd....)

(g)	Shades.	19.33
(h)	Bulk head fittings	19.34
(j)	Socket outlet	19.40
(k)	Lamp holders.	19.41
(l)	Switch fuses (Main switch).	19.45
(m)	Switch/boards.	19.105

- 11.1 Switch piano flush button/flush type-switch piano shall be of standard make and conforming to IS.
- 11.2 Distribution fuse board and MCB-Refer paras 19.44 and 19.46 of MES Schedule Part-I. Miniature circuit breaker shall be provided for distribution of circuit.

12. WORKMANSHIP

- 12.1 **GENERALLY** - Refer paras 19.101 to 19.112 of MES Schedule Part-I.

- 12.2 **FITTINGS** - Bulk head-Refer para 19.113 of MES Schedule Part-I.

- 12.3 **ACCESSORIES** - Switches, lamp holders, ceiling roses, socket outlet-Refer para 19.114 of MES Schedule Part-I.

- 12.4 **ATTACHMENT OF FITTINGS AND ACCESSORIES** - Refer para 19.115 of MES Schedule Part-I.

- 12.5 Terminal points of light and power plugs (socket outlets), switch, regulators, etc. shall terminate in recessed cast iron boxes or M.S boxes flush to the walls, top covered with 3 mm thick plastic laminated sheet, light fittings shall be fixed on wooden blocks.

13. **CONDUIT WIRING** - Refer para 19.124 to 19.132 of MES Schedule Part-I. Forming/cutting chases in walls/floors and making good after fixing and testing of conduit wiring is included in the priced lump sum cost of buildings.

14. **PVC CASING AND CAPPING** - PVC casing capping wiring shall be of approved make and fire retarded quality. The channel space shall be adequate to accommodate the cable laid in it. The screws shall be chromium coated iron screws rigidly fixed to gutties or with detofix at least at 15 cm apart. The corner bridges shall be making neatly angle shaped."

- 14.1 Distribution board, main switches: Refer para 19.107 of MES Schedule 'A' Part-I.

- 14.2 Accessories switches, lamp holder, ceiling roses, socket outlets, Refer paras 19.114 of MES Schedule Part-I.8.16 Conduit and conduit fittings, workmanship: Refer para 19.125 to 19.130 of MES Schedule Part-I.8.17 Testing: Refer para 19.146 of MES Schedule Part-I.

15 to 16 **Blank**

17. LIST OF BIS CERTIFIED PRODUCTS TO BE INCORPORATED IN WORKS

(a)	Ceiling Rose	-	IS-371
(b)	Socket outlet 3 pin plugs and socket	-	IS-1293
(c)	Rigid non metallic conduit	-	IS-2509
(d)	Aluminium stranded conductor	-	IS-398
(e)	Switch fuse (Main switch)	-	IS-4064
(f)	Single core cable polythene Insulated and PVC sheathed	-	IS-1596
(g)	PVC insulated(heavy duty) electric cable	-	IS- 1554(Part-I)

18. EXTERNAL ELECTRIFICATION

- 18.1 scope of work: The extent of work under this contract is as indicated in relevant para/section of schedule 'A' particular specifications and drawings with all reference to clauses in succeeding paragraphs pertain to MES schedule. The layout of conductors/cable route shall be as directed by the Engineer-in-Charge.

18.2 General Requirement:

- 18.2.1 The requirement pertaining to materials, conformity with Indian Electricity Act and Rules, workmanship, testing, record of installations, safety procedures and fire safety, shall be all as specified in MES schedule Part-I clause No 19.2 All the Electrical works shall be got executed through licensed Electrician and the contractor shall produce the Engineer-in-Charge in support of Electrician provided by him before commencement of work.

PARTICULAR SPECIFICATIONS(Contd....)

- 18.2.2 The contractor is deemed to have included in rates, cost of making holes/chases where required through roads masonry or concrete work for taking in cable/conduits/pipes and conductor etc, and making good the same to match with existing work without any extra cost.

18.3 **Under Ground Cables:**

- 18.3.1 L T power cable shall be confirming to Indian Standard.

