

MILITARY ENGINEER SERVICE

NAME OF WORK: REPAIR AND MAINTENANCE OF FIRE FIGHTING PUMP HOUSE AT AMBC BUILDING NEAR KAUTILYA AUDITORIUM AND INHS NAVJIVANI HOSPITAL INCLUDING REPAIR/MAINT OF INCINERATOR AT INHS NAVJIVANI AND ITS CONNECTED WORK SERVICES AT INA EZHIMALA

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Drawing Sheet : Nil

Total Pages

Signature of Contractor
DATED:

AGE (Contracts)
for Accepting Officer

Tele 04985-224788
E-mail: mezmla4-mes@nic.in.

REGISTERED ACK DUE
Garrison Engineer (Maint) Ezhimala,
Military Engineer Services
Indian Naval Academy – Post,
Kannur Dist., Kerala - 670 310

8696/ 03 /E8

____ Oct 2024

REPAIR AND MAINTENANCE OF FIRE FIGHTING PUMP HOUSE AT AMBC BUILDING NEAR KAUTILYA AUDITORIUM AND INHS NAVJIVANI HOSPITAL INCLUDING REPAIR/MAINT OF INCINERATOR AT INHS NAVJIVANI AND ITS CONNECTED WORK SERVICES AT INA EZHIMALA

Dear Sir,

1. Tender documents in respect of above work are uploaded on the site www.defproc.gov.in. The tender is on single stage two cover e-tendering system. The contents of cover I & Cover II are specified in NOTICE OF TENDER.
2. Bids 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 authorised representatives, who have uploaded their quotation 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, before clarification end date. You are requested not to write piece meal points and forward your points duly consolidated before due dated
5. Unenlisted contractors are required to submit the scanned copies of (in pdf file) or documents required as per eligibility criteria mentioned in instructions for filling the tender documents and Appendix 'A' to **NIT** alongwith EARNEST MONEY DEPOSIT (EMD) and tender fee on e-procurement portal and submit the physical documents in the office of GE (maint) Ezhimala 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. (a) Contractor having not executed standing security bond and standing security deposit in any MES formation shall upload scanned copy of EARNEST MONEY DEPOSIT (EMD) mentioned in Notice of Tender and shall ensure receipt of hard copy of EMD in the office of tender issuing authority before date & time fixed for this purpose. In case of failure to abide by any of these two requirements, the finance bid will not be opened.
(b) Contractor having not executed standing security bond and standing security deposit in any MES formation would be required to deposit individual security deposit on acceptance of tender which will be calculated with reference to the tendered cost as per scales laid down by MES for calculation of 'EARNEST MONEY' enhanced by 25% subject to maximum of Rs 1875000/- (Rupees eighteen lakhs seventy five thousand only).
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 (Maint) Ezhimala before date & time fixed for this purpose.
8. The contractor must ensure that the tender / bid on the proper form is uploaded in time as the Accepting Officer will take no cognizance of any quotations / offer received in any other electronic or physical form like e-mail/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 failure, 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, SPECIFICATIONS LAID DOWN IN THE TENDER DOCUMENTS OR ANY NEW CONDITION, WHATSOEVER, IS LIABLE TO BE REJECTED.

Yours faithfully,

Encls: As above

AGE (Contracts)
For Accepting Officer

Signature of Contractor

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER**1. EARNEST MONEY DEPOSIT (EMD)**

Contractor(s) who are not enlisted with MES / who are enlisted but have not executed the Standing Security Bond shall submit Earnest Money Deposit as detailed in Notice of Tender in one of the following forms along with their tender / bid :-

(a) Deposit at Call Receipt from a Scheduled Bank in favour of Garrison Engineer (Maint) Ezhimala.

(b) Receipted Treasury challan, the amount being credited to the Revenue deposit of Garrison Engineer (Maint) Ezhimala.

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

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

EXEMPTION FOR EARNEST MONEY DEPOSIT:- All bidders are exempted from submission of EMD in terms of GoI Ministry of defence letter No.66546/P-2/E8/211/2020/DMA(Wks-II) dated 16 Feb 2021.

2. PERFORMANCE SECURITY (Condition 19 of IAFW-2249 of GCC) (Refer Amendment No. 47 of General Condition of Contract)

2.1 Within 28 days of receipt of the letter of Acceptance, the successful contractor shall deliver to the Accepting Officer a performance Security in any of the forms given below for an amount equivalent to 5% of the contract sum.

(a) A Bank Guarantee in the prescribed form.

(b) Government Securities, Insurance surety bonds, FDR or any other Government instruments stipulated by the Accepting Officer.

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

2.3 Failure of the successful contractor to comply with the requirement of sub clause 2.1 here-in-before shall constitute sufficient grounds for cancellation of the award of work and forfeiture of the Earnest Money. In case of MES enlisted contractor, amount equal to the Earnest Money stipulated in the Notice Inviting Tender, shall be notified to the tenderer for depositing the amount through MRO. Issue of tender to such tenderers shall remain suspended till the aforesaid amount equal to the Earnest Money is deposited in Government Treasury.

2.4 (i) All compensation or other sums of money payable by the contractor to the Government under the terms of this contract or under any other contract with Government may be deducted from, or paid by the sale of a sufficient part of the Performance Security or from the interest arising there from or from any sums which may be due or become due to the contractor by the Government on any account whatsoever and in the event of his Performance Security being reduced by reason of any such deduction, or sale as aforesaid, the contractor shall within ten days thereafter make good in cash or securities, endorsed as aforesaid, any sum of sums which may have been deducted from or realized by the sale of his Performance Security or any part thereof.

(ii) Government shall not be responsible for any loss of securities or any depreciation in the value of securities while in their charge nor for loss of interest thereon.

2.5 In the event of contract being cancelled, under condition 52, 53 & 54 of General Conditions of contract, the Performance Security shall be forfeited in full and shall be credited into Consolidated Fund of India".

2.6 Work Order no. 1 will be placed only after submission of Performance Security Deposit.

2.7 The Period of Validity of the Bank Guarantee Bond against Performance Security shall be initially valid upto the stipulated date of expiry of Defects Liability Period plus minimum 60 days beyond that. In Case final bill is not paid during this period, the contract shall get the validity of Performance Guarantee extended to cover such enlarged time required for payment of final bill.

2.8 Performance Security Deposit will be released after expiry of defect liability period provided always that the contractor has been paid the final bill and the contractor has rendered the No Demand Certificate (IAFW-451).

2.9 If any recovery is outstanding against the contractor release of Performance Security Deposit will be subjected to compliance of the procedure stipulated in Condition 67 of General Conditions of Contract (IAFW-2249).

2.10 Bid security declaration: All bidders shall be required to sign the Bid Securing Declaration as shown below

2.10.1 In case the tenderer withdraw or modify his bid during the period of validity, or in case on after acceptance of contracts and on being called upon to submit the Performance Security/Security Deposit, if the tenderer fail to submit the Performance Security/Security Deposit before the deadline defined in the request for bid documents/Notice Inviting Tender, then the tenderer shall be debarred from exemption of submitting Bid Security/Earnest Money Deposit for a period of 6(six) months, from the date the tenderer is declared disqualified from exemption from submission of Earnest Money Deposit/Security Deposit, for all tenders issued by MES during this period.

3. CONTRACTORS ENLISTED WITH CHIEF ENGINEER SOUTHERN COMMAND AND WHO HAVE EXECUTED STANDING SECURITY BOND AND DEPOSITED STANDING SECURITY DEPOSIT BUT OF LOWER CLASS

In case the tender / bid is accepted, the amount of Additional Security Deposit will be as notified by the Accepting Officer. The amount will be the difference between the "Individual Security Deposit" calculated with reference to the "TENDERED COST" and "Standing Security Deposit" lodged. The amount is required to be lodged within 30 (Thirty) days of the receipt by the contractor of notification of acceptance of tender / bid, failing which the sum shall be recovered from the 1st RAR payment or from the final bill (Refer Condition 22 of GCC (IAFW 2249)).

4. CONTRACTORS ENLISTED IN MES FORMATION OTHER THAN CE COMMAND

Contractors whose names are on the approved list of any MES formation i.e, other than CE Command and who have deposited Standing Security and have executed Standing Security Bond may tender / bid without depositing Earnest Money with the bid and if the Accepting Officer decides to accept the tender / bid, such tenders will be required to lodge Security deposit as notified by the Accepting Officer. The amount is required to be lodged within 30 (Thirty) days of the receipt by the contractor of notification of acceptance of tender / bid, failing which the sum shall be received from the 1st RAR payment or from the Final Bill.

5. GENERAL INSTRUCTIONS FOR COMPLAINEE

5.1 The bids received only in the electronic form will be considered. All bids shall be submitted on 'eprocuremes.gov.in' portal. Documents should be scanned and uploaded in "pdf" form and 'xls' form as indicated.

5.2 Bids shall be uploaded on 'eprocuremes.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.

5.3 Bid should be DIGITALLY SIGNED USING VALID DSC. All pages of tender documents, corrections / alterations shall be signed / initialed by the lowest bidder after acceptance.

5.4 Drawings, if issued in physical form, must be returned duly initialed by the tenderer / bidder in separate envelope indicating his name and address.

5.5 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.

5.6 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 the sole proprietor, scanned copy of an affidavit on stamp paper of appropriate value to this effect stating that he has authority to bind the firm in all matters pertaining to contract including the Arbitration Clause, shall be attached in 'pdf' form. In case of partnership concern or a limited company, digital signatory of the bid / tender shall ensure that he is competent to bind the contractor (through partnership deed, general power of attorney or memorandum and articles of Association of the Company) in all the matters pertaining to the contracts with Union of India including arbitration clause. A scanned copy of the documents confirming of such authority shall be attached with the tender / bid in pdf form, if not submitted earlier. The person uploading the bid on behalf of another person(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, as the case may be, in all matters pertaining to the contract including the Arbitration Clause.

5.7 Even in case of Firms or Companies which have already given power of attorney to an individual authorising 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 the Memorandum & Article of Association.

5.8 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.

5.9 Bid (Cover 1 & 2) shall be uploaded on line well in time.

5.10 The contractor shall employ Indian Nationals after verifying their antecedents and loyalty. Attention is also drawn to special condition 3 referred herein after and also conditions 24 & 25 of IAFW 2249 (General Condition of Contract)

5.11 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.

5.12 The tenderer / bidder shall quote his rate on the BOQ file only. No alteration to the format will be accepted, else then bid will be disqualified and summarily rejected.

5.13 In case the tenderer / bidder has to revise / modify the rates quoted in the BOQ (excel sheet) he can do so only in the BOQ, through eprocuremes.gov.in site only before the bid closing time and date.

6. **REVOKATION/REVISION OF OFFER UPWARD / OFFERING VOLUNTARY REDUCTION, AFTER OPENING OF FINANCIAL BIDS BY LOWEST BIDDER**

In the event of lowest tenderer / bidder revoking his offer or revising his rates upward / offering voluntary reduction, after closing of bid submission date & time, his offer will be treated as revoked and the Earnest Money deposited by his 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 offered by the tenderer / bidder on the freak high rates referred for review shall not be treated as voluntary reduction.

7. **C.P.M (Critical Path Method)**

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

7.2 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.

7.3 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.

7.4 Department may issue amendments / errata in form of **CORRIGENDUM** to tender / revised BOQ to the tender documents. The tender / bidder is requested to read the tender documents in conjunction with all the errata / amendments/corrigendum, if any, issued by the department.

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

(Signature of Contractor)
Dated:-

AGE (Contracts)
for Accepting Officer

MILITARY ENGINEER SERVICES
NOTICE INVITING TENDER (NIT)

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 Á'. This estimate, however, is not a guarantee and is merely given as a rough guide and if the work cost more or less, a tenderer / bidder will have no claim on that account. The tender shall be based on as mentioned in aforesaid Appendix 'A'.
3. The work is to be completed within the period as indicated in aforesaid Appendix 'A' in accordance with 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 categories SS to E may tender / bid. In case, where the tender amount is in excess of the financial limit of the contractor and the Accepting Officer decides to accept the tender/bid, in which event the tenderer/bidder would be required to lodge additional security deposit as notified by the Accepting Officer in term of conditions of contract. 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 submitted by such a tenderer/bidder is accepted, the contractor will be required to lodge with the Controller of Defence Accounts concerned the amount of 'Individual Security Deposit' within thirty days of the receipt by him of notification of acceptance of his tender/bid, failing which this sum will be recovered from 1st RAR payment or from the first final bill. In the case of term /running contracts, remaining sum shall be recovered from subsequent bill (s) of the contractor. 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 tenders / bids of both the parties liable for rejection.
5. The office of Garrison Engineer (Maint) Ezhimala, Indian Naval Academy- PO, Kannur (Dist) Kerala – 670 310 will be the Accepting Officer here in after referred to as such for purpose of the contract.
6. The Technical bid and financial bid (cover -1 and 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 packet 1 /cover -1 ('T' bid) of the tender / bid on e-tendering portal. DD is refundable in case T bid is not accepted resulting in non-opening of 'Q'bid. 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 e procuremes.gov.in / eprocure.gov.in site for download and shall form part of contract agreement in case the tender/bid is accepted.
 - 6.2 In case of contractor who has not executed the Security Bond, the Cover-1 shall accompanied with by Earnest Money of amount as mentioned in Appendix Á' in the form of deposit at call receipt in favour of concerned CCE / GE/ GE (I)/AGE (I) (See Appendix A) by a scheduled Bank or in receipted treasury Challan the amount being credited to the revenue deposit of the concerned CCE / GE / GE (I) / AGE (I) (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, but if the Accepting Officer accepts the tender/bid, the contractor will be required to lodge with the Controller of Defence Accounts concerned the amount of 'Individual Security Deposit' within thirty days of the receipt by him of notification of acceptance of his tender/ bid, failing which this sum will be recovered from 1st RAR payment or from the first final bill In the case of term /running contracts, remaining sum shall be recovered from subsequent bill (s) of the contractor.**
 - 6.4 A contractor who has executed standing security Bond but not corresponding to the appropriate class as mentioned above, shall lodge with the Accepting Officer, Additional Security Deposit as notified by the Accepting Officer within thirty days of the receipt of his notification of acceptance of his tender/bid, failing which this sum will be recovered from the first RAR payment or from the first final bill. In the case of term / running contracts, remaining sum shall be recovered from subsequent bill(s) of the contractor. However, in case where any payment is made to the contractor within thirty days of the receipt by him of notification of acceptance of tender/ bid, the amount of additional security deposit shall be recovered from such payment.
 - 6.5 The CCE / GE/ GE (I)/AGE (I) 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 all documents were returned.
 - 6.6 The CCE/ GE/GE(I)/AGE (I) 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 an appropriate amount of Security Deposit or will retain the same in part or full on account of security deposit if such a transaction is feasible.
 - 6.7 Copies of the drawings and other document pertaining to the work signed for the purpose of identification by the Accepting Officer or his accredited representative, sample of materials and stores to be supplied by the contractor will also be available for inspection by the tenderer / bidder at the office of Accepting Officer and concerned GE / GE (I) / AGE (I) during working hours.
 7. The tenderers/bidders are advised to visit the site of work by making prior appointment with GE / GE (I) / AGE (I) / CCE/ Project Manager who is also the Executive Agency of the work (see Appendix Á'). The tenderers / bidders are deemed to have full knowledge of all relevant documents, samples, site etc..., whether they have inspected them or not.

NOTICE INVITING TENDER (NIT) Contd...

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 'T' bid and subsequent opening of finance bid of any applicant / bidder, even of enlisted contractor of appropriate class, merely by virtue of enclosing DD. Accepting Officer reserves the right to reject the 'T' bid and not open the finance bid of any applicant / bidder. 'T' bid validation shall be decided by the Accepting Officer based on, inter alia, capability 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 'T'bid assigning reasons thereof through the eprocuremes website. The applicant contractor / bidder if he so desires may appeal to the next higher Engineer authority viz CWE Ezhimala on email id mezmla3-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 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 or 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.
15. Court of the place from where the tender has been issued shall alone have jurisdiction to decide any dispute out of this tender. After Acceptance of tender, Condition 72-Jurisdiction of court of IAFW-2249 shall be applicable

(Signature of Contractor)
Dated:-

AGE (Contracts)
for Accepting Officer

1	Name of work	REPAIR AND MAINTENANCE OF FIRE FIGHTING PUMP HOUSE AT AMBC BUILDING NEAR KAUTILYA AUDITORIUM AND INHS NAVJIVANI HOSPITAL INCLUDING REPAIR/MAINT OF INCINERATOR AT INHS NAVJIVANI AND ITS CONNECTED WORK SERVICES AT INA EZHIMALA															
2	Estimated Cost	Rs. 38.00 Lakhs (At par market)															
3	Period of completion	330.00 days															
4	Cost of tender documents	Rs.500.00 in the shape of DD/Bankers Cheque from any schedule bank in favour of GE(Maint) Ezhimala and payable at Ezhimala (Note : In case of retendering, the contractor who had quoted in the previous call is not required to submit the cost of tender)															
5	Website / portal address	www.defproc.gov.in and www.mes.gov.in															
6	Type of contract	The tender shall be based IAFW-1779-A and GCC (IAFW 2249) with Schedule 'A' (list of items of work) to be priced by tenderer, in the BOQ format attached.															
7	Information & Details																
	(a)Date of uploading of tender on website eprocuremes.gov.in by MES	} Refer critical dates															
	(b Date of Downloading of tender from website by the tenderers																
	(c) Bid submission starts date																
	(d) Last date of bid submission																
	(e) Date of bid opening																
8	Eligibility Criteria																
	(A) For MES enlisted contractors	All contractors enlisted with MES in Class 'D' and above and category a(ii) subject to satisfactory remarks wrt performance in respect of works in hand as reflected in Work Load return (WLR) or any other report of competent engineer authority.															
	(B) For contractors not enlisted with MES	<div>(i) The contractor not enlisted with MES shall meet the enlistment criteria of 'D' class MES Contractors & category a(ii) i.e., with regard to having satisfactorily completed requisite value works with 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 on Contacts – 2020 as available in all MES formations as well as MES website (www.mes.gov.in).</div> <div>(ii) They should not carry adverse remarks in WLR / or any other similar report circulated by any competent engineer authority, if already working in MES.</div> <div>(iii) Not suspended/debarred/blacklisted (either permanently or temporarily) from participating in any bid or for business dealings by any central/state government departments 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.</div> <div>(iv) Details of works completed and under progress in MES be submitted in the following format :-</div> <table><tr><td>Srl No.</td><td>CA No & Name of work</td><td>Value of CA</td><td>Date of commencement</td><td>Date of completion</td><td>Extended Date of completion</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> <div>(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 eligible for participation in the tender unless until the firm is enlisted with the MES.</div>				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 (Maint) Ezhimala Garrison Engineer (Maint) Military Engineer Services Indian Naval Academy Post Kannur Dist Kerala 670 310 Tele: 04985-224788 E-mail: mezmla4-mes@nic.in
10	Executing Agency	GE (Maint) Ezhimala
11	Earnest Money	Rs. 76000.00 in the form of Deposit at Call Receipt from a Scheduled Bank in favour of "Garrison Engineer (Maint) Ezhimala, payable at Ezhimala.