- 18.3.2 **Method of laying:** Before laying the cable, the trench shall be provided with a layer of sand of 8cm depth for the purpose of cushioning, after the cable has been unsoiled and laid in to the trenches over the rollers, the cable shall be lifter slightly over the rollers beginning from one and by helpers standing about 10 metre apart and drawn straight. The cable shall then be taken off the rollers by additional helpers lifting the cable and then laid straight into routs. When the cable has been properly straightened, it shall be covered with sand to a depth of 15cm. This is then greedy pressed down to a depth of 10cm above top of the upper most cable, the providing a good bedding for the protective cable covers on warning covers which are placed centrally over the cable i.e by bricks. The punning shall be done by hand, mechanical pruners shall not be used.

18.4 **TESTING OF ELECTRICAL EQUIPMENT AND CABLE**

- (a) Complete equipment shall be tested jointly by Engineer-in-Charge and contractor's qualified Engineer. Record of all test results shall be compiled and submitted to GE for approval. GE shall ensure that all test results are within the specified limits of Indian standard or laid down specifications as described in calue 19.2 of SSR Part-I.

18.5 **TESTING OF CABLE**

- (a) **Testing during laying:** All new cable shall be mugger tested before jointing after jointing is completed all low voltage cables shall be mugger tested and high voltage cables pressure tested before commissioning. The cable shall be tested for:-

- (i) Continuity
- (II) Absence of Cross Phasing.
- (iii) Insulation resistance to earth.
- (iv) Insulation resistance between conductors.

- (b) Testing after laying and jointing: Immediately after initial laying and jointing work is completed, a high voltage test shall be applied to HT cables to ensure that they have not been damaged during or after the laying operations and that there is no flaw in the jointing. The following tests shall also be carried out in all cables:-

- (i) Insulation resistance test sectional and over all.
- (ii) Continuity rest sectional and over all.
- (iii) Full load test.
- (iv) Earth test.

- (c) Insulation resistance test shall be carried out between the conductors and conductors and earth by Mugger, high voltage test shall be carried out by a applying test voltage between the conductor and earth conductor to sheath as given in appx 'F' to IS-1255 (1983) and reproduced in clause 19.94 of SSR Part-I.

- (d) The contractor shall provide all apparatus required for the test and render all resistance for carrying out test without any extra cost to the Deptt.

18.6 **SAND CUSHIONING**

- 18.6.1 Sand for cushioning shall be dry, clean sand, and sand cushioning as specified here in before.

18.7 **ROAD CROSSING AND OTHER INCIDENTAL WORK**

- 18.7.1 Wherever the cable crosses the existing roads/path, the contractor shall dig only half the width of the road/path at a time. If required necessary diversion shall be provided. Proper warning notices signs and red light shall be displayed watchman posted to prevent accidents at crossing and diversion. After the cable are laid, tested and trenches refilled, the road/path disturbed shall be make good to confirm the original specification. No extra payment shall be admitted for the aforesaid incidental work. The contractor shall be deemed to have visited the site of work, made himself familiar with the various incidental work involved and necessary allowances made in the rates quoted in various items of Schedule 'A' cables shall be taken through GI pipe light grade for protection of the cable road crossing and walls.

18.8 **EARTHING**

- 18.8.1 Earthing shall be carried out as described in IS-3043-1960 code of practice of earthing. The work shall be executed as specified in schedule 'A' in conjunction with Electrical plate No 3 of SSR Part-I & as specified in clause No 19.137 to 19.146 of MES schedule Part-I. Following shall be deemed to be included in rate quoted against respective item of schedule 'A'

- (a) Excavation and earth work in soft/loose soil.

PARTICULAR SPECIFICATIONS(Contd....)

- (b) The earth plate shall be as mentioned in schedule 'A' and placed vertically with its top not less than 2.25m below the normal ground level and shall be surrounded with charcoal dust to packed thickness of 150mm round the plate ie below above and on all sides.
- (c) The charcoal dust and return filling shall be done in layers not exceeding 150 mm thick and shall be properly watered and rammed. Surplus spoil shall be disposed off and site be clean and tidy on completion.
- (d) PCC pit in PCC (1:3:6) type C1 (with 20mm graded stone aggregate).
- (e) Precast RCC (1:2:4) type B1 (with 12.5mm graded stone aggregate) XPM wire net cover in lieu of CI cover.
- (f) Funnel with 20mm bore GI (light grade) watering pipe wire mesh and copper lugs etc.
- (g) Test point.
- (h) Continuity earthing conductor upto 7.5 metres.
- (j) 15/40mm GI protection pipe (medium grade) upto earth pit to test point.

18.9 CROSS ARM AND CLAMPS

18.9.1 Refer para 19.9 of MES schedule Part-I

18.9.2 Size of cross arm bracings, clamps etc shall be all as directed by the Engr-in-Charge and as described in Sch 'A' some of the cross arm may have to be made to required shape as directed by the Engr-in-Charge. No extra payment shall be made on this account.

18.9.3 Steel section shall be cut to conform to exact shape and length as directed.

18.9.4 Shapes and sizes of clamps bolts etc shall be all as directed. Clamps normally shall be made out of flat iron and shall be secured with adequate size of bolts and nuts.

18.9.5 The rate quoted shall be included for drilling/punching etc. Holes when punched shall be clean and edges filed square and smooth.

18.9.6 Cross arms clamps shall be painted with two coats of aluminum paints over a coat of zinc chrome primer.

18.9.7 Make of steel for cross arm shall be TATA/SAIL/TISCO as approved by GE and all as specified here-in-after.

18.10 ALUMINIUM CONDUCTOR STEEL REINFORCED

18.10.1 Conductor shall comply with the requirement given in par 19.10 of MES Schedule Part-I.

18.10.2 ACSR shall comply with the requirements of IS-1976.

18.10.3 For jointing two ACSR twisting joints are to be used. This joint consists of two shaped aluminum sleeves, large enough to slip over overlapped ends of the cables to be joints and pressure crimped/twisted type joints shall be made.

18.10.4 For connection of conductors dead end to the insulator on poles, dead end looping Is to be done after taking the cable round the thimble by using a twisted joint.

18.10.5 For tying conductors to pin type insulators aluminum binding wire of suitable size for different conductors as per manufacturer's instruction shall be provided.

18.10.6 Connection of service wire and jumpers shall be carried out to maintain line conductor with approved quality PG clamps.

18.10.7 ACSR conductor should be straight, maintaining space and sag as per IS Rule.

18.10.8 Weight of the ACSR conductor for over head lines is to be determined by measuring taut horizontal distance between center of two adjacent poles and compounding the weight of conductors of that size and length and 3% extra added for sag. Jointing, jumpers etc.

PARTICULAR SPECIFICATIONS(Contd....)

- 18.10.9 Weight of conductor shall be calculated from the tables given in the relevant IS. Where the weight of any conductor is not given in the IS, it shall be calculated using standard tables of the electrical conductors supplied by the makers.

18.11 INSULATORS

- 18.11.1 These shall comply with the descriptions given in sch 'A' and shall conform to the specification given in para 19.6 and its relevant sub paras of MES schedule Part-I and shall be fixed all as specified in the specification contained in MES schedule.

18.12 STAY ASSEMBLIES

- 18.12.1 The stay assemblies shall comprise of stay clamp, stay wire, stay insulator, stay grips, thimble stay bow, stay rod and stay plate.
- 18.12.2 Stay clamp shall be made of mild steel flats and shall be galvanized.
- 18.12.3 Stay insulator shall conform to IS 5300-1969.
- 18.12.4 Stay grips shall conform to the specifications for stay wires.
- 18.12.5 Thimbles shall comply with IS 2315-1978 specification for thimbles for wire ropes.
- 18.12.6 Stay bows shall be of mild steel galvanized, of 14mm dia and 40cm length.
- 18.12.7 Stay rod shall be of mild steel, galvanized having a tensile strength not less than 420N/Sqmm stay rod shall be either of 16mm or 20mm as indicated and 1.8metre long.
- 18.12.8 Stay plates shall be mild steel galvanized, having 6mm thickness and either of 23x33cm or 30x30cm as specified.

18.13 GI PIPES AND FITTINGS

- 18.13.1 These shall conform to IS-1239 and pipes and fittings shall be suitable for the class/grade as mentioned in BOQ and directed by Engr-in-charge.