NOTES:

1. In case after opening of Cover 1, if the number of MES enlisted contractors of eligible class as well as eligible 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 NIT. Therefore MES contractor's one class below (two classes in case of remote and difficult areas) may also bid for this tender. Such contractors (contractors of one/two classes below the eligible class) shall not be considered in case their present residual work in hand is more than FIVE TIMES their present tendering limit. However in case such contractors fulfil the criteria of upgradation to the stipulated eligible class based on past experience of completed works (individual work experience and /or average annual turnover, as applicable) and financial soundness (solvency/financial soundness and working capital) , the ceiling of present residual work will not apply and they will be considered for issue of tender. 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. Such contractors, if claim to fulfil the criteria of upgradation shall also upload the requisite information/documents in support of upgradation. 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 bidden 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 given in Manual on Contracts. Therefore such contractors shall upload the requisite information/documents in the Cover-1.
3. Unenlisted contractor shall be considered provided he meets the criteria. Foreign firms shall not be eligible for this tender. However Indian Firms having foreign national / Indian nationals staying abroad / Indian national having taken foreign citizenship, as director(s) shall be considered subject to security clearance from the concerned authorities.
4. Contractors enlisted with MES will upload following documents in Cover 1 for checking eligibility :-

(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 GST Registration Number

(e) Any other document required as described in this Appendix.
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.

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

- (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 Contractors 2020.
 - (e) Details of works being executed in MES, if any.
 - (f) Scanned copy of GST Registration Number
 - (g) Any other document required as described in this Appendix.
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 of his behalf. However a contractor can execute the work through power of attorney to sons/daughters/spouse of Proprietor/Partner/Director and firm's own employees, director, project manager **provided they are not having a separate enlisted firm in MES in their name as Proprietor/Partner/Director.**
9. After opening of Cover 1 and during its technical evaluation, in case any deficiency is noticed in the documents required to be uploaded by the tenderers as per NIT, a communication in the form of e-mail/SMS/Speed Post etc shall be sent to the contractor to rectify the deficiency within a period of seven days from date of communication failing which their financial bid (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 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 (NHEA) CWE Ezhimala on email id mezmla3-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.

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

12. In case the BOQ is revised through the corrigendum and the bidder has failed to quote on revised BOQ (ie 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-tender or consider the lowest bonafide tender for acceptance.
13. Revoking the offer of revising the rates upward or offering voluntary reduction by the lowest tenderer after opening of Cover 2 shall be considered as a willful 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.
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.

Signature of Contractor
Dated:

AGE (Contracts)
For Accepting Officer

8696/ 03 /E8

_____ Oct 2024

Garrison Engineer (Maint) Ezhimala,
Military Engineer Services
Indian Naval Academy-Post,
Kannur Dist, Kerala- 670 310

Tele: 04985-224788
E-mail: mezmla4-mes@nic.in

ELIGIBILITY CRITERIA FOR UN-ENLISTED CONTRACTORS

Class	Past experience of completed works in last 5 years	Financial soundness
1	2	3
‘D’	(a) Two work costing not less than Rs. 25.00 Lakh each Or One work costing not less than Rs.40.00 Lakh and (b) Average annual turnover for last two consecutive years shall not be less than Rs.50.00 Lakh	(a) Solvent up to Rs.20.00 Lakh Or Financially sound for engagement up to Rs.50.00 Lakh and (b) Working capital not less than Rs.7.50 lakhs

ADDITIONAL DOCUMENTS REQD FROM UN-ENLISTED FIRMS

1. The following documents to be submitted by the Un-enlisted Contractors while participating in the tender:-
- (a) Applications for enrolment as Contractor on IAFW-2190 (Revised: 2009) (Photographs affixed on Application shall be got attested by any Government Gazetted Officer)

(b) Copy of Registration of firm with the Registrar of Firms/Company.

(c) List of works executed during last 05 years.

(d) Annual turnover certificate from CA/Income tax deduction at source (TDS) certificates in support of annual turnover during last 5 Years.

(e) Balance sheet of last 05 years in case of limited companies.

(f) Affidavit for immovable properties indicating present market value and containing following endorsements:-

(i) That the immovable property is free from mortgages, hypothecation or any other disputes and encumbrances and clearly belongs to the Contractor. Or
That the immovable property is free from any disputes and encumbrances and clearly belongs to the Contractor. The immovable property has been mortgaged/ hypothecated for Rs. _____ Lakhs. Market value of immovable property as per valuation report No. _____ given by Registered valuer _____ is Rs. _____. Therefore balance market value of property ie Rs. _____ (Market value minus mortgaged value) is free from any mortgage/hypothecation.

(ii) That the said immovable property has not been shown for seeking enlistment of a sister concern in MES.

(iii) That the said immovable property will not be sold, transferred, gifted or otherwise disposed off without prior intimation to the registering authority in MES. While giving such prior intimation, new affidavit for alternate immovable property of value at least equal to minimum requirement as per scales along with valuation report from registered valuer shall also be submitted, failing which the Registering authority may declare the contractor unenlisted or may take action as deemed fit till acquiring alternate immovable property by the Contractor.

Annexure 'I' Contd..../-

- (g) Valuation report from registered (with any Government body) Valuer for immovable property clearly indicating ownership details. Alternatively the Contractor may submit certificate from the Deputy Commissioner/Collector/First Class Magistrate or assessment of wealth tax authorities
- (h) Affidavit for movable property (Tools & Plants, Machinery, Transport etc) indicating value for movable property. If certain movable property is being considered towards requirements of minimum reserve, endorsements as required for immovable property shall also be given on affidavit for movable property and valuation report from Registered (with any Government body) Valuer for movable property clearly indicating ownership details shall also be submitted.
- (j) Solvency certificate from the scheduled Bank as per specimen enclosed.
- (k) Working capital certificate from the scheduled Bank as per specimen enclosed.
- (l) Affidavit from Contractor for employment of Engineers.
- (m) Affidavit from Engineers for employment with the Contractor.
- (n) Experience and Degree/Diploma Certificates of Engineers
- (o) Affidavit from Contractor that there is no Government dues/recovery outstanding against him.
- (p) Affidavit from Contractor that he is not involved in any arbitration/litigation cases. If he is involved, he will give brief details of such cases on affidavit.
- (q) Three photographs of Proprietor/Partners of your firm
- (r) Affidavit that no near relative(s) of the contractor or their employees/agents is/are working as Gazetted/ Commissioned Officer in Military Engineer Services/ Corps of Engineers/ Ministry of Defence. If their near relative(s) is / are working in such capacity, please furnish details.
- (s) Affidavit that no near relative(s) of the contractor is/are working as Junior Engineer in Military Engineer Services/ Corps of Engineers. If your near relative (s) is/are working in such capacity, please furnish the details.
- (t) Affidavit that 'No sister concern' in any other firm.
- (u) Copy of power of attorney given to any person by the Contractor.
- (v) Copy of last income tax return / PAN Card
- (w) Affidavit of proprietorship/Partnership, office address as well as residential address.
- (x) A separate sheet containing specimen signatures (Singed in Black ink) and affixed with photographs of Proprietor/Partners.

Yours faithfully,

AGE (Contracts)
for Garrison Engineer

Enclosures: (As above)

Note:

- (i) All the documents submitted by the Contractor shall be signed by him.
- (ii) Photo copies of documents shall be attested by the Gazetted Officers/Notary Public.
- (iii) All the affidavits shall be given on non-judicial stamp paper of value Rs.100/- duly signed by the Contractor and attested by the Magistrate/Notary Public
- (iv) Submit affidavit on stamp paper of value of Rs.100/- for immovable property.
- (v) Submit affidavit on stamp paper of value minimum Rs. 100/- regarding proprietorship and office address.
- (vi) All relevant documents / details as said in 1 & 2 above are to be uploaded and hard copies to be submitted within the stipulated time mention in website & Appendix ‘A’ to Notice of tender.

Bank Address and Code No

FORM OF SOLVENCY CERTIFICATE FROM NATIONALISED/SCHEDULED BANK

This is certified that to the best of our knowledge and information M/s Shri/Smt _____ having address _____, a customer of our bank are/is respectable and can be considered solvent upto Rs _____ (Rupees _____)/ Financially sound for any engagement upto Rs _____(Rupees _____). This certificate is issued without any guarantee or responsibility on the bank or any of the officers.

(Signature)

Name, Designation and Personal Code No of Signatory

Note: In case of partnership firm, certificate to include names of all partners as recorded with the bank

Bank Address and Code No

FORM OF WORKING CAPITAL CERTIFICATE FROM NATIONALISED/ SCHEDULED BANK

This is certified that M/s Shri/ Smt _____ having address _____ has/have been maintaining a saving bank account/current account/ fixed deposit account with this branch of bank since _____ and the firm is having working capital of approximately Rs _____ and/ or the firm is enjoying overdraft/ credit facilities upto limit of Rs _____. This certificate is issued without any guarantee or responsibility on the bank of any or the officers.

(Signature)

Name, No & Seal of Bank

DETAILS OF WORKS EXECUTED DURING LAST 05 YEARS

Ser No	CA No and Name of Work	Address of Accepting Officer	Amount of CA	Final amount of Work	Date of Completion	Extension granted , if any	Remarks
1	2	3	4	5	6	7	8

AGE (Contracts)
for Garrison Engineer

IN LIEU OF IAFW 1779A (REVISED 1955)

(To be used in connection with General Condition of the contract IAFW-2249 (1989 Print))

MILITARY ENGINEER SERVICES

Tele: 04985-224788

E-mail: mezmla4-mes@nic.in

Garrison Engineer (Maint) Ezhimala,
Military Engineer Services
Indian Naval Academy-Post,
Kannur Dist, Kerala- 670 310

8696/ 03 /E8

____ Oct 2024

**TENDER AND ITEM RATE CONTRACT FOR WORKS BY MEASUREMENT FOR
REPAIR AND MAINTENANCE OF FIRE FIGHTING PUMP HOUSE AT AMBC BUILDING NEAR
KAUTILYA AUDITORIUM AND INHS NAVJIVANI HOSPITAL INCLUDING REPAIR/MAINT OF
INCINERATOR AT INHS NAVJIVANI AND ITS CONNECTED WORK SERVICES AT INA
EZHIMALA**

1. Mr. /Messers _____ of _____
has/have been authorised by the competent authority to tender for the above work. The quoted tender shall be uploaded by the bidder on www.defproc.gov.in on the date and time as per NIT. The quoted tender shall be opened on or after the date and time as per NIT in respect of CA No GE (Maint)/Ezh/ /E8 of 2024-25 at the office of Garrison Engineer (Maint) Ezhimala, Indian Naval Academy-Post, and Kannur –Dist., Kerala-670310
2. All correspondence concerning this tender should be addressed as indicated at the top of this sheet quoting the reference as given.

THE PRESIDENT OF INDIA DOES NOT BIND HIMSELF/HERSELF AS TO ACCEPT
LOWEST OR ANY TENDER.

Signature of the Contractor
Dated:

ACCEPTING OFFICER

SCHEDULE 'A'

NAME OF WORK: REPAIR AND MAINTENANCE OF FIRE FIGHTING PUMP HOUSE AT AMBC BUILDING NEAR KAUTILYA AUDITORIUM AND INHS NAVJIVANI HOSPITAL INCLUDING REPAIR/MAINT OF INCINERATOR AT INHS NAVJIVANI AND ITS CONNECTED WORK SERVICES AT INA EZHIMALA

1. The entire works shall be completed within 330 days from the date of commencement of the work stipulated in the Work Order.
2. Unit Rate: - The contractor shall calculate his own details and insert unit rate both in figures and words in Col 6 and extend the amount in Col 7 against each item of Sch 'A'. The unit rate quoted by the Contractor in column 6 shall be net and inclusive of charges such as GST, Insurance if any, Packing and un-packing & Transport and Delivery. All taxation applicable as on the last date of submission of tender shall be included in the rate quoted.
3. The quantities stated in Col 5 are approximate and are inserted as a guide only. This shall however not be varied beyond the limits laid in condition 7 of IAFW-2249 General Conditions of the contract.
4. The total amount in column 7 is not firm but will be treated as contract sum as referred to in IAFW-2249.
5. Method of measurement of all works shall be as described in MES Schedule, unless otherwise specified in these documents.
6. Unit rates quoted by the contractor against respective items of Sch 'A' shall be deemed to allow for all minor constructional details which are not specifically given in particular specifications but essential to the execution of works in workmen like manner and sound construction. In case of difference of opinion between the contractor and the Engineer-in-Charge as to whether or not certain items of work deemed to have been included in the contractors quoted prices, the decision of the Accepting Officer shall be final conclusive and binding.
7. Unless otherwise mentioned in the description of Schedule 'A' items the tendered, rate for items shall be deemed to include for materials and Labour complete.
8. The following abbreviations have been used in the schedule:-

(a)	RM	:	Running metre
(b)	Sqm	:	Square metre
(c)	Cum	:	Cubic metre
(d)	Kg	:	Kilogram
(e)	Ltr	:	Litre
9. INDEMNITY: - The contractor shall at all times indemnify the department, consequent on the work contract. The contractor shall be liable, in accordance with regulations/Indian law for any accident occurring due to any cause and the department shall not be responsible for any accident or damage incurred or claims arising there from during the period of contract or putting into operations of equipments. No extra payments would be made to the contractor due to above.
10. The contractors shall upload copy of provident fund code Number in cover 1 in addition to other documents mentioned here before. The contractor not in possession of Provident fund Code Number shall be disqualified in 'T' bid evaluation and his finance bid shall not be opened.
11. DEFECTS LIABILITY PERIOD:- Refer condition 46 & 49 of IAFW 2249, General Conditions of Contracts. The defect liability period shall be twenty four calendar months after the work have been handed over to the government.
12. For all items involving excavation work contractor has to obtain prior approval from station HQ to avoid loss of other co existing utility services, in case of damage to any property he would be liable for its rectification.
13. All debris, unserviceable items shall be removed from site and disposed off outside INA Area. Loading, unloading, staking and transportation charges are included in relevent items of taking down or demolition / dismatling. A recovery of Rs 5000/ load will be levied off from the contractor if any debris/ salvage material is found dumped inside INA area.

Signature of Contractor

AGE (Contracts)
For Accepting Officer

SCHEDULE OF CREDIT

Sl.No	Description of items	Qty	Unit	Assessed Rate	Amount	Remarks
1.	U/s Butterfly valves 100/150mm dia	8	Each	60.00	480.00	
2.	Iron scrap	0.7	Qtl	2200.00	1540.00	
3.	U/s MS pipes 80/100mm	125	RM	50.00	6250.00	
4.	U/s MS pipes 150mm	150	RM	60.00	9000.00	
5.	U/s CI pipes upto 2m/scrap obtained	6	Lot	150.00	900.00	
6.	U/s Gun metal branch pipe 63mm	30	Each	40.00	1200.00	
7.	U/s fire hydrant valve 63mm	30	Each	85.00	2550.00	
8.	U/s Fire brigade 4 way	1	Each	1000.00	1000.00	
9.	U/s fire hose roll 15mtr length, 63mm	40	Each	15.00	600.00	
10.	U/s Sluice valve 80mm	12	Each	150.00	1800.00	
11.	U/s Sluice valve 100mm	2	Each	200.00	400.00	
12.	U/s Sluice valve 150mm	8	Each	250.00	2000.00	
13.	U/s Air release valves 25mm	4	Each	20.00	80.00	
14.	U/s Dynamo	1	Each	10.00	10.00	
15.	U/s battery 12V 150AH	2	Each	500.00	1000.00	
16.	U/s Battery charger	1	Each	50.00	50.00	
17.	Copper scrap	86.5	Kg	280.00	24220.00	
18.	U/s pressure gauge	5	Each	5.00	25.00	
19.	U/s Pressure switch	5	Each	5.00	25.00	
20.	U/s Power contactor of any capacity	8	Each	50.00	400.00	
21.	U/s Star delta timer	5	Each	5.00	25.00	
22.	U/s MCCB of any capacity	4	Each	300.00	1200.00	
23.	U/s MCB,TP of any capacity	8	Each	18.00	144.00	
24.	U/s MCB,DP of any capacity	12	Each	10.00	120.00	
25.	U/s NRV 100mm	4	Each	200.00	800.00	
26.	U/s NRV 150mm	5	Each	250.00	1250.00	
27.	U/s Foot valve 150/100mm	4	Each	150.00	600.00	
28.	U/s Hose box	10	Each	500.00	5000.00	
29.	U/s Aviation light	1	Each	5.00	5.00	
30.	U/s stay wire	350	RM	15.00	5250.00	
31.	U/s Stay Assembly	4	Each	150.00	600.00	
32.	U/s Sprinkler glass bulb type	25	Each	2.00	50.00	
33.	U/s multisensor detector	30	Each	5.00	150.00	
34.	U/s Beam detector with transmitter	1	Each	15.00	15.00	
35.	U/s addressable control module	2	Each	2.00	4.00	
36.	U/s addressable monitor module	2	Each	2.00	4.00	
37.	U/s addressable manual call point	15	Each	5.00	75.00	
38.	U/s Sounder cum strobe	2	Each	25.00	50.00	
39.	U/s Battery 12V 7AH	1	Each	50.00	50.00	
40.	U/s loop card	1	Each	100.00	100.00	
41.	U/s Fire alarm cable 2Cx1.5 sqmm	300	RM	3.00	900.00	
42.	U/s PVC conduit	300	RM	1.00	300.00	
43.	U/s telephone Jack	3	Each	2.00	6.00	
44.	U/s Fire fighter telephone	2	Each	2.00	4.00	
				Total	70232.00	

NOTE:-
a) The dismantled materials for which credit offered by the contractor becomes his property.
b) The contractor shall remove the retrieved materials from the site after effecting recovery in RAR's.
c) The rate assessed by the department is final and the contractor shall not claim anything extra if the conditions of the retrieved materials are otherwise.
d) The amount of Schedule of Credit will be deducted from the total amount quoted in BOQ and the contract sum will be arrived accordingly.

Signature of Contractor

AGE (Contract)
for Accepting Officer

SCHEDULE ‘ B’

(ISSUE OF MATERIALS ETC TO CONTRACTOR)

(SEE CONDITION 10 OF IAFW – 2249)

Ser No	Particulars	Rate of which material etc will be issued to the contractor		Place of issue by name	Remarks
		Unit	Rate		
1	2	3	4	5	6
----- NIL -----					

NIL

SCHEDULE ' C’

LIST OF TOOLS AND PLANTS (OTHER THAN TRANSPORT
WHICH WILL BE HIRED TO THE CONTRACTOR

(SEE CONDITION 05, 34 AND 35 OF IAFW - 2249)

Ser No	Quantity	Particulars	Details of MES crew supplied	Hire charges per unit per off day	Place of issue (by name)	Remarks
1	2	3	4	5	6	7
----- NIL -----						

SCHEDULE ' D’

TRANSPORT TO BE HIRED TO THE CONTRACTOR

(See Condition 16 and 35 of IAFW - 2249)

Ser No	Quantity	Particulars	Details of MES crew supplied	Hire charges per unit per off day	Place of issue (by name)	Remarks
1	2	3	4	5	6	7
----- NIL -----						

Signature of Contractor

AGE (Contract)
for Accepting Officer

TENDER

To

The President of India

Having examined and pursued the following documents

1. Specifications signed by the AGE (Contracts) of GE (Maint), Ezhimala.
2. Drawings detailed in the particular specifications.
3. Schedule 'A', 'B', 'C' and 'D' attached hereto.
4. MES Standard Schedule of rates 2009 Part I (Specifications) together with amendment No.1 to 3 and Part II - 2020 (hereinafter and in IAFW-2249 referred to as the MES schedule) together with amendment 1 to 122 for part II as applicable to the above said schedule.
5. General condition of contract IAFW - 2249 (1989 Print) together with amendment Nos 1 to 49 and errata 1 to 20.
6. Water Condition 31 of IAFW - 2249: General Conditions of Contracts.
Water will not be supplied by MES.

SHOULD THIS TENDER BE ACCEPTED

I/WE AGREE

- (a) That the sum of Rs. 76000.00 (Rupees Seventy Six Thousand only) forwarded as Earnest Money shall returned after submitting an amount equivalent to 5% of the contract sum as Performance Security Deposit, to the Accepting Officer on receipt of Letter of Acceptance.
- (b) To execute all the works referred to in the said documents upon the terms and conditions contained or referred to there upon and as detailed in the General Summary and to carry out such deviations as may be ordered vide condition 7 of IAFW- 2249 up to a maximum of TEN percent and further agree to refer all disputes as required by Condition 70 to the sole arbitration of a serving Officer having a degree in Engineer of equivalent or having passed final/direct final examination of Sub Division II of Institution of Surveyors (India) recognized by the Govt. of India to be appointed by Chief Engineer (NW) Kochi or in his absence Officer Officiating as Chief Engineer (NW) Kochi, whose decision shall be final, conclusive and binding.

@ To be deleted whichever is not applicable.

Signature _____ (Name in BLOCK CAPITALS)
in the capacity of _____ duly authorised to sign the tender for and on
behalf of _____
(IN BLOCK CAPITALS)

Dated:-

Witness	:	Postal Address	_____
Address	:	_____	_____
		_____	_____
		Telegraphic address	_____
Telephone No	_____		_____

ACCEPTANCE

_____ alterations have been made in this document and 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 above said officer is hereby authorized sign and initial on my behalf of above document forming part of contract.

The above tender was accepted by me on behalf of the PRESIDENT OF INDIA for Contract sum of Rs. _____
(Rupees _____ only)
on the _____ day of _____ 2024.

Signature _____ dated the _____ day of _____ 2024.

Appointment: - Garrison Engineer
Accepting Officer
(FOR AND ON BEHALF OF PRESIDENT OF INDIA)

GENERAL CONDITIONS OF CONTRACTS
IAFW 2249 (1989 PRINT)

MEASUREMENT CONTRACT - IAFW - 1779A

1. It is hereby agreed by me/us* that the General Conditions of contracts including condition 70 pertaining to the settlement of disputes by Arbitration (IAFW - 2249 1989 Print) containing 33 pages Nos 22 to 54 with errata No 01 to 20 and amendment No 01 to 49 there to (Sl page No 55 to 68) shall form integral part of the tender documents.
2. The tender submitted by me/us* is subject to the aforesaid General Conditions of contracts in IAFW - 2249 and amended copy of which has been supplied to me/us* and is in my/our* possession and which I/we* have read and fully understood before submission of this tender.
3. My/our* signature there under is in token of my/our* having accepted the aforesaid General Conditions of contracts together with errata and amendments (IAFW - 2249 - 1989 Print) and the clause relating to Arbitration forming integral part of this tender.

*Delete whichever is not applicable.

Signature of Contractor

AGE (Contract)
for Accepting Officer

SCHEDULE OF MINIMUM FAIR WAGES PAYABLE
BY CONTRACTORS UNDER FAIR WAGES ACT

1. It is hereby agreed by me/us* that the "Schedule of minimum fair wages (SMFW)" as published vide Govt. of India Ministry of Labour letter No 1(2)92-IS-II dated 10 Mar 1992 revised upto date of opening of tender containing 10 pages (Sl page No 69 to 78) shall form part of the tender documents.
2. Schedule of Minimum Fair Wages is not enclosed along with tender but the Contractor is deemed to have full knowledge regarding the minimum wages payable to labourers as legally effective on date of submission of tender, and his tendered rates shall be deemed to have been based on this irrespective of the fact that Gazette Notification may not have been published or that he was unaware of the increase in minimum wages. For the purpose of reimbursement of price variation [PV] clause for wage escalation of labour, the minimum wages legally effective on the date of receipt of Tender shall be the basis.
3. The minimum wage legally effective referred to above are the minimum wages Notified in Gazette/Governed by any local regulations/Central Govt. whichever is higher.
4. My/Our signature hereunder amounts to my/our having read and understood the provisions contained therein and I/We agree that I/We shall abide by the same and that aforesaid documents form part of this tender.

Signature of Contractor

AGE (Contract)
for Accepting Officer

SPECIAL CONDITIONS**1.0 GENERAL**

- 1.1 The following special conditions shall be read in conjunction with General Conditions of Contracts (IAFW/2249) 1989 print including amendments and errata thereto. If provisions in these special conditions are at variance with the provisions in the aforesaid documents, the provisions in these special conditions shall be deemed to take precedence there over.
- 1.2 The work under this contract shall be carried out in accordance with Schedule 'A', the particular specifications, drawings and other provisions in MES Schedule.
- 1.3 The term General Specifications referred to herein before as well as referred to in IAFW/2249 (General Conditions of Contracts) shall mean the specifications contained in the MES Schedule.
- 1.4 General rules, specifications, special conditions and all preambles in the MES Schedule shall be deemed to apply to the work under this contract. In case of any discrepancy, the provisions in these documents shall take precedence over the aforesaid provisions in the MES Schedule.

2.0 SECURITY OF CLASSIFIED DOCUMENTS (REFER CONDITION 2A & 3 OF IAFW/2249).

- 2.1 Contractor's special attention is drawn to conditions 2A and 3 of General Conditions of Contracts (IAFW/2249) and also to the Indian Official Secret Act/1923 (Particularly Section 5). The contractor is bound by the provision of the act. The contractor shall not communicate any classified information regarding works either to subcontractor(s) or others without prior approval of 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 the entire document on completion of the work or on earlier termination of the contract. The contractor shall along with final bill attach a receipt from the Engineer/in/Charge in respect of his having returned the classified documents as per condition 3 of the General Conditions of Contracts (IAFW/2249).

- 2.2 **OFFICIAL SECRETS ACT:** The contractor shall be bound by the Official Secret Act 1923.

3.0 INSPECTION OF SITE AND RELEVANT DOCUMENTS (REFER CONDITION 4 OF IAFW/2249).

- 3.1 The contractor is required to visit the site of works and make him thoroughly acquainted with the working conditions and of the approaches/accessibility to site, availability of materials and all other relevant conditions affecting the completion of entire work. He is required to make himself fully acquainted with the nature and scope of the work before tendering. For the purpose of inspection of relevant documents other than those sent herewith, the contractor is required to contact the Garrison Engineer who will give reasonable facilities. The contractor shall be deemed to have visited the site before submitting the tender irrespective of whether he does it or not.

4.0 CO/OPERATION WITH OTHER AGENCIES.

- 4.1 The contractor shall permit free access and generally afford reasonable facilities to other agencies or departmental workmen engaged by Government to carry out their part of the works, if any, under separate arrangements.
- 4.2 The contractor's prices shall be deemed to cater for all the above contingencies and nothing extra shall be admissible on this account.

5.0 DAMAGE TO EXISTING STRUCTURE/ BUILDINGS.

- 5.1 Any damage done to the existing structure during the execution of work shall be made good by the contractor at his own cost and the site of work left clean and tidy on completion. Rectification/reinstatement/making good, etc shall conform to the standard materials originally used in the work and finished work shall match with existing work in all respects to the entire satisfaction of the GE. In case of any dispute on this account, the matter shall be referred to the Accepting Officer whose decision in writing shall be final conclusive and binding.

SPECIAL CONDITIONS (CONTD)6.0 CONTRACT LABOUR (REGULATION AND ABOLITION) ACT 1970.

6.1 The contractor when required to employ more than twenty workmen on the works under this contract, shall be bound by the contract labour (regulation and abolition) Act 1970 and rules framed there under. No contractor can undertake or execute his work without a license issued by a licensing officer.

6.2 QUALIFIED TRADESMEN (APPLICABLE FOR WORKS COSTING RUPEES ONE CRORE OR MORE)

6.2.1 In compliance with the Condition 26 of IAFW/2249 (General Conditions of Contracts), the contractor shall employ skilled/semi skilled tradesmen who are qualified and possessing certificate in particular trade from Industrial Training Institute (ITI) as specified in the Particular Specification. The contractor shall submit the list of such tradesmen alongwith requisite certificate to Garrison Engineer for verification and approval. Notwithstanding the approval of such tradesmen by GE, if the tradesmen are found to have inadequate skill to execute the work of their trades leading to unsatisfactory workmanship, the contractor shall remove such tradesmen within a week after written notice to this effect by the GE and shall engage other qualified tradesmen after prior approval of GE. GE's decision whether a particular tradesmen possesses requisite qualification, skill and expertise commensurate with nature of work shall be final and binding. No compensation whatsoever on this account shall be admissible.

7.0 MINIMUM WAGES: PAYMENT TO LABOUR (CONDITION 58 OF IAFW/2249).

7.1 Refer condition 58 of IAFW/2249. The contractor shall not pay wages lower than minimum wages for labour as fixed by the Government of India/State Government/Union Territory whichever is higher.

7.2 The fair wages referred to in condition 58 of IAFW/2249 shall be deemed to be the same as the minimum wages payable as referred to above.

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

8.0 ANTECEDENTS OF CONTRACTORS AND THEIR AGENTS, REPRESENTATIVES AND WORKMEN.

8.1 The contractor shall employ only Indian National as his representatives, servants, Workmen and verify their antecedents and loyalty through civil police and record submitted to GE before employing them on the works. He shall ensure that no person of doubtful antecedents and Nationality is, in any way, associated with the work and if for reasons of technical collaboration of other consideration, the employment of any foreign national is unavoidable, the contractor shall furnish full particulars to this effect to the Accepting Officer at the time of submission of tender. The GE shall have full powers and without giving any reasons to the contractor immediately cease to employ in connection with this contract any representative, agent, servant and workmen or employee whose continued employment in his opinion is undesirable. The contractor shall not be allowed any compensation on this account.

9.0 SECURITY AND PASSES

9.1 Contractor's attention is invited to condition 25 of IAFW/2249. He shall employ only Indian Nationals after verifying their antecedents and loyalty. The contractor shall on demand by the Engineer/in/Charge, submit list of his agents, employees and work people concerned and shall satisfy the Engineer/in/Charge as to the bonafide of such people.

9.2 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.

SPECIAL CONDITIONS (CONTD)

- 9.3 The contractor and his agents, employees and work people shall observe all the rules promulgated by the authority controlling the installation/Area in which the work is to be carried out eg; prohibition of smoking and lighting, fire precautions, search of persons on entry and exit, keeping to specific routes, observing specified timing etc. Nothing extra shall be admissible for any man hours etc lost on this account.
- 10.0 RELEASE OF ADDITIONAL SECURITY DEPOSIT (Refer condition 22 and 68 of IAFW/2249).
- 10.1 The contractor in case has to deposit additional security for the contract, is advised to deposit the additional security in two equal parts so as to facilitate its release in accordance with condition 68 of IAFW/2249.
- 10.2 The additional security deposited by the contractor will be released in two stages i.e. 50% on payment of final bill and 50% on expiry of Defect liability period as mentioned in Paras 14.3 and 14.4 hereunder.
- 10.3 The release of 50% of additional security deposit in the first stage will be allowed only if there are no claims outstanding against the contractor in respect of the contract and the final bill is not "MINUS". In case any claims are outstanding against the contractor, and/or the final bill is "MINUS" the amount of Security Deposit to be released will be adjusted against the outstanding amount due to the Government and the balance, if any, will be released to the contractor.
- 10.4 The balance of 50% of additional security deposit will be released to the contractor after expiration of the defects liability period (vide condition 46) of the maintenance period in accordance with condition 68 of IAFW/2249 (General Conditions of Contracts) after the compliance with the requirements stipulated in that condition and/or elsewhere in the contract.
- 11.0 PERIOD OF KEEPING THE TENDER OPEN.
- 11.1 The tender shall remain open for acceptance for a period of 60 (Sixty) days from the date on which the tender is due to be submitted.
- 12.0 SITE CLEARANCE.
(Refer condition 49 of IAFW/2249, General Conditions of Contract).
- 12.1 The contractor shall remove from the site all unused stores and huts and the like belonging to the contractor provided for the execution of work under this contract and the site of works shall be cleared off all rubbish and waste materials by the contractor and the site of work delivered in clean and tidy manner to the satisfaction of the Engineer/in/Charge on or before the date of completion. Nothing extra whatsoever shall be paid to the contractor for such clearance of site.
- 12.2 The contractor shall clean all floors, remove cement/lime/paint drops etc, clean the joinery, glass panes etc, touch up all painting work and carry out all other necessary items of work in connection there with and leave the whole premises clean and tidy to the entire satisfaction of the Engineer/in/charge before handing over the buildings.
- 13.0 CONDITION 63 OF IAFW 2249.
- 13.1 Condition 63 of IAFW 2249 is not applicable for this contract and no price escalation whatsoever shall be payable for work under this contract.
- 14.0 OUT OF POCKET EXPENSE.
- 14.1 Out of pocket expensed incurred by the tenderer in submitting this tender shall not be reimbursed whether tender is accepted or not.
- 15.0 WATER (Refer Condition 31 of IAFW/2249).
- 15.1 Water will not be supplied by MES.
- 15.2 Contractor shall make his own arrangements for the water required for this contract. Necessary test as per relevant IS shall be carried out before incorporation in the work. The unit rate quoted shall be deemed to be inclusive of subject provisions.
- 16.0 GOOD AND SERVICE TAX (GST)
The Contractor shall be registered with Goods and Services department and should obtain Registration Certificate. All rules and regulations of GST Act shall be complied with by the contractor. Nothing Extra will be payable on account of any changes in GST rates made by Govt. of India.