19. EQUIPMENT AND MATERIALS

- 19.1 All equipments and materials to be incorporated in the work shall be one of the Make as mentioned in Appendices and as approved by the accepting Officer in writing and shall strictly comply with latest appropriate, Indian standard specifications or when IS specification is not available, those shall comply with the latest BS specification.
- 19.2 Materials and equipments for which make have not been specified shall be of standard makes and shall strictly comply with current appropriate IS specifications or where IS specification has not been issued, they shall comply with the latest BS specifications.
- 19.3 The supply and installation of all electrical equipments and accessories shall strictly comply with the provisions contained in the latest edition of Indian standard code of practice IS-specification as applicable to above mentioned work except where such regulations and rules are modified by these specifications.
- 19.4 (See condition 25 of General conditions of contracts IAFW-2249). All electrical works shall be carried out by properly skilled and licensed electricians under the supervision of qualified electrical supervisors/Engineers. The contractor shall on demand by the Engineer-in-Charge, produce such evidence of qualification of these workman/supervisors/Engineers, either at the commencement of work or at any time thereafter/during the currency of the contract. The entire work shall be of high class with the best workmanship and to the entire satisfaction of the Engineer-in-Charge.

20. LAYOUT OF EQUIPMENT

- 20.1 Layout of various equipments, cables, poles, etc shall be as directed by the Engineer-in-Charge to suit the site requirements No adjustment in the rates shall be made on account of such varied layout.

21. GUARANTEE

After completion of work the contractor shall guarantee that materials and workmanship of the equipment, power system and connected items offered and installed by him are new and best quality in every respect and he will make good the defects, damages which are not attributed to normal wear and tear or misuse for which decision of the GE is final and binding contractor shall be responsible for repairing and or replacing at his cost any parts which are rendered defective and unserviceable during the defect liability period.

22. INSPECTION OF SITE

- 22.1 Tenderers are requested to inspect the site of work before quoting their rates. No extra claim will be entertained later on due to work site or any other reasons

23. DEMOLITION/DISMANTELING/TAKING DOWN

- 23.1 Refer to relevant paras under section 21 of MES Schedule Part-I.

PARTICULAR SPECIFICATIONS(Contd....)

- 23.2 The contractor shall take proper precaution for demolition/dismantling work. If any damage caused due to dismantling/ demolition to existing structure, the contractor shall make good the same at his own cost without any extra cost to the Govt.
- 23.3 Unserviceable materials obtained from demolition/dismantling shall be returned to MES store and proper receipt vouchers obtained. All demolished/dismantled materials shall be removed from the site by the contractor as directed by the Engineer-in-Charge without any extra cost to Govt.
24. **CONFORMITY WITH INDIAN ELECTRICITY ACT, RULES ETC** : All electricity work shall be carried out in conformity with the requirements of the Indian Electricity Act 2003 & Indian electricity Rules 1956 framed there under and fire insurance act as applicable and also the relevant regulations of Electric supply authorities concerned as amended from time to time.
25. **SHUT DOWN**: Prior permission should be obtained by the contractor from the Engr-in-Charge for shut down of electricity to carry out work on external electrification and proper planning should be made from undertaking such work so that the department interest is not affected to run the installations.
26. **SAFETY PROCEDURES AND PRACTICES**: In all major electrical installations, such as substations industrial establishments, transmission and distribution lines and cable networks; safety procedures instructions for working on low, medium and high voltage mains and apparatus and safety practices listed in IS-5216-1982(first revision) Guide for safety procedures and practices in electrical works shall be followed to the extent applicable. The contractor shall provide workmen with safety devices and appliances.
27. **FIRE SAFETY**: All electrical equipment shall satisfy the requirements laid down in IS 1646-1997 code of practice for fire safety of buildings (general) electrical installations and IS 3034-1993 code of practice for fire safety of industrial buildings, electrical generating and distributing stations, to the extent applicable.
28. **TESTING-GENERALLY**: All electrical work shall be systematically tested by the contractor in the presence of EIC to ensure compliance with the specifications laid down. Test results shall be recorded and signed by the contractor and the EIC, if the test results are not acceptable, all repairs and replacements and extra work of removal and relaying or refixing shall be carried out by the contractor at his expense and installation retested, until test results indicate compliance with the prescribed requirements. The contractor shall supply the necessary apparatus, labour and instruments or equipment required for testing.
29. The equivalency of product (mainly light) if applicable shall be ascertained by luminosity of the light and power consumption.
34. **ELECTRICAL FITTINGS AND ACCESSORIES**
All electrical fittings shall comply the relevant Indian standard and shall be of make specified in Appendix 'C'.
35. **SUBMISSION OF COMPLETION DRAWING OF E/M PORTION**
- 35.1 On physical completion of work, contractor is to submit the following drawings relevant literature as enumerated below to the dept. This is a pre-requisite before completion certificate is issued to the contractor.
- (a) Schematic diagram of power wiring including cable sizes.
 - (b) LT cable route/HT/LT over head line route from tapping point to termination.