SPECIAL CONDITIONS (CONTD)16.1 REIMBURSEMENT/REFUND ON VARIATION IN TAXES DIRECTLY RELATED TO CONTRACT VALUE

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

(b) (i) The taxes which are levied by Govt at certain percentage rates of contract sum/Amount shall be termed as “taxes directly related to contract value” such as GST, Turnover Tax, 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 tender 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.

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

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

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

17.0 CONSTRUCTION LABOUR WELFARE TAX

17.1 Consequent upon promulgation of ordinance by the President of India, contractor shall be liable to pay as element for construction labour welfare tax if any quoted rate shall be deemed to be inclusive of this element, and no extra payment shall be admissible to the contractor on this account.

18.0. SUB-LETTING OF CONTRACT

18.1 The contractor’s special attention is drawn to the fact that sub-letting of contract is strictly prohibited. Any lapse in this regard if found shall be accounted as breach of contract and the contract agreement shall be liable for cancellation along with other suitable action as deemed fit by Accepting Officer.

18.2 The contractor’s special attention is drawn to condition of Notice of tender which implies “Whatever conditions/ requirement stipulated in tender documents, they are expressed final and binding”. The contractors are advised to quote their rates in view of the conditions/ requirements mentioned in tender documents and not to stipulate their own terms & conditions failing which the tender shall be maybe declared as ‘ non- bonafide’ and shall be rejected.

19.0. CONDITION OF WORKING IN RESTRICTED AREA

19.1 Work under the contract lies in Restricted Area.

19.2 Visit to the site before tendering: - Permission to enter the Restricted Area at the time of submission of tenders can be obtained through the GE. Tenderers are advised to send prior intimation to the GE about particulars of their agents, representatives etc, if any, dates any time of their proposed visits so that necessary arrangements may be made by GE to secure admission whether a tenderer visit the site or not be shall be deemed to have full knowledge of the restrictions on entering into/exit from and working within th restricted area.

SPECIAL CONDITIONS (CONTD)

- 19.3 ENTRY/EXIT. The contractor, his agents (s), representatives, workmen etc and his materials, carts trucks or other means of transports etc will be allowed to enter through and leave from only such gate or/ gates and at such times as the GE or authority representative is required to be present at the place of entry and exit for the purpose of identifying his carts, trucks etc to the personnel in charge of the security of restricted area.
- 19.4. IDENTITY CARDS OR PASSES. The contractor, his agents and representative are required individually to be in possession of an identity card or pass duly verified by the Police Department. The Identity card or pass will be examined by the security staff at the time of entry into or exit from the restricted area and also at any time or number of times inside the restricted area.
- 19.5 IDENTITY OF WORKMEN.
- 19.5.1 Every workmen shall be in possession of an identity card. The identity card will be issued after thorough investigation of the antecedents of the labourers by the contractor and attested by the Officer-in-Charge of the unit concerned in accordance with the standing rules and regulations of the units.
- 19.5.2 Contractor shall be responsible for the conduct and action of his workmen, agents and representatives.
- 19.6 SEARCH. Though search of all persons and transport shall be carried out at each gate and for as many time as a gate is used for entry or exit and may also be carried out at any time or any number of times at the work site with the restricted area.
- 19.7 FEMALE SEARCHES. If the contractor desired to employ female on work to be carried out inside the area of a factory, Depot, Part etc and a female searcher is not borne on the authorized strength of the factory, Depot, Park etc at the time of submission of the tender, he shall be deemed to have allowed in his tender for pay and allowances etc for a female searcher (class IV servant/Group 'D' servant calculated for the period of female labour is employed by him inside the area. If more than one contractor has / have to be employed in addition to the additional female searches (s) shall be distribution on an equitable basis between the contractor employing female labour taking into consideration the value and period of completion of their contracts. The GE's decision in regard to the amount recoverable on this account from any contract shall be final and binding.
- 19.8 WORKING HOURS.
- 19.8.1 The units controlling restricted area, usually work during six days in the week and remain closed on the 7 day. The working hours available to contractor's labour and staff are however, appreciably reduced because of the time taken in security checks carried at the time of entry, exit and during working hours.
- 19.8.2 WORKING HOURS. The exact working hours of the days and non-working days observed for the restricted area, where works are to be carried out shall deemed to have been ascertained by the contractor before submitting his tender. The tenderer attention is invited to the fact that the total number of working hours for a unit are prescribed in regulations and they cannot be increased by the Garrison Engineer.
- 19.8.3 Contractor's materials transport etc., shall normally be permitted to go out of the area between 8.00 pm to 6.00 pm only.
- 19.8.4 Contract's may also be allowed to carry out the work beyond 6.00 pm and upto 8.00 pm (day and night). However non movements or materials and transport out of site of works shall be permitted during night unless special permission obtained from the factories/unit authority.
- 20.0 CONDITION FOR CONCILIATION
Consequent to enactment of the Arbitration and Conciliation Act 1996, with an objective to encourage settlement of disputes which may arise under the contract as interim Arbitration special condition for conciliation is included.
- 20.1 SCOPE OF CONCILIATION
- 20.1.1 The scope of conciliation shall be only applicable to the following type of disputes with financial limit as indicated therein.
- Disputes relating to levy of compensating for delay in completion-actual amount of compensation
 - Disputes relating to technical examination of works
 - Disputes relating to interpretation of the provisions of the contract with reference to their application to parties.
 - Disputes relating to non-return of Schedule 'B' stores over issued to contractor.
 - Any other dispute having fair chances of being resolved by conciliation and considered fit to be referred to conciliation by the parties.

SPECIAL CONDITIONS (CONTD)

Note: For item (b), (c), (d) and (e) each as stated above the financial limit shall be Rupees Two lakhs or one percent of the contract amount whichever is less

20.2 COMMENCEMENT OF CONCILIATION PROCEEDINGS

20.2.1 The party initiating conciliation shall send to the other party a written invitation to conciliate briefly identifying the subject of the dispute.

20.2.2 Conciliation proceedings shall commence when the other party accepts in writing the invitation to conciliate.

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

20.3 NUMBER OF CONCILIATION

20.3.1 There shall be a Sole Conciliator

20.4 APPOINTMENT OF CONCILIATOR

20.4.1 All disputes brought out in above shall be referred to the Sole Conciliator viz Serving Officer not below the rank of Superintending Engineer/Superintendent Engineer (QS &C) having degree in Engineering or equivalent or having passed final/direct final examination of Sub Division II of Institution of Surveyors (India) to be appointed by the Engineer-in-Chief or Director General of Works specifically delegated by the Engineer-in-Charge in writing.

20.5. STATUS OF EFFECT OF SETTLEMENT AGREEMENT

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

20.6. On finalization of conciliation proceedings the settlement agreement shall be signed by Accepting Officer on behalf of Union of India and Contractor or his accredited representative duly agreed and accepted.

20.7 The amount of settlement shall be treated as an agreed amount payable under the contract and such payment shall be processed through hand receipt.

21.0 EMPLOYEES PROVIDENT FUNDS AND MISCELLANEOUS PROVISIONS (EPF&MP) ACT:-

21.1 All contractors shall get themselves registered with Employees Provident Fund org and deposit the necessary contributions with the EPFO. All the workers deployed by contractors shall be enrolled as members of Provident fund and should be given the Universal Account Number (UAN). While submitting the Running Account Receipt and Final Bill, the contractor shall submit a certificate to the effect that all the workers employed directly or indirectly by him are registered for EPF and due contributions have been credited into their account. Failure to provide social security benefits to the workers employed by the contractor is an offence under EPF & MP Act and appropriate panel can be taken in case of failure to ensure compliance of the ACT.

22.0 CONTRACTOR'S SUPERVISION: -

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

22.2 The contractor shall have adequate Engineers, T&P, Machinery of transport for the efficient and smooth execution of all the works stipulated in sch 'A'/ BOQ".

22.3 The contractor shall provide all safety measures for the workers as per the MES safety code (Refer Annexure 'B' appended to condition 26 of IAFW-2249 forming part of the contract) and should ensure that the workers working at electrical installations and energized electrical cables/lines are wearing necessary gloves, sleeves, boots, safety harness etc.

SPECIAL CONDITIONS (CONTD)23. RECORD OF MATERIALS

(a) The contractor shall produce receipted bills/cash memos from the manufacturer and/or their authorized agents for the full quantity of the following materials as applicable as a prerequisite before submitting claim for payment of advances on account of work done and/or materials collected in accordance with conditions 64 of General Conditions of Contracts (.IAFW – 2249):-

- (i) MS Pipe, hydrant valve, fire hose, Sluice valve etc
- (ii) Batteries, winding wire, butterfly valve, contactor etc
- (iii) MCB, MCCB, non return valve etc.
- (iv) Foot valve.

(b) In addition to the above any other proprietary materials which are not reflected but included in the work shall also be submitted by the contractor as per the direction of GE, his decision shall be final and binding.

(c) The vouchers/invoices shall be from the manufacturers and/or from their authorized agents for full quantity of respective items required for the work under this contract. These vouchers shall be endorsed, dated and initialed by the Engineer-in-Charge giving the contract number and name of work and a certified true copy of each such voucher signed both by the Engineer-in-charge and the contractor shall also be kept on MES record.

(d) The quantity brought to site shall be recorded in measurement books and signed by contractor and Engineer-in-Charge as a check to ensure that the required quantity have been brought to site for incorporation in the work.

(e) Proprietary materials brought at site shall be stored as directed by Engineer-in-Charge and those already recorded shall be suitable marked for identification.

(f) The contractor shall ensure that materials are brought to site in original sealed in containers or packing bearing manufacturer's marking except in the case of the total requirement less than the smallest packing.

24.0 ELECTRICITY SUPPLY

24.1 Electricity will not be supplied by MES. The contractor shall make his own arrangements for electric supply.

25.0 CHARGES FOR TESTING OF MATERIALS:

25.1 The Contractor shall setup full fledged site lab for contract amount more than ₹ 1.00 Crore for conducting level-A tests specified herein after. The type of tests and frequency of test to be carried out in such site lab shall be as per Appx 'A' attached here-in-below of the tender. All equipment in site lab shall however be calibrated, sealed and handed over to MES for their custody. In such event no charges shall be recovered from the contractor for conducting such tests. The equipment required is decided and provided at site by the contractor as directed by the GE. However, materials, labour and technical staff required for the site tests shall be provided by the contractor without any extra cost to the government.

The contractor shall be responsible for such tests to be carried out and for that they shall employ a competent technical representative as approved by the GE and all such tests shall be carried out in the presence of Engineer-in-Charge. Notwithstanding the above, government reserves the right to conduct test checks in any approve for such tests as and when desired by the Accepting Officer as per provision of IAFW 2249(Condition 10-A).

25.2 The charges for tests shall be recovered from the contractor only if he does not carry out the test catered for in the contract. The testing charges shall be recovered at the rates mentioned as per Appx 'A'.

25.3 The construction materials shall be tested as per the relevant IS, IRC as specified in SSR/CA document and shall be tested at a frequency as laid out in relevant IS/IRC.

25.4 Level of testing shown in legend as A, B & C are defined as under:-

(a) LEVEL 'A' :

Level 'A' test indicates "Site Lab" means own site lab established by the contractor at the work site for such tests. Within 15 days of placement of work order No 1, site lab shall be established and fact reported by the contractor to GE in writing who will verify the fact and satisfy himself of the facilities provided. Thereafter, GE shall issue a certificate to this effect in writing listing out equipment particulars etc of each material test. Only after issue of this certificate by GE, the tests shall be carried out and materials so approved shall be incorporated in the work. Manpower, material and infrastructure like electricity, water etc required for conducting these tests shall be provided by the contractor.

SPECIAL CONDITIONS (CONTD)

(b) LEVEL 'B' :-

Level 'B' test indicates "Zonal Lab" means any lab of MES and the same is not applicable to this contract. The test mentioned against Level- B shall be carried out in Govt approved Laboratories / Recognized Engg Colleges where such facilities exist as directed by Engineer in Charge.

(c) LEVEL 'C' :-

Level 'C' test indicates stands for National Test House, SEMT Wing, Pune located in CME Pune -31/Govt approved Laboratories / Recognized Engg Colleges where such facilities exist.

25.5 In case the contractor has not set up the site laboratory the test shall be carried out in Govt approved Laboratories / Recognized Engg Colleges where such facilities exist as directed. The cost of conveyance of sample materials, cost of test etc shall be borne by the Contractor without any extra cost to Govt.

Signature of Contractor
Date:

AGE(Contracts)
for Accepting Officer

SPECIAL CONDITIONS (CONTD)

RECOVERY CHARGES FOR TESTING OF MATERIALS

APPENDIX ‘A’

Legend :- A-Site Lab, B- Zonal Lab, C-National Test House/ SEMT/ Govt approved lab/Engg College/NABL Lab

Srl No	Materials	Test	Method of Testing	Frequencies of Test	Level of Test	Rate in Rs	Remarks
1	2	3	4	5	6	7	8
1	Bricks			As per IS 5454 as given under:	Permissible % of defective Bricks		Check for visual and dimensional characteristic shall also be allowed out as per IS-5454
				Lot Size Sample Size			
				1001 to 10000 5	0		
				10001 to 35000 10	0		
				35001 to 50000 15	1		
		(i) Compressive Strength	IS-3495 (Part-I)		A	330	
		(ii) Water Absorption	IS-3495 (Part-I)		A	330	
		(iii) Efflorescence	-do- (Part-II)		A	330	
2	Coarse Aggregate	(i) Sieve Analysis	IS-2386 (Part-I)	One Test for every 15 cum of Aggregate or part thereof.	A	660	
		(ii) Flakiness Indices	-do-	One Test for every 15 cum of Aggregate or part thereof.	A	250	
		(iii) Estimation of deleterious materials	-do-	One Test for every 100 cum of Aggregate or part thereof.	A	600	
		(iv) Organic Impurities	-do-	One Test per source of supply.	B	275	

SPECIAL CONDITIONS (CONTD)

RECOVERY CHARGES FOR TESTING OF MATERIALS					APPENDIX ‘A’(CONTD)		
1	2	3	4	5	6	7	8
		(v) Moisture Content	IS-2386 (Part-II)	Regularly as required	A	330	
		(vi) Specific Gravity	-do- (Part-III)	One Test per each source of supply.	B	330	
3	Fine Aggregate	(i) Sieve Analysis	(IS-2386) (Part-I)	(I) One Test for every 15Cum of FA or part when brought to site.	A	660	
		(ii) Test for clay silt impurities	-do-	(I) One Test for every 15Cum of FA or part when brought to site.	A	500	
		(iii) Specific Gravity	-do-	One for each source of supply	B	330	
		(iv) Moisture Content	-do- (Part-III)	Regularly as required subject to 2 tests/day when being used.	A	330	
		(v) Test for Organic Impurities	-do- (Part-III)	One test for each source of supply.	B	275	
4	Cement	(i) Setting Time	IS-4031 (Latest Edition)	Once for each Consignment	B	500	
		(ii) Soundness	IS-4031 (Latest Edition)	Once for each Consignment	B	550	

SPECIAL CONDITIONS (CONTD)

RECOVERY CHARGES FOR TESTING OF MATERIALS

APPENDIX ‘A’(CONTD)

1	2	3	4	5	6	7	8
		(iii) Compressive Strength	IS-4031 (Latest Edition)	Once for each Consignment	B	550	
		(iv) Fineness	IS-4031 (Latest Edition)	Once for each Consignment	B	275	
5	Cement Flooring tiles/terrazzo tiles	(i) Water Absorption	IS-1237 1980 (Appx 'D')	6 tiles out of total of 18	B	330	Sample 18 tiles from each source of supply selected at random
		(ii) Wet transverse strength	-do- (Appx ‘E’)	6 tiles out of total of 18	B	660	
		(iii) Resistance to wear	do (Appx ‘F’)	6 tiles out of total of 18	C	1000	
6	Mangalore pattern roofing tiles	(i) Water Absorption	IS-654 (Appx 'A')	6 tiles out of total 32	B	180	Sample: 32 tiles from each consignment of every 3000 tiles or part thereof. These tiles shall be checked for dimension & weight.
		(ii) Breaking load	IS-654 (Appx 'C')	-do-	B	120	
7	Structural Concrete (M-25 and above)	(i) Slump Test or Compacting Factor Test of Vee Bee Time	IS-1199	The minimum frequency of sampling of concrete of each grade shall be as under:	A	300	(i) Random sampling shall be carried out to cover all mixing units
				<u>Qty of Concrete in the work</u> <u>No of Samples(CuM)</u>			(ii) Refer IS-456-2000, Clause 14 for frequency of test

SPECIAL CONDITIONS (CONTD)

RECOVERY CHARGES FOR TESTING OF MATERIALS

APPENDIX ‘A’(CONTD)

1	2	3	4	5	6	7	8
				1-5 1			
				6-15 2			
				16-30 3			
				31-50 4			
				51 and above 4+1 for each additional 50 CuM or part thereof.			
		(ii) Compressive Strength	IS-516		A	900	
8	(a) PCC Block for walling (Hollow block)	(i) Compressive Strength	IS-2156 (Appx ‘B’)	8 Block out of total of 14	A	900	Sample: 14 Blocks from consignment of every 5000 blocks or part thereof.
		(ii) Water Absorption	-do-(Appx ‘E’)	3 –do-	B	330	
		(iii) Density	-do- (Appx ‘A’)	3 –do-	B	330	
	(b) PCC Solid block for walling	(i) Compressive Strength	IS-2185 (Appx ‘A’)	12 Block out of total of 18	A	900	Sample: 18 Blocks from consignment of every 100000 blocks or part thereof.
		(ii) Water Absorption	-do-	3 –do	B	330	These blocks to be checked for dimension and weight.
		(iii) Density	-do-	3 –do-	B	330	

SPECIAL CONDITIONS (CONTD)

RECOVERY CHARGES FOR TESTING OF MATERIALS

APPENDIX ‘A’ (CONTD....)