SIGNATURE OF CONTRACTOR
DATED

AGE (CONTRACTS)
FOR ACCEPTING OFFICER

MATERIAL AND THEIR TESTS
RECOVERY RATES OF TESTING CHARGES

APPENDIX 'A'

Ser 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	Coarse aggregate	(i) Sieve analysis	IS-2386 (Part – I)	One test for every 15 M ³ of aggregate or part thereof brought to site	'A'	120/-	
		(ii) Flakiness Index	--do--	--do--	'A'	90/-	
		(iii) Estimation of deleterious materials	IS-2386 (Part-I)	One test for every 100M ³ of aggregates or part thereof	'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'	120/-	
2	Fine aggregate	(i) Sieve analysis	IS-2386 (Part – I)	One test for every 15 M ³ of FA or part when brought to site	'A'	180/-	
		(ii) Test for clay, silt and impurities	--do-- (Part-I)	--do--	'A'	90/-	
		(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-- (Part – II)	One test for each source of supply	'C'	180/-	
3	Structural Concrete (M-15 grade and above)	(i) Slump test or compacting factor test or vee-bee time	IS-1199	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

MATERIAL AND THEIR TESTS

RECOVERY RATES OF TESTING CHARGES

APPENDIX 'A' (Contd.....)

[illegible]

Signature of the Contractor
Date

**AGE(Contracts)
For Accepting Officer**

CEMENT SUPPLY & ACCEPTANCE REGISTER

APPENDIX ‘B’

1. CA NO & Name of work :
2. Control No* :
3. Name of Manufacturer/Brand/Gde of Cement (A) Manufacturer (B) Brand (C) Grade :
4. Qty of cement & Lot No/Week No (in bags) : (A) (Qty) (B) Lot No/Week No
5. Manufacturer’s 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 :

	Specific Surface Area (m ² per Kg)	Leakage by Chatellar	Soundness by Auto Clave	Initial Setting Time (Minutes)	Final Setting Time (Minutes)	Compressive strengths			Temp during testing °C	Standard consistency (%)	Lime Saturation (Ratio)	Aclumina Iron Ratio	Insoluble ratio (%)	Magnesium (%)	Sulphuric Anhydride (%)	Loss on ignition (%)	Alkalies (%)	Chlorides (%)
						03 days	07 days	28 days										
As per relevant IS																		
As per manufacturer’s test certificate																		
As per random test certificate																		

Remarks with Signature :

Accepted/Rejected

Contractor

Junior Engineer

Engineer-in-Charge

Garrison Engineer

PARTICULAR SPECIFICATIONSSTEEL SUPPLY AND ACCEPTANCE REGISTER

1. CA No :
2. Name of Work :
3. Name of Manufacturer's TC 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. Type 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 + Phosphorous %	Manganese %	Silicon %	Corrosion resistant element	Wt per meter	Yield Stress (N/mm ²)	Tensile Strength (N/mm ²)	Percent elongation (Min 18%)	Bend test	Rebend test	remarks
As per IS 1786-2008														
As per Manufacturer's test certificates														
As per independent test														