1	2	3	4	5	6	7	8
9	Burnt clay roofing tiles(Hand made) as per IS 2690(Part-II) Length 150mm to 250mm width 100mm to 200mm thickness 35mm to 50mm	(i) Water Absorption	IS-3495(Part II)	6 tiles out of 12	B	216	Sample: 12 tiles from each source of supply selected at random.
		(ii) Compressive strength	-do- Part-I	6 tiles out of 12	A	180	
10	Timber	(i) Specific Gravity and weight	IS-1708- 1960	Minimum 3 samples from a lot of 4 cubic meters or 250 pieces of seasoned timber.	B	120	
		(ii) Moisture content	IS-1708- 1960		A	120	
11	Water for construction purpose	(i) Test for acidity	IS-456 & 3025	Once the stage of approval of source of water	B	500	Also refer Clause 4.3 of IS-456 & its subsequent sub clauses regarding suitability of water
		(ii) Test for alkalinity	IS-456 & 3025	-do-	B	500	
		(iii) Test for Solid contents.	IS-456 & 3025	-do-	B	500	
12	Welding of Steel work	Visual Inspection Test	IS-822-1970, Clause 7.1	100 % by visual inspection	Work Site	360	Specialised tests their method and frequency to be decided on consideration of their importance by the Accepting Officer
13	Ply Wood	(a) Moisture Contents	IS-1734 (Part-I)	6 Test pieces from each of the board selected.	C	240	Sampling shall be as per IS-7835 -Tables

SPECIAL CONDITIONS (CONTD)

RECOVERY CHARGES FOR TESTING OF MATERIALS

APPENDIX ‘A’ (CONTD....)

1	2	3	4	5	6	7	8
		(b) Water resistance	IS-1734 (Part-I)	As per Table-I shall be subjected to tests.	C	350	
14	Timber panelled and glazed door (wooden shutters) (Including factory made shutters).			Frequency of sampling from each lot shall be as under:	A	180	
				<u>Lot Size</u> <u>Sample Size</u>			
				26 to 50 05			
				51 to 100 08			
				101 to 150 13			
				151 to 300 20			
				301 to 500 32			
				501 to 1000 50			
				1001 and above 80			
		(a) Dimensions, sizes, workmanship and finish	IS-1003-1977 (Part-I)		A		
		(b) Strength test		From each lot 5 % of the factory-made shutters shall be tested for strength test.	Manufacturer		
		(i) Slamming	IS-1303-1990				
		(ii) Impact Indication	-do-				

SPECIAL CONDITIONS (CONTD)

RECOVERY CHARGES FOR TESTING OF MATERIALS				APPENDIX ‘A’ (CONTD....)			
1	2	3	4	5	6	7	8
		(iii) Shock resistance	-do-				
		(iv) Edge loading	-do-				
15	Wood particles board (Medium density) IS-3087-1988	(a) Density	IS-2380-1977	Three test specimen each sample (size-150mmx75mm)	A	60	Sampling shall be as per IS-3487 - with moisture method.
		(b)Moisture content	-do-	-do-	With Moisture Meter A & B	60	
		(c) Water absorption	-do- (Part 16)	-do- (size-300mmx300mm)	A	60	
		(d) Swelling to surface absorption	-do- (Part 17)	~-do- (size-125mmx100mm)	A	60	
		(e) Swelling in water	-do-	-do- (size 200mmx100mm)	A	60	
		(f) Modulus of rupture	-do- (Part 4)	Three test specimens as per IS-2380-1977	B	90	
		(f) Screw withdrawal strength	-do- (Part 4)	~-do- as per IS-2385	C	120	

SIGNATURE OF THE CONTRACTOR

DATED:

AGE (CONTRACTS)

FOR ACCEPTING OFFICER

PARTICULAR SPECIFICATIONS

Name of work : REPAIR AND MAINTENANCE OF FIRE FIGHTING PUMP HOUSE AT AMBC BUILDING NEAR KAUTILYA AUDITORIUM AND INHS NAVJIVANI HOSPITAL INCLUDING REPAIR/MAINT OF INCINERATOR AT INHS NAVJIVANI AND ITS CONNECTED WORK SERVICES AT INA EZHIMALA

1.0 GENERAL

- 1.1 The following specifications shall be read in conjunction with the General Conditions of Contractors IAFW/2249 and IAFW/1779A including Errata/Amendments thereto. If any provision in these particulars specifications is at variance with that the aforesaid documents, the former shall be deemed to take precedence there over.
- 1.2 The work under this contract shall be carried out in accordance with schedule 'A' the particular specifications and other provisions in MES Schedule, read in conjunction with each other.
- 1.3 The term 'General Specification' referred to here/in/before as well as referred to in IAFW/2249(General conditions of contracts) shall means the specifications contained in the MES Schedule.
- 1.4 General Rules, specification, Special Condition and all preambles in the MES Schedule shall be deemed to apply to the work under this contract, unless mentioned otherwise in these documents in which case, the provisions in those documents shall take precedence over aforesaid provisions in the MES Schedule.

2.0 SCOPE OF WORK

- 2.1 This contract included for the full, final and entire completion of following works all as detailed in Schedule 'A' particular specifications forming part of the contract.

3.0 EXCAVATION AND EARTH WORK

- 3.1 Excavation in trenches:- Excavation in trenches shall be carried out all as described in relevant items of BOQ and all as specified in Clause No 3.3.4 and 3.12 to 3.19 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 payments shall be admissible for the above mentioned operation
- 3.2 Trench bed shall be approved in writing by the Engineer-in-charge before pipes are laid. No extra payment shall be made for excavation through existing roads, paths etc and making good after completion to match with the existing.
- 3.3 Return filling shall be done with soil obtained from excavation as per clause 3.20.1 to 3.20.3 of MES Sch Part I.
- 22.31 In returning, filling and ramming in trenches for the pipes, the finest soil has to be collected and carefully filled in before main filling is done. Trenches shall not be filled in before pipes are tested and passed by the Engineer-in-Charge.
- 3.4 Wherever trenches are dug across road etc, the contractor shall provide all necessary precautions against danger with lights and flags etc. as directed by Engineer-in-Charge. 3.6 Road cuttings if any, shall be made good to match with the existing road specification

4.0 CONCRETE**4.1 AGGREGATE**

- 4.1.1 Coarse aggregate shall be graded crushed or broken hard granite stones obtained from approved quarries for cement concrete and reinforced concrete and all as specified in clause 4.4.1 to 4.4.7 of SSR Part I.
- 4.1.2 Fine aggregate shall be conforming to material specification and grading within the limits of grading zone I to III & as specified in SSR Part I. Fine aggregate shall be natural river sand obtained from source as approved by GE. Sand shall be free from admixture of clay, loam, silt, organic matters etc and the sand shall be washed before use. The percentage of deleterious materials shall not exceed the permissible limit laid down in IS-2386 A(Part II). Sand shall be obtained from source approved by GE. In the alternative crushed stone sand conforming to grading and other characteristics Zone I to III and other requirement in all respect may also be used without any price adjustment. The crushed stone sand shall be from clean hard stone / aggregate to required grading and shall be free from all deleterious materials. Sand obtained from quarry dust by washing and screening method shall not be used.

- 4.1.3 Cement required for the work under the contract shall be procured, supplied and incorporated in the works by the contractor under his own arrangement.

- 4.2 WATER: Water used in the work shall be clean, fresh potable and non-saline all as specified in IS.

5.0 CEMENT

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

- 5.1.1 Type of cement for the subject work shall be ordinary Portland cement grade 43 (forty three) in accordance with IS 269-1989, IS 8112-1989 and 12269-1987 and portland pozzolana cement (PPC) conforming to specification as per IS 1489 (Part-I) 1991 unless otherwise mentioned in structural drawings forming part of the tender documents. However, mixing of OPC and PPC shall not be permitted in the entire project till completion.

5.2 SOURCES OF PROCUREMENT

- 5.2.1 Cement shall be procured by the contractor from any of the main producers of cement like(i) ACC, (ii)L&T Ltd. (iii) Grasim industries Ltd(iv) Ultra tech cement(v) The India Cements Ltd (vi) Dalmia cement (vii) Andhra Cement (viii) Century Cements (ix) Saurashtra cement (x) Binani cement (xi) Madras Cement (xiii) Mangalam cement (xiv) Birla Corpn Ltd (xv) Orient Cement (xvi) Lafarge cement (xiii) Shree cement Ltd (xiv) Jaypee Rawa Cement (xv) Ambuja Cement (xvi)Lakshmi Cements (xvii) Rajashree Cement (xviii) Modi cement Ltd (xix) Zuari cement (xx) Dhruv industrial company Ltd (xxi) Chettinad Cement Ltd (xxii) JSW Cement Pvt. Ltd. or from their authorized dealers.

PARTICULAR SPECIFICATIONS

- 5.2.2 However where estimated requirements of cement for the work is less than 1200 bags, the Contractor can procure cement from the authorized distributors / dealers of approved firms but the Contractor will have to submit test certificates of the batch issued by the main producers.
- 5.2.3 The Contractor shall furnish the particulars of the manufacturer/supplier of cement along with the date of manufacture to the Garrison Engineer for every lot of cement separately. The cement so brought shall be fresh and in no case older than 60 days from the date of manufacture. The documents in support of the purchases of cement shall be verified by the Garrison Engineer. Before placing the order for supply of cement by the contractor, he shall obtain written approval from the GE regarding name of manufacturer, quantity of cement etc. Cement shall be procured for minimum requirement of one month and not exceeding the requirement of the same for more than two months at a time. The cement shall be consumed in the work within three months after receipt. Cement shall conform to the requirement of Indian Standard Specification and each bag of cement shall bear relevant ISI mark. The weight of each consignment shall be verified by the GE and recorded. The content of cement shall be checked at random to verify the actual weight of cement per bag. However, the content of cement per bag shall be 50 Kg only, subject to tolerance given in clause 10.2.1.1 and Annexure 'B' of IS – 1489 of 1991 part I.
- 5.2.4 Testing of Cement
- 5.2.5 The contractor shall submit the manufacturer's test certificate in original alongwith test sheets giving the results of each physical test as stipulated in accordance with relevant IS provision and the chemical composition of cement or authenticated copy thereof duly signed by the manufacturer with each consignment, as per the following IS provision :-
- (a) Method of sampling hydraulic cement as per IS-3535-1986.
 - (b) Methods of physical test for hydraulic cements as per IS-4031.
 - (c) Method of chemical analysis of hydraulic cement as per IS-4032-1985.
- The test certificate and test sheet shall be furnished with each batch by manufacture. The Engineer-in- Charge shall record these details in cement acceptance register to be maintained by him which will be signed by Junior Engineer (Civil), Engineer-in-Charge, Garrison Engineer and the contractors as given in the format hereinafter for verification.
- 5.2.6 The contractor shall however, organise setting time and a compressive strength test of cement through designated laboratory on samples collected from the lot brought at site before incorporation in work. The contractor will be allowed to use the cement only after satisfactory compressive strength of seven days. To meet this requirement contractor is required to keep minimum 10 days stock before any new lot brought at site which can be used in the work. The contractor shall be required to remove the cement not meeting the requirement from site within 24 hours. Seven day strength test will be relied upon to accept the lot of cement to commence the work. 28 days compressive strength test will be the final criteria to accept/reject the lot.
- 5.2.7 The GE shall carryout independent testing as per the tests mentioned in the 'CEMENT SUPPLY/ ACCEPTANCE FORM' of random samples of cement drawn from various lots. The testing shall be carried out through national test house, SEMT wing of CME, Regional Research Laboratories, Govt approved Laboratories, Zonal Laboratories as per IS-3535-1986 (method of sampling hydraulic cement) and IS-4031 (method of physical test for hydraulic cement) and IS-4032-1985 (method of chemical analysis of hydraulic cement) referred to above. The cement shall be tested both for physical and chemical properties as per relevant IS codes.
- 5.2.8 The random samples as per relevant IS shall be selected by GE in accordance with IS 3535-1986 for independent or additional tests before carrying out testing. The cement shall be tested with in one week on supply but before in-corporation of the same in works. Cost of testing, transportation and materials used in testing etc shall be borne by the contractor and no extra claim whatsoever will be admissible. The record of such samples selected by the GE for testing shall be properly maintained in the 'Cement Testing Register' giving cross reference to relevant consignment of cement and quantity received etc.
- 5.2.9 Cost of transportation of samples to the approved laboratory/test house and all testing charges including cost of sample shall be borne by the contractor Testing of cement shall be carried out in Govt approved and accepted only on satisfactory test results of the tests. All the expenditure for the testing of cement in Govt approved laboratory shall be borne by the contractor.
- 5.2.10 The contractor shall submit original purchase vouchers for the total quantity of cement supplied under each consignment to be incorporated in the work. The original purchase vouchers and the test certificates shall be verified for subject contract and defaced by the Engineer-in-Charge and kept on record in the office of the Garrison Engineer duly authenticated and with cross reference to the consignment/control number recorded in the Cement Acceptance Register. The cement acceptance register shall be signed by the JE (Civil), Engineer-in-Charge, GE and the contractor. The contractor shall maintain schedule of supply of cement for each consignment.

PARTICULAR SPECIFICATIONS

- 5.3 Storage/Accounting/Preservation of Cement.
- 5.3.1 Cement shall be stored in covered godown over dry platform at least 20 cm high in such a manner as to prevent deterioration due to moisture or intrusion of foreign matter. In case of store room, the stack should be atleast 20 cm away from floors and walls. The stacking of cement shall be done as specified in relevant IS. The storage, accounting and preservation of cement supplied by the contractor shall be done as per standard engineering practice till the same is incorporated in the work and the cost of the same shall be deemed to be included in the unit rate/amount quoted by the tenderer.
- 5.4 Measurements and Payment of Cement.
- 5.4.1 The entire quantity of cement 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 duly checked by GE.
- 5.4.2 The payment shall only be allowed after production of original purchase vouchers, certified copies of test certificates from manufacturer for each consignment and results of testing carried out in laboratory on receipt of cement (7 days compressive test) are found satisfactory after testing as specified hereinbefore. Cement shall be paid as material lying at site as per condition 64 of IAFW-2249.
- 5.5 Mix of concrete : Mix of concrete in various situation shall be as indicated in Sch 'A'.
- 5.6 MIXING DEPOSITING AND RAMMING
- 5.6.1 All cement concrete, both plain and reinforced shall be mixed in mechanical mixture of approved type. However in case of small quantity (ie. the quantity of concrete required being less than one batch of mix), the contractor may, after obtaining written permission of the Engineer-in-Charge which shall be exceptional, adopt hand mix for small quantities of work such as bed blocks and cills subject to addition of 10% extra cement without any price adjustment. 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 the concrete is uniform in colour and consistency.
- 5.7 FINE AGGREGATE: Fine aggregate for concrete work shall be river sand conforming to materials specifications and grading within the limits of grading zones I to III all as specified in Clause 4.4.1 to 4.4.7 of SSR Part I. Sand shall be obtained from source as approved by GE. In the alternative crushed stone sand conforming to grading and other characteristics Zone I to III and other requirement in all respect may also be used without any price adjustment. The crushed stone sand shall be from clean hard stone / aggregate to required grading and shall be free from all deleterious materials. Sand obtained from quarry dust by washing and screening method shall not be used.
- 5.8 COARSE AGGREGATE: Coarse aggregate for all concrete work ie PCC/RCC shall be crushed or broken stone(granite) aggregate and shall be as specified in Clause 4.4.1 to 4.4.7 of SSR Part I. The same shall be obtained from approved quarries.
- 5.9 WATER: Water shall conform to the requirements stipulated in IS-456-2000 and as per clause 4.9 of MES Schedule.
- 5.10 CURING :The contractor shall take necessary arrangement to maintain an environment of high humidity around the freshly placed concrete till it attains reasonably good strength and proper curing. Contractor shall follow any of the following method of curing while execution of work based on the site conditions :-
(a) Ponding or immersion of water
(b) Fogging or spraying of water
(c) Moist fabric covers
(d) Covering by plastic sheets
- 5.11 Recovery @ 0.25 % of total cost of concrete at contract rate shall be recovered as penalty in case of improper curing and cracks if any are noticed by GE or by the Dept official at any stage.
- 5.12 TESTING OF BUILDING MATERIALS : Test for building materials shall be conducted as per IS requirement as directed by the GE. The Contractor shall provide necessary samples; make adequate arrangement for transportation and testing of the same. Testing charges shall be paid by the Contractor. Recovery on account of testing charges shall be made from the Contractor for various tests conducted in MES project lab as per Appendix enclosed. The test for which the facility is not available in MES lab shall be got done by contractor in approved lab outside MES and the testing charges as charged by the concerned authorities shall be borne by the contractor as provided in condition 10A of IAFW-2249, General Conditions of contracts and no claims, whatsoever, shall be entertained on this accounts.
- 5.13 INTEGRAL WATER PROOFING COMPOUND: Wherever integral water proofing admixture is specified or indicated to be mixed to concrete/mortar, plaster etc. The percentage of integral water proofing compound to be added shall be as per manufactures instructions. Integral water proofing compound shall conform to IS-2645:2003 and shall be ISI marked and shall either be powder or in liquid form.