Remarks with Signature

Accepted/Rejected

Contractor

Junior Engineer

Engineer-in-charge

Garrison Engineer

SIGNATURE OF CONTRACTOR
DATEDAGE (CONTRACTS)
FOR ACCEPTING OFFICER

LIST OF APPROVED MAKE/MANUFACTURER

ELECTRICAL ITEMS		
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/GOLD MEDAL/ BENTEC INDIA LTD(MAKE: BENLO)
2	PIANO SWITCHES, SOCKETS etc	ANCHOR/ HAVELLS/LEGRAND/ GOLD MEDAL/VINAY ELECTRICAL SOLUTIONS
3	PVC CASING CAPPING	FINOLEX / MODI / PRESTO PLAST/ PLAZA/KALINGA / M/S AKG INDUSTRIES / M/S RICHA CABLES PVT LTD/ GOLD MEDAL
4	PVC CONDUITS	FINOLEX / MODI / PRESTO PLAST/ PLAZA/KALINGA / M/S AKG INDUSTRIES / M/S HARSH ELECTRO SYSTEMS PVT LTD / M/S POLYCAB INDIA LIMITED / M/S RICHA CABLES PVT LTD/GOLD MEDAL
5	STEEL CONDUITS	TATA/JINDAL/AKG/SWASTIK/PRAKASH
6	MODULAR SWITCHES/ FIXTURES	CRABTREE/LEGRAND/SCHNEIDER/L&T/SIEMENS/ABB/PHILIPS/ANCHOR/M/S HAGER ELECTRO PVT LTD / M/S C&S ELECTRIC LTD /ANCHOR/ HAVELLS/VINAY ELECTRICAL SOLUTIONS/ GOLD MEDAL/ BENTEC INDIA LTD(MAKE: BENLO)
7	MCBs & DBs & ISOLATOR	LEGRAND/ SCHNEIDER (MERLIN GERIN)/ SIEMENS/ABB / INDOASIAN/ L&T / M/S HENSEL ELECTRIC INDIA PVT LTD / M/S HAVELLS INDIA LTD / M/S HAGER ELECTRO PVT LTD /M/S C&S ELECTRIC LTD/ANCHOR (PANASONIC MODEL)/GOLD MEDAL/ BENTEC INDIA LTD(MAKE: BENLO)
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/ BENTEC INDIA LTD(MAKE: BENLO)
9	MCCBs	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/BENTEC INDIA LTD(MAKE: BENLO)
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/ JAQUAR /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 C&S ELECTRIC / M/S PANASONIC LIFE SOLUTIONS INDIA PVT LTD (BRAND : PANASONIC) / GOLD MEDAL /M/S ORIENT ELECTRIC LIMITED/ BENTEC INDIA LTD(MAKE: BENLO)
13	HIGH MAST GI POLE	BAJAJ/ CROMPTON GREAVES/ NEZONE (NTL)/ M/S UTKARASH INDIA LIMITED

LIST OF APPROVED MAKE/MANUFACTURER(Contd...)

14	FLAME PROOF FITTINGS	BALIGA / FLEXPOR / 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)
16	EXHAUST FANS/CEILING FAN	CROMPTON GREAVES / KHAITAN / BAJAJ, HAVELL'S / M/S ORIENT ELECTRIC LIMITED / M/S RAM RATNA ELECTRICALS LTD/ GOLD MEDAL
17	HEATER WATER STORAGE TYPE ELECTRIC GEYSER	BAJAJ / HAVELLS / CROMPTON GREAVES/ VENUS / M/S V- GUARD INDUSTRIES LTD (UPTO 35 LTRS)
18	STREET LIGHT TIME SWITCHES	GE CONTROLS / L&T/ LEGRAND / SR COMMUNICATIONS
19	STEEL POLES (ISI MARKED)	BANSAL POLES / CALCUTTA POLES / JINDAL POLES / KQUALITY 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?BHAI/ABB
23	CHANGE OVER SWITCHES	L&T / SCHNEIDER / SIEMENS/ABB/ INDOASIAN / M/S HAVELLS INDIA LTD / M/S PANASONIC LIFE SOLUTIONS INDIA PVT LTD / M/S C&S ELECTRIC LTD
24	STARTERS	M/S BCH ELECTRIC / CROMPTON GREAVES/ L&T/ SIEMENS / M/S C&S ELECTRIC LTD
25	LT XLPE/ PVC CABLES (UG) (ARMOURED & UNARMOURED)	KEC (RPG)/ FINOLEX/ HAVELLS/ M/S RR KABEL LTD / POLYCAB/ M/S DYNAMIC CABLES LIMITED / M/S KEI INDUSTRIES LTD
26	HT XLPE/ PVC CABLES (UG) (ARMOURED & UNARMOURED)	KEC (RPG)/ CCI/ NICCO/HAVALLS / POLYCAB / M/S DYNAMIC CABLES LIMITED / M/S KEI INDUSTRIES LTD
27	HT XPLE CABLE JOINTS	DENSON/ M-SEAL/ RAYCHEM/3M / M/S VISHWA POWER & INFRASTRUCTURE (P) LTD
28	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
29	HT OCB/VCB, 33KV & 11KV	ABB/ BHEL/ CROMPTON GREAVES/ SCHNEIDER (MERLIN GREEN)/ SIEMENS /ANDREW YULE / L&T / M/S CG POWER AND INDUSTRIAL SOLUTION LTD (MAKE OF ACCESSORIES LIKE CT's, PT's, ETC. SHALL BE AS APPROVED BY MANUFACTURER OF OCB/VCB PANEL)
30	33 KV CTs / PTs	AE / AREVA/ CROMPTON GREAVES/ KAPPA
31	CURRENT TRANSFORMER & POTENTIAL TRANSFORMER 11 KV RANGE	AREVA/ ELECTRICAL CONTRL & SYSTEM/ KAPPA/ PRAGATI
32	RELAY (ELECTRO MECHANICAL	ABB / AREVA / GE CONTROLS / L&T / M/S BCH ELECTRIC / M/S NEPTUNE SYSTEMS PVT LTD (BRAND : NEPTUNE) / M/S CG POWER AND INDUSTRIAL SOLUTION LTD
33	RELAY NUMERICAL	ABB / AREVA / GE CONTROLS / L&T / M/S BCH ELECTRIC / M/S NEPTUNE SYSTEMS PVT LTD (BRAND : NEPTUNE) / M/S CG POWER AND INDUSTRIAL SOLUTION LTD