PARTICULAR SPECIFICATIONS

6.0 STEEL AND IRON WORK

6.1 General :- All items of steel which are required for the work under this contract shall be procured supplied and incorporated in the work by the contractor under his own arrangement.

6.2.0 Grades and Quality

6.2.1 Steel supplied by the contractor shall conform to the following grades and quality.

(a) Reinforcement Steel: Reinforcement shall be CRS (corrosion resistant steel)/HCRM/CRM TMT bars conforming to IS 1786-2008 having minimum yield strength of 500 N/mm² of grades Fe 500 D and minimum elongation of 16%. Mild steel bars shall conform to IS 432 (Part I) and grade I.

(b) Structural Steel

(i) Structural steel - E250 (Fe 410W) Conforming to IS-2062

(ii) General purpose - E165 (Fe 290) Conforming to IS-2062

(iii) Galvanised steel sheets(Plain or corrugated) - Conforming to IS-277

(iv) Fabric reinforcement for concrete - Conforming to IS 1566.

6.3 Source of Procurement

(a) All steel reinforcement and structural steel shall be procured directly from any of the primary producers mentioned below:-

- (i) Steel Authority of India Ltd(SAIL) - For all types of steel
- (ii) Tata Iron & Steel Company(TISCO, or Tata Steel)- For all types of steel
- (iii) Rashtriya Ispat Nigam Limited(RINL) - For all types of steel
- (iv) M/S SRMB Srijan Private Ltd - For TMT bars only (8 to 32mm dia)
- (v) MS Jindal Steels and Power Ltd - For all types of steel
- (vi) M/S Steel Exchange India Ltd - For TMT bars only
- (vii) M/s Jai Balaji Industries Ltd - For TMT bars only
- (viii) M/s SPS Rolling Mills Ltd , Kolkata - For TMT bars only
- (ix) M/s Shyam steel Industries Ltd - For TMT& CRS bars only
- (x) M/s Concast Steel & Power Ltd Kolkata - For TMT bars only(8 to 32mm dia)
- (xi) M/s Real Ispat & Power Ltd (G K TMT) - For TMT bars only (8 to 32mm dia)
- (xii) M/s Shri Bajrang Power &IspatLtd,Raipur. - For TMT bars only(8 to 32mm dia)
- (xiii) M/s JSW Steel Ltd ,Mumbai - For TMT & CRS bars only (8 to 40mm dia)
- (xiv) M/s Electrosteel Steels Ltd, Kolkata - For TMT bars only (8 to 36mm dia)
- (xv) M/s Shyam Metalics & Energy Ltd - For TMT bars only(8 to 32mm dia)
- (xvi) M/s Kamachi Industries Ltd - For TMT & HCRM bars only(8 to 40mm dia)
- (xvii) M/s Gallantt Metal Ltd, Gujarat - For TMT bars only
- (xviii) M/s BDG Metal & power Ltd, Kolkata - For TMT Bars only
- (xix) M/s Shyam Metalics & Energy Ltd - For TMT Bars only
- (xx) M/s Rashmi Metaliks Ltd, W.B - For TMT Bars only

Note:-Any primary producer not included above but already approved by E-n-C Branch and also approved during execution shall be deemed to be included without any price adjustment.

6.4 In case of its non availability with primary producers the structural steel can be procured from the approved secondary producers with a reduction of 5%(Five percent) of the accepted rates of structural steel (SSR rate + CP) to be adjusted through a minus Deviation Order. In case the desired section of structural steel is not rolled/manufactured by the primary producer there shall be no price adjustment in use of structural steel procured from the approved secondary producers. List of approved secondary producers for structural steel is given below:

- (i) KL Steel Pvt Ltd, Post Box No 61, Lal Kuan, Bulandshahar Rd, Ghaziabad (UP)
- (ii) Shree Badrinarayan Alloys & Steels Ltd, 95, Stephen house, 4 BBD Bag, Kolkata-1
- (iii) Pushpak Steel Industries Pvt Ltd, Gate No -119, Anandi Market Rd, Dhanore, Tah Khed Pune
- (iv) Amba Shakti Ispat Ltd, Plot No 6, Phase II Industrial Area, Kala Amb, Dist-Sirmour-173030 (HP)
- (v) Shree Parashnath Re-Rolling Mills Ltd, Durgapur, 4C Maharshi Devendre Rd, 3rd floor, Kolkota – 7 (Phone- 033-2274 0045 / 4475)
- (vi) Tata Steel Structura, Tata Steel –Tube Division, 1st floor, 5 Sansad Marg, Delhi-1
- (vii) KL Concast Pvt Ltd, Z-18, Naraina, New Delhi
- (viii) Karam Steel Corp, Nasrali Rd, PO Box No 56, Mandi Gobind Garh – 147301

6.5 The contractor shall within 15 days of placing of work order indicate the source for procurement of steel to GE in writing.

6.6 However, steel sections for railing, gates, fencing, guard bars, grills steel chowkats, hold fast 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 minus price adjustment. Tests will not be insisted upon for such steel sections.

6.7 The contractor shall produce original vouchers from suppliers for the total quantity of steel purchased, under each consignment and be kept on record of the GE duly defaced by Engineer-in-Charge and authenticated.

6.8 Testing and Test Certificate

(a) The contractor shall produce manufacturers test certificate in original alongwith the test sheet giving the result of each mechanical test as applicable and the chemical composition of the steel supplied as specified in relevant IS Codes, duly signed by the manufacturer of their authorized dealers with each consignment.

PARTICULAR SPECIFICATIONS

(b) The original test certificate shall be kept on record in the office of GE duly defaced by Engineer-in-Charge and authenticated.

(c) Independent testing of steel by the GE shall be optional at the discretion of the GE in case of procurement of steel from main producers and testing charges shall be borne in accordance with Condition 10A of IAFW 2249 i.e. testing charges shall be borne by the Deptt if the test results are found in order otherwise these shall be borne by the Contractor.

(d) Independent testing of structural steel by the GE shall be mandatory in case of procurement from secondary producers and testing charges shall be borne by the Contractor irrespective of the outcome of test results.

(e) In both the cases at sub para I and (d) above, the contractor at his cost shall provide all facilities required for the testing and cost of materials consumed in tests shall also be borne by the contractor.

6.9 Minimum frequency of testing for each source and each consignment

(a) Structural Steel: -

(i) Tensile test : One sample(3 specimen) for each test for every 25 tonnes or part thereof.

(ii) Bend test : One sample(3 specimen) for each test for every 10 tonnes or part thereof.

(b) Steel for concrete reinforcement: -

(i) Bar size less than 10mm : One sample(3 specimen) for each test for every 25 tonnes or part thereof.

(ii) Bar size 10mm to 16mm(inclusive) : One sample(3 specimen) for each test for every 35 tonnes or part thereof.

(iii) Bar size over 16mm : One sample(3 specimen) for each test for every 45 tonnes or part thereof.

(c) Bend test and tensile test for structural steel shall be carried as per IS-226 of 1975. For high strength deformed bar tensile, bend test and rebend test shall be done as per IS-1786 of 1985. For MS bars tensile and bend test shall be carried out as per IS 432 of 1982.

(d) GE has the right to get one more sample (3 specimen) tested if he is not satisfied with test result of the consignment.

(e) If the test results as per manufacturer's test certificate or of independent testing of random samples are not as per criteria laid down in the relevant BIS provisions, the entire consignment which is represented by the samples shall be rejected. Such rejected materials shall be removed and replaced by the contractor at his own cost forthwith.

(f) Cost of transportation of samples to the approved laboratory/test house and all testing charges shall be borne by the contractor.

6.10 Storage: - Steel supplied by the contractor shall be stored in accordance with the requirement of ISS. Each grade and quality of steel shall be stored separately and have identification tags indicating the source, quality and grade.

6.11 Preservation and maintenance of steel :- The steel brought by the contractor shall be preserved to ensure that no rusting takes place till it is incorporated in the works.

6.12 Schedule of Supply :- The contractor shall procure the steel sections, timely as required in accordance with CPM Chart, agreed between GE and contractor. The contractor will forego his right to demand extension of time if the supply of steel got delayed due to his failure in placing order in time to the manufacturer/supplier.

6.13 Payment :- Running Account Receipt of payment of steel shall be governed by in accordance with Condition 64 of IAFW-2249. Payment shall allowed after production of test certificate and original paid/purchase vouchers by the contractor.

6.14 Measurement

(a) The entire quantity of steel brought to site shall be recorded in measurement book as "NOT TO BE ABSTRACTED" indicating the reference to manufacturers, source of supply voucher number and test certificate before incorporation in the work and shall be signed both by the Engineer-in-Charge and the contractor. Proper documentation/record shall be maintained as per the instructions on the subject.

6.14.1 Weight of steel supplied by the contractor shall be calculated at unit weights given in Appendix A' of MES Sch Part II. For section not listed in MES Sch, the ISI conversion table shall be followed or manufacturer's certificate if the weights are not available in MES Sch/ISI table.

6.14.2 Normal waste and off cuts shall be stacked neatly which shall be the property of the Contractor. Contractor shall be allowed to remove such cut pieces after inspection and certifications by the Engineer-in-Charge.

6.14.3 Advance on account of payment made towards these cut pieces shall be recovered from advance on account of payment immediately falling due and before removal of such cut pieces from site.

6.14.4 Bending and fixing of bars for concrete reinforcement including mild steel wire for binding shall be carried out all as specified in MES Sch.

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6.14.5 Hooks shall be provided only for mild steel bars. In case of cold twisted/deformed steel CRS ends shall be bend instead of hooks as shown on drgs.

6.14.6 Binding wire for reinforcement shall be mild steel wire(annealed) of size not less than 0.9mm.

6.14.7 Steel supply/Acceptance form :- For each consignment of steel supply/acceptance form will be filled in and jointly signed by the department Rep.(JE/AGE) and contractor and accepted/rejected by GE before incorporation in the works.

6.15 Steel Reinforcement :- Reinforcement shall be fabricated, placed in position all as shown on drgs and specified in clause 10.17 to 10.22 of MES Schedule (Part I) without application of heat.

6.16 WELDING: Welding wherever shown on drawings shall be by metal arc process in accordance with 1816(1967) and IS-823(1964). All welding shall be fillet welding 6mm unless otherwise indicated in drg or in this specification.

6.17 BOLTS, NUTS AND WASHERS

6.17.1 Bolts, Nuts and Washers shall be as specified in SSR Part I -2009 clause No. 10.7 to 10.7.3.

7.0 PAINTING. All synthetic enamel paints and emulsion paints shall be of 1st quality manufactured by the standard firm. The contractor shall inform the GE, within three weeks of the acceptance of the tender, the brand/ names of the manufacturers of paint proposed to be used in the work and submit samples thereof to GE before their use in work and obtain prior approval of GE. Paints for priming coat, under coat and finishing coat shall be of the same brand. Tint of paint, if not mentioned in drgs/schedule of finishes, shall be as approved by the GE. Pink primer shall be used on wooden surface and red oxide primer shall be used on steel surface. Concrete surface shall be applied with cement primer. The workmanship shall be as under:-

(a) All surfaces required to be painted shall be smoothened size and knotted and then applied with priming coat, stopping and filling [filler coat] shall be done after priming coat and surface rubbed down to a level and smooth surface and thereafter under coat and finishing coat shall be applied all as specified in clause 17.6 of MES Schedule Part-I. Steel and iron work shall be painted in the manner as specified in clause 17.8 of MES Schedule Part-I.

(b) All steel and wooden surfaces including wooden based surfaces such as plywood, particle board etc shall be given two coats [under coat and finishing coat] of synthetic enamel paint. Aluminium painted shall be given two coats of aluminium paint conforming to IS-2339 over a coat of appropriate primer.

8.0 SYNTHETIC ENAMELPAINTING

8.1. PAINTING AND ALLIED MATERIALS :- Painting and allied materials compatibility of paints etc shall be specified in clause 17.2.1 to 17.2.5 of MES Schedule Part I.

8.2 PAINTING GENERALLY :- In addition to the General condition given in clause 17.3 MES Schedule Part I the following stipulations shall be applicable. Contractor shall execute painting under the guidance of the manufacturer's representative if so ordered by GE.

8.3 Member specified to be painted shall first be passed by the Engineer-in-Charge and marked as such before commencement of painting work. If the under coat of paint is not extended within six months after applying the priming coat of paint the primer shall be redone by the contractor at no extra cost to the Government. The exact time shall be decided by the GE. Surface which are inaccessible for painting after execution shall be painted before execution.

9.0 EPOXY PAINTING:

9.1 Epoxy paint shall be exterior grade.The existing treat ment shall be completely removed by sand blasting/wire brushing/emery paper to ensure a surface free of existing paint, dust, loose particles or any other forien matter. Treat the surface with one coat of epoxy based zinc rich primer followed by two coats of Epoxy based finishing coat of approved colour.The thickness of each coat shall not be less than 40 microns. The paint manufactured by following manufacturers shall be incorporated in the work.

(i) M/S Tuff coat Ltd of M/S Roff (P) code 616 of Roffe construction Pvt Ltd

(ii) M/S Fosroc Chemicals (India) Ltd

(iii) Araldate Ventico Polimer

10.0 GENERAL NOTES FOR APPLYING EPOXY AND ENAMEL PAINTING

10.1 These works shall be executed using modern technics and tools to maintain the required quality work. Following smart painting tools shall be used in site.

(a) Hand held sander / long handle sander shall be used for plaster / putty work.

(b) Multipurpose mixer shall be used for mixing putty to get a uniform mix.

(c) Auto roller and Airless spray shall be used for painting.

(d) Jet washer to be used for cleaning dirt and fungus etc from external walls.

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11.0 BUILDERS HARDWARE

- 11.1 All fittings shall be all as described in BOQ and as specified in section 9 of SSR Part-I and all as approved by Engineer-in-Charge
- 11.2 All articles of builders hardware shall be new sound and strongly made, finished to correct shape free from defects or flaws of any type, shall have smooth action and conform to a samples kept in the office of the GE. Samples of builders hardware shall be submitted to the GE for approval before ordering and as indicated hereinafter.
- 11.3 Provide articles of builder's hardware as described in BOQ. Screws for fixing builders hardware shall be steel chromium plated and round or flat headed as required and of designation as specified.
- 11.4 All builders' hardware except hinges shall be Aluminium Anodised. Hinges shall be cold rolled mild steel medium weight conforming to IS-1341-1981. All other builders' hardware shall conform to relevant IS. All articles of builder's hardware shall be ISI marked. Also refer Clause 9.2.6 of SSR Part-I.

12.0 SCAFFOLDING

- 12.1 No jhoola is permitted for the work under any circumstances. Suitable protection shall be provided for workmen. The contractor shall be solely responsible for all the labours deployed for the work for identity/security. In case of any accident/injury fatal or partial disability, the contractor shall be solely responsible for settling all claims, compensation. Department shall have all rights to recover any sum indicated/claimed by labour commissioner/court directives. Engineer-in-charge will have to ensure that contractor has provided all adequate and required means for the workmen and contractor may get his personnel insured as per labour law.
- 12.2 Scaffolding or staging more than 3.5m above the ground or floor, swung or suspended from any overhead support or erected with stationery support shall have a guard rail properly attached, braced and otherwise secured at least 1m high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
- 12.3 Working platform, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the Gangway of the stairway is more than 3.5m above ground level they should be closely boarded, should have adequate width and should be suitably fenced, as described herein before.
- 12.4 Every opening in the floor of a building or in a working platform be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1.0m.
- 12.5 Safe means of access shall be provided to all working platforms and other working places.
- 12.6 The rates quoted are deemed to include the above provision of scaffolding and no extra will be payable to contractor on this account. The scaffolding shall be removed only after obtaining clearance of Engineer-in-Charge/Garrison Engineer after considering the quality of the work undertaken.

13.0 MISCELLANEOUS

- (a) The worn-out/burnt out parts and wires etc other than "Sch of Credit", which are to be replaced/removed shall become the property of the government irrespective of whatever mentioned else where in tender documents and same shall be deposited to MES store yard as directed by Engr-in-Charge. Amount at the double of market rate shall be effected/ recovered from the final bill, if dismantled materials (other than "Sch of Credit") shall not be returned/ deposited by the contractor.
- (b) Before removal of any equipment or its parts to his workshop contractor shall give proper receipt for the same to the Engr-in-Charge.
- (c) The loading/unloading and transportation of appliances the Contractors servicing station and back including a labour charges shall be borne by the contractor. Any damage occurred to the equipments while in handling transportation shall be made good by contractor without any extra cost of Govt.
- (d) After completion of work, the equipment shall be jointly tested by contractor and Engr-in-Charge.

14.0 OVERHAULING PUMP SETS.

Over hauling will be carried out in situ. Before taking down / dismantling, Pump Sets will be checked for running. Any damage caused during the process of taking down shall be made good by the contractor at his own expense. Any minor items such as screw, connectors, conductor, clips, split pins required shall be provided by the contractor without any extra cost to Govt. After over hauling is complete and pump sets are reinstalled, the same shall be tested for smooth running to entire satisfaction of Engineer-in-Charge.

15.0 BUTTERFLY VALVE

- 15.1 These shall be of approved make high pressure type with ISI mark and all as specified in clause 27.3.9 of MES standard Schedule Part- I

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16.0 PLASTERING

16.1 Plastering shall be as described in schedule of Works. Fine aggregate for plaster shall be river sand as specified in clause 14.6 of SSR Part I. Water shall be as specified in clause 14.11 of SSR Part I. Preparation of mortar for plaster shall be as specified in clause 14.13.2 & 14.13.3 of SSR Part I. Application of plaster shall be as specified in clause 14.14.1 to 14.14.8 of SSR Part I. Curing shall be done for at least 7 days. In the alternative crushed stone sand conforming to grading and other characteristics Zone I to III and other requirement in all respect may also be used without any price adjustment. The crushed stone sand shall be from clean hard stone / aggregate to required grading and shall be free from all deleterious materials. Sand obtained from quarry dust by washing and screening method shall not be used.

17.0 CAST IRON PIPES AND FITTINGS

17.1 Cast iron pipes and fittings shall be all as indicated in BOQ and shall confirm to relevant IS. Cast iron pipes and fittings shall be laid in trenches or fixed on walls and floor shall be all as described in relevant clauses of SSR Part-I.

17.2 Sluice valves shall conform to IS-780 and IS-2906. The valves shall be of cast iron with flanged and drilled ends. The body shall be CI with high tensile brass spindle, iron wheel head and suitable for operation in clockwise direction to open.

18.0 REPAIRS TO FIREFIGHTING SYSTEM AND FIRE ALARM SYSTEM:

18.1 Repairs to firefighting system and fire alarm system shall be carried all as described in respective items of BOQ and to the original specification. The materials to be incorporated in the work shall confirm to the make as originally provided for and shall be got approved by the GE in writing before incorporation in the work and to the relevant IS and to the standard engineering practice. The work shall be carried out all as specified in relevant clauses of SSR Part I

18.2 On completion of the repairs the complete system shall be tested in presence of Engineer-in-Charge for the effectiveness and functioning of the system and a certificate to this effect shall be enclosed along with final bill.

19.0 REPAIRS TO PUMPS

19.1 Pumps shall be repaired all as directed by Engineer-in-Charge. The unit rate quoted by the tenderer shall include testing and commissioning of the equipments to the entire satisfaction of Engineer-in-Charge. Every care shall be taken while dismantling the equipments. If any damage is caused to the equipments or any part of the said equipment while dismantling the same, the contractor shall make good the said damage to the entire satisfaction of Engineer-in-Charge without any extra cost to Govt.

20.0 ELECTRIFICATION WORK

20.1 General: The work under this contract shall be carried out in accordance with Schedule 'A' this particular specification and the drawings forming part of this contract and the General Specification and other provisions in the MES Schedule in conjunction with each other.

20.2 STANDARD

20.2.1 All materials incorporated in this work shall be of the make specified in Sch 'A' or this particular specification.

20.2.2 All materials to be incorporated shall conform to relevant Indian Standards or if they are not existing, other relevant International Standards. Copies of test certificates shall have to be produced and got accepted by the Engineer-in-Charge before the materials are brought to site. The workmanship shall be of the highest order and standard and shall conform to all the provisions of relevant IE rules and other statutory requirements. All electrical works shall be executed by properly skilled and trained electricians under the supervision of qualified Supervisors. Contractor is required to produce evidence of such qualifications on demand by Engineer-in-Charge.

21.0 ELECTRICAL LICENCE:

(a) The exemption referred in section 184 of Electricity Act, 2003 is not applicable to MES contracts.

(b) Valid Electrical License issued by concerned State Government / Union Territory shall only be applicable.

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(c) For execution of electrical works / electrical component of work requiring Electrical License in accordance with rule 29 mentioned above, the contractor shall have valid Electrical License issued by the concerned State / Union Territory in the name of the firm or get the work executed through an agency having valid Electrical License. Items of works under category (c) [including its Sub – Categories (i) to (vii)] and category (d) (v) shall also be executed in this manner to the extent Rule 29 mentioned above is applicable to such items.

(d) Prior to commencement of electrical work/ electrical component of works and other works as mentioned in Para (c) above, copy of valid Electrical License in the name of the contractor or copy of agreement with agency having valid Electrical License alongwith agency's Electrical License shall be submitted by the contractor to the Accepting Officer through GE/Project Manager/AGE with copy to CWE, as applicable. 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 competent authority, who shall be concerned CWE (concerned CE Zone/ CCE in case there is no CWE). Copy of License shall be kept on record by GE/ AGE(I) / PM as well as CWE/CE Zone/CCE for future reference.

(e) GE/PM and concerned AGE/ Engineer-in-Charge shall ensure that electrical work/ electrical component of works and other works as mentioned in Para (c) above required to be executed in accordance with rule 29 mentioned above are executed by contractor/ agency having valid Electrical License, as applicable. In addition, Supervisor for execution of electrical work/ electrical components of works employed by the contractor shall possess Supervisor Certificate of Competency issued by concerned State Government/ Union Territory and the worker/ tradesmen for execution of electrical works/ electrical component of works shall hold necessary Permit issued by concerned State Government/ Union Territory.

(f) Reference of Electrical License and details of Supervisor's Certificate of Competency and Permit of tradesmen employed for execution of electrical work / electrical component of works shall be duly incorporated in the Works Diary and relevant site documents respectively for the whole period during which such work is executed.

22.0 APPLICABILITY OF RULES, REGULATIONS AND CODE OF PRACTICE: -

22.1 The entire electrical installation under this contract shall comply with the requirements of Indian Electricity Rules, Acts and other regulations such as those made under factories act. Fire Insurance Act may be applicable from time to time.

23.0 PAINTING AND PROTECTION OF EQUIPMENTS, FITTINGS ETC: -

23.1 Each item of equipment, fittings etc shall be painted or protected as detailed hereinafter. It is essential that before any coat of paint is applied either in the shops or at the site, the surface shall be clean and free from all dirt and shall be completely dry. The manufacturers guarantee that, each coat of paint is compatible with the previous and subsequent coats so that oiling, flaking or other faults do not occur.

23.2 Steel fabrication shall be thoroughly scrapped to remove mill scales, rust, dirt etc and wire brushed, One coat of red oxide primer shall then be applied. After erection at the site, the steel work shall be painted with one under coat followed by one finishing coat of oil paint. The colour of all paints above floor level shall be light grey or any other shade as approved by the GE.

23.3 Where it is usual practice of the manufacturer or special items such as switch gear, control cabinets etc to apply a high standard of protective enamel paint in the shop before dispatch, this will be acceptable provided any damage to the said paint which occur during transit or erection is made good by applying same tint and type of finishing paint by the contractor at his cost before the equipment.

24.0 REPAIR TO ELECTRIC MOTOR / SUBMERSIBLE MOTORS

24.1 The cost of re-winding of starter/motor assemble of electric motors, submersible motors alongwith other allied works in BOQ shall included for the following :-

24.2 Complete dismantling of electric motor and cutting the electric winding.

24.3 The contractor shall provide two coats of insulation varnish of class 'B' to the electric motor internally and two coats of spray painting with synthetic enamel paint over a coat of red oxide primer externally.

24.4 Rewinding the starter/motor assemble with supper enamelled copper wire duly as per original size of old work conforming to relevant IS. Make of copper wire shall be Finolex/Atlas.

24.5 Re-assembling electric motor and refixing the same at site and transportation charges shall be included in the unit rate.

24.6 Testing and commissioning of electric motor to the entire satisfaction of GE

24.7 The contractor after taking down the motor pump sets under his own arrangements shall transport the same to the work-shop for carrying out repair and shall install the same at the original site without any extra cost to the Govt.

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- 24.8 The replacement of defective parts of electric motors such as bearing etc shall be carried out all as described in BOQ and as directed by the Engineer-in-Charge
- 24.9 Gate pass/loan issue vouchers etc shall be prepared and signed by the contractor for carrying the motor parts for repair, outside cantonment. After repairs these shall be received from the contractor through proper RV's indicating complete details of the electric motor repair. Cost of transportation shall be deemed to be included in the unit rate quoted by the contractor against respective items of BOQ.
- 25.0 FOOT VALVE.
Foot valve shall be provided all as per IS-4038-1986 and all as specified in specification clause No 27.3.9.3 on Ser Page No 659 of SR part-I (2009).
- 26.0 GREASE AND LUBRICANTS.
Grease and lubricants required for over-hauling of Pump Sets shall be of standard quality and shall be brought to site in sealed container. Type and brand shall be got approved by the GE, before incorporated in works. Bearing shall be washed completely in K-oil (Sup) before applying fresh grease.
- 27.0 BEARING.
Bearing to be used in this work shall be of "SKF/NBC, Lucas".
- 28.0 CLEANING OF STATIC TANK, FIRE TANK ETC:
- 28.1 Cleaning process of static tank/fire tank shall be using latest technology/ Equipment [T & P] [Advanced Technology] for more effective and hygienic.
- 28.2 The unit rates quoted by the tenderer against Schedule "A" items shall be deemed to include the provision for the following :-
[a] The internal water supply fittings shall be removed carefully to facilitate cleaning and shall be kept in safe custody and connected in its original position after cleaning of tanks/ sump. Precaution while removing shall be taken by the contractor to prevent damage to the existing structures/ fittings. Any damage caused to the fittings/ structure due to carelessness and negligence of the contractor's workmen shall be made good at no extra cost to the Government.
[b] The contractor should ensure that prior notice is given to the occupants before cleaning the tanks and ensure that the cleaning operation is completed in one stretch with minimum loss of time. In order to ensure this, a close liaison by the contractor and Engineer-in-Charge is to be maintained.
[c] The contractor shall ensure that any form work required for cleaning of [The shifting of necessary machinery for operating of six way of cleaning methods and Electricity required] the Overhead tanks/ Sumps / Service Tanks shall be arranged on his own. No claim what so ever will be entertained on this account.
[d] The contractor shall ensure for getting necessary insurance against any unforeseen damage to all working personnel who will carry out the works as mentioned in Schedule "A" and the same shall be submitted to GE in writing before claiming for payment. No claim what so ever will be entertained on this account.
- 29.0 Disinfection of Piping System and Storage Sumps/Shallow wells :
(a) Contractors and workmen should be thoroughly familiar with all pertinent state and local requirements governing installations of mains. All sewers, water mains and other underground conduits should be located prior to construction and relocated, if necessary, to prevent contamination during construction. Pipe should be strung on high ground. At all times when construction is not actually in progress, water tight plugs should be installed in all pipe openings. Gunny sacks and rags are not adequate. Provision should be made to pump any other water that might have collected in the trench. Special care should be taken to avoid contamination of valves, fittings, and pipe interiors, both before and during construction; each should be inspected and, if necessary, cleaned before reinstallation after pressure testing the main, it should be flushed with water of sufficient velocity to remove all dirt And other foreign materials. When this process has been completed, disinfection (using liquid chlorine, sodium or calcium hypochlorite is processed by one of the recommended methods).

(b) The pipe lines shall be laid maintaining safe distance while crossing any existing pipe line and other structures to avoid damage to pipe line and probable contamination. A lateral separation of 3m shall be provided between water mains and sewer lines. The bottom of water pipe main shall be at least 0.5m above top of sewer line.

(c) Before commissioning the water supply system, the contractor shall arrange to disinfect the entire system. The water storage tanks and pipes shall first be filled with water and thoroughly flushed out. The storage tanks shall then be filled with water again and disinfecting chemicals (chlorine) added gradually at the time of tanks being filled to ensure thorough mixing. Sufficient chemical shall be used to give water a dose of 50ppm of water.

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30. VISIT TO SITE:

Contractor are advised to inspect the site of the physical condition of sewage line, manhole, septic tank / soakwells, which are required to be cleaned with prior appointment of the Engr-in-Charge to their entire satisfaction prior to quoting their rates. However it is an expressed condition of contract that submission of a quoted tender shall imply that contractor has taken due note of the physical condition of sewage line, manhole, septic tank/soakwellsetc, prior to quoting their rate, irrespective of whether they have actual done it or not and quoted their rates accordingly.

31. PRECAUTIONS: During demolition or dismantling, every precaution shall taken by the contractor to prevent damage to any part of structure and also to any adjacent structure which are to be left intact. Any damage caused to structure due to the carelessness and negligence of the contractor, shall made good by him at his own expense. He shall also take precaution, if necessary, to keep down dust nuisance etc. while carrying out demolition /dismantling.

32. WORKING IN FOUL CONDITION

32.1 The unit rate quoted by tenderer shall be deemed to include the working in water, liquid, mud and foul conditions. No extra shall be admissible on account of this at later stage.

33.0 MATERIAL AND SAMPLES

33.1 Approved samples shall be labeled as such and signed both by the contractor and the GE. These shall be in the custody of Engineer-in-Charge till final completion of the work. The materials shall be brought to site by the contractor in the maker's wrapper and shall not be installed unless approved by the Engineer-in-Charge. Necessary test certificates for the materials shall be produced by the contractor on demand. The contractor shall ensure that the materials used in the work are identical with approved samples and are uniform throughout.

34.0 ACCIDENT ETC CAUSED TO THE PERSONS EMPLOYED BY THE CONTRACTOR

34.1 While working in the Defence installations, if any of the persons employed by the contractor met with an accident either minor/grave fatal injuries, no workmen compensation will be provided by the Department. First aid treatment will be provided by the Department. Hospital charges will be borne by the contractor. It will be the responsibility of the contractor to pay any compensation due to the individual. Insurance cover, if considered necessary, shall be arranged by the contractor at his own arrangements. The department however shall ensure safety measures before allowing the men to attend their job.

35.0 THEFT/DAMAGE TO THE INSTALLATION

35.1 In case any theft/damage to the installations /defense units due to the negligence / malicious intention on the part of individuals employed by the contractor, a board of officers appointed by the GE (Maint) Ezhimala will investigate the matter and pin point the responsibility. If the board of officers identify the persons employed by the tenderer as responsible for the loss, the contractor is liable to pay compensation as decided by the Accepting Officer. The decision of the accepting officer in this regard shall be final and contractor have no claim on this account.

36.0 DISCIPLINE OF TRADESMEN WHILE WORKING IN INSTALLATION

36.1 The persons working in Defense installation are expected to exhibit a high sense of discipline, punctuality and neat turn out. They should not leave the installation unattended without the prior permission of the official in charge of the installation. The persons employed by the contractor shall be amenable to discipline and other security and standing orders issued by Defense authorities for installation from time to time. The contractor is also advised to go through the standing orders for E/M installation displayed for the charter of duties and discipline expected from the persons employed by the tenderer. The persons working in the installations are responsible for keeping the installations and its surroundings neat and tidy. They should not consume alcohol/liquor/drugs while on duty and smoking is also not permitted while on duty. They shall be working in cohesion with other Defense employees and shall be capable of working as a team. They shall take orders/instructions from Engr-in-Charge and shall implement the same with great care and interest. Accepting Officer has the right to recommend to the tenderer the removal of those persons whose performance and integrity is not satisfactory. The contractor shall replace such person after giving one-week notice. Decision of the Accepting Officer in this regard shall be final and binding and the contractor shall claim no compensation on this account.

37.0 MINIATURE CIRCUIT BREAKER : - It shall comply IS: 8828-1996 / IEC 898- 1995. The MCB shall be suitable for DC and 400 Hz application. The MCB shall be made of self extinguishing tropicalised (95% humidity 55°C material. The MCB shall have a trip free toggle mechanism. The contact closing shall be independent of operator speed. The terminal shall be protected against any finger contact to IP20 degree of protection with no restriction for line and load. The breaking capacity shall be 10KA in accordance with IS 8828- 1996, watt loss per pole shall be as per IS8828-1996. The rated impulse voltage (Vimp) of MCB shall be 6kV. The MCB shall be capable of being used as incomer and isolator application and shall have provision of fitting in future accessories like auxiliary switch, alarm switch, shunt trip and undervoltage trip. The manufacturer shall define the tripping characteristics of their MCB'S and furnish the respective tripping curves. High voltage feature, wherever applicable shall be aneled . The terminal shall have box type terminal for sound electrical connections.

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38.0 MOULDED CASE CIRCUIT BREAKERS: -

38.1 Moulded case circuit breakers shall be of adjustable current setting type with trip free manual closing mechanisms. MCCB's shall conform to IS: 13947 -1, 2 (1993). They shall be of single break type and shall be trip free from all positions and temperature compensated for thermal type only. Suitable discrimination shall be provided between upstream and down stream breakers. All moulded case circuit breakers will have front operated extended rotary handle offering IP54 protection. They shall have minimum watt loss per pole. The closed, minimum trip position and open positions must be clearly indicated as per clause in IS part-I of the IS standard. MCCB cover and case shall be made of high strength heat resistant and flame resistant thermosetting insulating material, operating handle shall be quick make, quick break type. Front operating handle shall have a common operating handle for simultaneous operations and tripping of all three phases. All MCCB's shall have indication light for ON.