LIST OF APPROVED MAKE/MANUFACTURER(Contd...)

34	ELECTRONIC MULTIFUNCTION ENERGY METER/KWH METER	M/S HPL ELECTRIC & POWER LTD / L&T /NEPTUNE / M/S SECURE METERS LIMITED/AE
35	THERMO-PLASTICS ENCLOSURES FOR METERS / DBS	HENSEL / SECURE METERS/L&T / M/S STERLING GENERATORS PVT LTD
36	INDICATOR LAMP	GE CONTROLS / HAVELL'S / L&T / SIEMENS
37	SELECTOR SWITCH	GE CONTROLS/ HAVELL'S/ HPL LTD/ KAYCEE/ L&T/ SIEMENS
38	AMMETER, VOLTMETER, ETC.	AE/ HAVELL'S/ L&T/ LEGRAND/ MECO/ RISHAB
39	CONTACTORS	M/S BCH ELECTRIC / CROMPTON GREAVES/ GE CONTROLS/ HAVELLS/ L&T / SIEMENS
40	LT PANEL BOARD/ LT FEEDER PILLAR BOX	INDIAN TRANSFORMERS AND ELECTRICALS PVT. LTD./ BCH ELECTRIC LTD./ / M/S ADHUNIK SWITCHGEARS PVT. LTD / ANY MAKE HAVING CPRI APPROVED
41	CAPACITOR BANK/ APFC PANEL	CROMPTON GREAVES/ L&T/ M/S NEPTUNE SYSTEMS PVT LTD (BRAND : NEPTUNE) / SIEMENS/ABB/ M/S BCH ELECTRIC / M/S LIVE LINE ELECTRONICS / M/S C&S ELECTRIC LTD
42	TRANSFORMER 11KV/0.433KV BELOW 315KVA BELOW	NGEF/ VOLTAMP / PME/ ANDREW YULE/ ITF GURGAON/ UNIVERSAL / M/S RAYCHEM RPG PVT LTD
43	TRANSFORMER 11KV/0.433KV ABOVE 315KVA & ABOVE	ABB/ ANDREW YULE/ BHEL/ CROMPTON GREAVES/ VOLTAMP (BARODA) / M/S INDIAN TRANSFORMERS & ELECTRICALS PVT LTD / M/S JAYBEE INDUSTRIES
44	TRANSFORMER 33KV/11KV	ABB/ BHEL/ CROMPTON GREAVES/ SIEMENS/ VOLTAMP(BARODA) / M/S ESENNAR TRANSFORMERS (P) LTD / M/S KOTSONS PVT LTD
45	BATTERY CHARGERS	AMARA RAJA / MASSTECH / STATCON / M/S LIVE LINE ELECTRONICS / M/S INSTRUMENTS & EQUIPMENT CO
46	BATTERY MAINTENANCE FREE	AMARA RAJA/ AMCO/ EXIDE/ OKAYA/ PRESTOLITE
47	ELECTRIC MOTORS	ABB/ AREVA/ CROMPTON GREAVES/ KIRLOSKAR/ SIEMENS
48	PACKAGE/UNIFIED SUB STATION	ABB / BHEL / SCHNEIDER / SIEMENS / L&T / M/S RAYCHEM RPG PVT LTD / M/S VOLTAMP TRANSFORMERS LTD
49	ENGINE FOR DG SET (ANY RANGE)	ASHOK LEYLAND/ CUMMINS INDIA LTD./ GREAVES COTTON/ KIRLOSKAR OIL ENGINES LTD. / M/S STERLING GENERATORS PVT LTD
50	ALTERNATOR FOR DG SET	CROMPTON GREAVES/ KIRLOSKAR ELECTRIC/ STAMFORD/BHEL / M/S STERLING GENERATORS PVT LTD
51	ENERGY AUDIT SERVICES	CPRI / DATAGEN / DESCON LIMITED/ DSCL / ESCO
52	SOLAR PRODUCTS (SOLAR CELLS, PV MODULES ETC.)	BHEL / BEL / PEC / WAAREE / VIKRAMSOLAR / SUKAM OR ANY OTHER MAKE APPROVED BY MNRE / NISE / SECT
53	SOLAR INVERTER	M/S JACKSON ENGINEERS LIMITED/ M/S THERMAX LIMITED/ M/S SU-KAM POWER SYSTEM LTD./ M/S POWER-ONE MICRO SYSTEM (P) LTD/ ABB / SCHNIDER ELECTRIC OR ANY OTHER MAKE APPROVED BY MNRE / NISE / SECT
54	MODULE MOUNTING STRUCTURE	TATA (STRUCTURA) / JINDAL STAR / JSW

LIST OF APPROVED MAKE/MANUFACTURER(Contd...)

55	LIGHTENING PROTECTION - ESE	NIMBUS / LPI / INDELEC / ERICO / LAMCO / OBLUM / ABB / DEHN
56	DC POWER CONTROL CABLE	POLYCAB / UNIVERSAL / KEI / KEC (RPG) / HAVELLS
57	REFRIGERATOR/ WATER COOLER/ DEEP FREEZER/SPLIT & WINDOW& CASSETTE TYPE AC UNIT	LG /SAMSUNG/ VEDIOCON / GODREJ/ VOLTAS/ WHIRLPOOL/ BLUE STAR
58	VOLTAGE STABILIZER AUTOMATIC OPERATION SINGLE PHASE	SINETRAC / BRENTFORT / AE / MICROTECH / APLAB / M/S VINTEK ELECTRONIC) VOLINA / LG / SAMSUNG / M/S LIVE LINE ELECTRONICS / M/S INSTRUMENTS & EQUIPMENTS CO
59	VOLTAGE STABILIZER	AE / BRENTFORD / ITE-GURGAON / VINETEC
60	BUS BAR TRUNKING	L&T / CONTROL & SWITCH GEAR / SCHNEIDER / SIEMEN / GE INDIA
61	GI PIPE (ANY GRADE)	BANSAL/ BST/ JINDAL/ NEZONE (NTL)/ PRAKASH/ TATA/ SWASTIK/ ZENITH

Note:-

1. The makes for a particular product specified anywhere else in tender documents shall take precedence over makes given in Appendix-D.

2. Wherever word "equivalent make" has been specified the option of equivalent make will only be considered after taking approval from Accepting Officer and only where products of brand/ manufacturer specified are not available in market.

3. Materials and equipment for which make have not been specified shall be of standard makes and shall strictly comply with appropriate IS Specifications shall bear ISI / BIS Marking and shall be got approved from the GE before incorporation in the work.

SIGNATURE OF CONTRACTOR**DATED****AGE (CONTRACTS)****FOR ACCEPTING OFFICER**

(CONTRACTOR)

AGE (Contracts)