38.2 MCCB shall be extra current limiting type and manufacturer shall furnish let through energy curves. All capacities taken are service breaking short circuit capacity. The MCCB shall be suitable for aluminium terminations without any link or component heated up. All the MCCB's shall have variable trip setting facility which could be adjusted easily from front at site. It shall have clear TRIP position marked in front. Electrical life of the MCCB shall be as follows :

- upto 100 amps - 6000 operations
- upto 250 amps - 3500 operations
- upto 400 amps - 3000 operations

38.3 MCCB shall have provision of adding in future accessories like under voltage trip, shunt trip, alarm switch, auxiliary switches, earth fault and earth leakage for fitting if required. Whenever interlocking is required, suitable selection shall be made. The MCCB shall have extended links with phase barriers and temp. of links shall not reach beyond the limits as specified in IS.

39.0 Site of Work: The contractor shall visit the site of work on prior appointment with GE (Maint) Ezhimala before quoting/submitting their offer. The contractor shall be deemed to have visited the site before submitting the tender irrespective of the fact whether the contractor had visited the site or not.

40.0 Acceptance of Materials :- The order of precedence for acceptance of materials to be incorporated in this work shall be as under :-

- (a) Materials with ISI marking.
- (b) In case of non-manufacture of ISI marked materials conforming to relevant IS (latest edition).
- (c) In case of non-availability of materials of (a) & (b) above, the best available Materials in the market as defined in Clause No.1.6 of SSR 2009 Part I and approved by GE.

41.0 DEMOLITION/ TAKING DOWN

- 41.1 Prior to commencement of work, inventory of all materials and fittings to be dismantled/ demolished shall be prepared and signed by the Engineer-in-Charge and the contractor.
- 41.2 Proper care shall be taken while dismantling without disturbing other existing structures nearby which are not to be dismantled. Dismantling/ demolition shall be carried out all as specified in the MES Schedule Part-I.
- 41.3 The items obtained from dismantling shall be stored properly and the debris/ demolished materials shall be cleared off the site with prior written permission of the Engineer-in-Charge. The serviceable/ unused materials if any shall be returned back to the stores. The decision of Engineer-in-Charge shall be final and binding.

42.0 TESTING

- 42.1 Functioning of repaired components / items shall be tested to the entire satisfaction of the Engineer-in-Charge after repair works. Any defects found during testing shall be rectified by the contractor without any extra cost to Govt.

43.0 MINOR/INCIDENTAL AND OTHER RELEVANT WORKS

- 43.1 Contractor's quoted rates shall be deemed to include for all minor details of works, which are obviously and fairly intended and which may not have been referred in these documents but are essential to achieve the effective functioning of the system.

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- 44.1 Refer to Clause No. 10.15 of MES Schedule Part-I. Welding shall be done by Metal Arc Process in accordance with the standard specified in IS-816 and IS-9595. All welding shall be turned point upto a length not less than Twice the thickness of the Weld. The Work shall be positioned for down Hand Welding wherever possible/practicable.
- 44.2 Skilled Welders shall only be employed for the work and the workmanship shall be of High Standard.
- 44.3 Joint surfaces shall be Smooth, Uniform and free from Fins, Tears, Laminations and such other defects which adversely effect quality of weld and Workmanship.
- 44.4 All Welds shall be cleaned of Slab and other deposit after completion. The specified size of Welds shall be provided for the Full Length of Each Weld all as directed by Engineer-in-Charge.

45.0 CI/ DI Fittings:- CI/ DI fittings, run lead joints/ rubber gasket tyton joints/ flanged joints etc shall be all as described in relevant item(s) of Sch „A”/ BOQ and as specified in clause Nos. 18.2.3, 18.2.4, 18.48.2, 18.48.4 and 18.48.6 respectively of MES Schedule Part-I(2009).

46.0 RUN LEAD JOINTS:- Refer clause No 18.48.2, 18.48.2.1, 18.48.2.2, 18.48.2.3 and 18.48.4 on page No. 368 & 369 of SSR Part-I (Specified) 2009.

47.0 SPUN YARN:- Spun yarn shall be hemp and good quality. It shall be free of oil, tar or greasy substance and shall be of sterilized quality.

48.0 CAST IRON FOOT VALVE:- Cast iron footvalve shall be conforming to relevant IS as specified in BOQ. Cast iron foot valves shall be provided as per per standard engineering practice with satisfaction of Engr-in-Charge.Manufacturers test certificate (in original) duly linked with serial no of the cast iron foot valve shall be submitted before installation/ claiming payment.

49.0 CABLES:

49.1 Cables shall be PVC insulated and PVC sheathed/unsheathed(all as described in Sch'A' with multistranded copper conductor conforming to specifications laid down in clause 19.25 (a) (ii) and 19.25(b) (ii) of MES Schedule Part I. All cables shall be 1100 volts grade for point wiring and shall be of such size as to be capable to carrying the maximum current which will normally flow through them without the respective rating being exceeded as laid down in IEE Regulations. Cables shall be delivered a site in makers wrappers etc, with the seal intact and shall not be installed unless approved by the Engineer-in-charge.

50.0 INSPECTION AND TESTING

50.1 All equipment shall be tested in the manufacturers workshop according to the tests specified in the relevant Indian Standard specification and elaborated hereunder. The equipment shall bear the IS testing mark where manufactured accordingly. The Accepting Officer representative to witness these tests at the Officers representative has been present at the time of such testing. Test result and test certificate shall be submitted to the GE by the contractor before any payment is made to such equipments/plants etc and a copy of these test certificate enclosed along with the final bill. These will include the following

50.2 After erection at site and before being connected to the power supply all items of electrical equipment and all circuits shall be fully tested to prove correct connections, insulation resistance, continuity effective earthing etc. The installation shall be tested by an authorized Electrical inspector in addition to the test as specified herein, any defects pointed out shall be rectified immediately by repairing or replacing the defective parts of equipments at no extra cost. Installations shall be taken over by the department after successful commissioning.

50.3 If owing to storage or other causes, the electrical insulation resistance has deteriorated, the equipment, cable etc shall be thoroughly dried out replaced/ or other steps taken to restore proper insulation resistance before connecting the same to the power supply. After connecting the power supply, the whole of the equipment shall be tested to demonstrate its stability to operate satisfactorily.

50.4 All instruments and appliances, oil or other materials necessary for the complete testing shall be provided by the contractor at no extra cost.

50.5 Approval by the department for materials, workmanship, etc during manufacture or approval at the site will not relieve the contractor from his obligation to comply with all the requirements of the contract.

51.0 GUARANTEE

51.1 The tenderer shall submit the tender to suit the overall specification given in the tender and shall guarantee that materials and workmanship of the equipments and connected items offered and installed by him under the contract are of high class in every respect and that he will make good the defects damage which are not attributed to normal wear and tear and will be responsible for repairing/replacing at his own cost any parts which area rendered defective and unserviceable during the period of maintenance. The decision of the GE in this regard shall be final and binding.

PARTICULAR SPECIFICATIONS

- 51.2 The entire equipments shall be from standard manufacturers with high class workmanship and finished. The tenderer shall state while submitting his tender, the name of the manufacturer whose equipments would offer for incorporation in the work. As far as possible, one type of equipment shall be from the same manufacturer to ensure interchangeability.
- 51.3 The tenderer shall check the dimensions of building Vis-a vis the dimensions of the equipments being offered by him and satisfy himself that adequate safety distance , operation spaces, maintenance/ repair space are available . He shall also ensure availability of space for extensive repairs at later date. In case, the tenderer finds that there may be space limitations, his suggestions for the change / alternative should accompany with his offer.
- 52.0 FOOT VALVE/ BUTTERFLY VALVE/ NON RETURN VALVE/ AIR RELEASE VALVE
- 52.1 These shall be of approved make high pressure type with ISI mark and all as specified in clause 27.3.9 of MES standard Schedule Part- I
- 53.0 MS PIPES AND FITTINGS
- 53.1 The MS pipes and fittings shall be as specified in Clause 27.3.7 of MES Standard schedule Part –I
- 53.2 The fire fighting works shall be carried out through licensed/ skilled worker/ fitter as approved by Engineer in Charge.
- 53.3 Testing shall be carried out as specified in MES Standard schedule Part –I
- 54.0 GLAZING
- 54.1 Glazing shall be of toughened crystal polished sheet glass of thickness as per Sch ‘A’. Sheet glass shall be of glazing quality confirming to IS-2835 and as per clause No.16.2 of SSR Part-I 2009. Glazing shall be carried out as per clause no.16.5 to 16.16 of MES Schedule of Rates Part-I.
- 55.0 HOSE BOXES
- 55.1 Hose Boxes shall be made of 18 gauge MS sheet 800 mm x 600 mm x 250 mm size with double door with glasses, lock, 2 keys and a break glass, recess for keys, painted in fire red. The door frames shall be of 16 gauge MS sheet. The hose box shall be painted fire red outside and brilliant white inside.
- 55.2 Fire Brigade inlet for the risers shall have two instantaneous pattern of 63 mm dia valve, complete with non-return valve, manifold etc, mounted in a suitable MS enclosure with glass fronted lockable doors.
- 55.3 All the hydrant components i.e. hydrant valve, hoses with coupling, branch pipe, hose reels shall have IS marking. .
- 56.0 PRESSURE GAUGE
- 56.1 Pressure Gauge sensing elements shall be of continuous 'e' bourdon type and duly glycerin filled and provided as specified in BOQ.
- 56.2 Accuracy shall be within $\pm 1.0\%$ of full scale range.
- 56.3 All gauges shall have bottom connection for local mounting.
- 57.0 PRESSURE SWITCH
- 57.1 Pressure Switches shall be provided as specified in BOQ.
- 58.0 HYDRANT VALVE
- 58.1 Hydrant Valve shall be of single headed with 75 mm NB angled Inlet, 63 mm Oblique outlet as per 15:5290 and all as specified in clause 27.3.10 of MES Standard schedule Part –I
- 58.2 Hydrant Valve shall be of approved make and with IS mark
- 59.0 FIRE FIGHTING EQPT TESTING
- 59.1 The entire pipe line shall be tested with pressure double the working pressure after installation. All materials required for test including hydraulic pump shall be provided by the contractor. The system shall be kept under pressure for 24 hours and any leakage noticed shall be made good.
- 59.2 Air valve, non return valve of Siamese connections, hydrant valve, control valve etc shall be tested for their proper functioning.

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- 59.3 All work performed and all material and equipment furnished under this contract shall be free from defects and contractor shall give guarantee of one year from the date of completion of work. The full cost of maintenance, labour and materials required to correct any defect during this one year period shall be deemed to be included in the quoted rates.
- 60.0 FIRE FIGTHING HOSE
- 60.1 This shall conform to IS-834 and shall be swinging type made out of 16 gauge MS sheet with total swing of 90. The hose shall be made out of 19 mm dia heavy duty rubber hose. The hose shall be able to withstand a pressure up to 360 psi. One aluminium nozzle of suitable size to fix to 20 mm dia adppter. The hose shall be wound on drum spindle. The hose reel shall be mounted in the fire hose cabinet with suitable bracket. The tenderer shall indicate in his tender the name of manufacturer of the hose reel. The rubber hose shall be DUNLOP, M/S MON HER ENTERPRISES, MUMBAI/CEASE FIRE/VIJAY FIRE PROTECTION SYSTEM/MATHER PLATT/MINIMAX/CRC/Kalpex ISI Marked.
- 60.2 The hose reel shall be of make CEASE FIRE/VIJAY FIRE PROTECTION SYSTEM/MATHER PLATT.
- 61.0 SLUICE VALVE:
- 61.1 Sluice valve shall be made of cast iron with high tensile brass or bronze spindle bronze face rungs and spindle nuts. The valves shall be confirmed to IS-14846-2000type PN-1.6 and IS mark imposed on the valve. The valves shall be of right hand type. Valve wheels shall have an arrow head engraved/embossed showing direction for turning open and close. Sluice valve shall be fixed all as per clause 18.57 of MES Schedule Part I.
- 61.2 FIXING SLUICE VALVE
- 61.2.1 The valve shall be fully examined and cleared of all foreign matters before being fixed. The fixing shall be done by means of bolts, nuts and 3mm rubber insertions or chemically treated compressed fiber board 1.5 mm minimum thickness with the flanges of spigot and socketed tail pieces drilled to the same specification in the case of spigot and socket pipes and with flanges in case of flanged pipes. These shall be jointed to the pipe line by means of lead caulked joints.
- 61.2.2 Sluice valve shall be installed with spindle vertical on horizontal pipes and horizontal on vertical pipes. While fixing sluice valves in pipe lines below ground level a clear space about 200 mm shall be available between the tops of the sluice valve spindle and surface box.
- 61.2.3 Clearance between the top of the stuffing box and the underside of the gland shall be uniform on all sides. Gland shall not be tightened too hard. The pressure applied shall be just enough to stop leakage. Hemp packing, shall be adequately soaked in grease and shall not be allowed to remain dry. The valves shall be tightly closed when being installed. While installing flanged valves, each flange bolt shall be tightened a little at a time, taking care to tighten diametrically opposite bolts alternately. The practice of fully tightening the bolts one after the other is highly undesirable.
- 61.2.4 After installation of the valve the valve and the pipe line shall be flushed with water to remove any foreign matter that may be present in them.
- 61.2.5 If any leak is detected at the valve seat, applying extra torque on the valve spindle to set right the valve shall not be permitted. The valves seats shall be examined and if necessary repaired by scrapping or replacing where necessary.
- 61.2.6 Care should be taken to ensure that the jointing material sets squarely between the flanges of the valves and pipe line or tails without obstructing the water way and that there areno kinks in the joining materials as might allow leakage in service.
- 62.0 REWINDING OF MOTORS
- 62.1 It is highly specialized job and should be carried out under the supervision of a properly qualified supervisor. Before stippling winding, a detailed drawing of the winding should be prepared and the following information shall be noted:-
- (a) Size of wire.
 - (b) Number of turns in a coil.
 - (c) Number of coils in a slot.
 - (d) End connections.
 - (e) Type of insulations
 - (f) Binding and wedging arrangement
 - (g) Any special features
 - (h) Baking properly
- 62.2. The slots should be thoroughly cleaned with a wire brush. If necessary, a gentle flame may be used for the purpose. Air drying varnish should be applied to slots before placing slot insulation. The coil should be tight in slots with no possibility of movement within the slot. Talcum powder or wax may be used for smooth pressing in of coils.
- 62.3. White soldering end connections, it should be ensured that the nearby insulation does not get charged. Also, no solder is allowed to get into the winding or into the commutator.
- 62.4. Super enameled copper wire of appropriate gauge for rewinding shall be high quality grade.

PARTICULAR SPECIFICATIONS

- 62.5. Approved quality insulating varnish shall be applied for insulation improvement as directed by the Engineer-in-charge.
- 62.6. INSPECTION REPORT: During repairs of machines/appliances both parties shall prepare inspection report against defective parts of equipments/sets and the same will be produced duly signed by contractor and Engineer-in-Charge and countersigned by G.E at the time of release of payment to contractor.
- 62.7 TEST & TRIALS:
- 62.7.1 All repaired equipment i.e. Dozing Pump sets/Motors/ Starters etc. will be checked and tested by the Officer as detailed by the Accepting Officer. G.E will be informed well in advance about the readiness of testing. The contractor will also be informed accordingly by G.E who will be present at the time of testing of equipment's and testing arrangement will be made by the contractor's without any extra cost. The testing of the equipments will be carried out for 12 hours. The results shall be recorded and a test sheet shall be prepared which will be signed by the contractor Engineer in Charge and testing officer.
- 62.7.2 The tenderer shall at his own expense provide all facilities, testing equipment skilled/unskilled labour and supervisory staff and carryout the test as required at site. The cost of testing is deemed to be inclusive in the unit rates quoted by the tenderer against respective items.
- 62.7.3 If the results of testing are not found satisfactory then the contractor at his own expenses, shall rectify/replace the defective parts as directed by the Engineer-in-Charge. The decision of Accepting Officer shall be final and binding in this respect.
- 63.0 CABLES:
- 63.1 Cables shall be PVC insulated and PVC sheathed/unsheathed(all as described in Sch'A' with multistranded copper conductor conforming to specifications laid down in clause 19.25 (a) (ii) and 19.25(b) (ii) of MES Schedule Part I. All cables shall be 1100 volts grade for point wiring and shall be of such size as to be capable to carrying the maximum current which will normally flow through them without the respective rating being exceeded as laid down in IEE Regulations. Cables shall be delivered a site in makers wrappers etc, with the seal intact and shall not be installed unless approved by the Engineer-in-charge.
- 64.0 CONDUIT, CONDUIT ACCSSORIES AND CONDUIT WIRING:
- 64.1 All conduit and conduit fittings and accessories shall be of rigid non metallic PVC conduit medium grade as indicated and shall comply with IS: 3419-1988 Specification for fittings for rigid non metallic conduits and bear ISI mark. Conduit fittings and accessories shall be of unplasticised PVC (UPVC). The dia of conduit shall be as specified in clause 19.125 of MES Schedule.
- 65.0 INSPECTION OF PUMPS, MOTORS & OTHER EQUIPMENTS AFTER DISMANTLING
- 65.1 The pumps, motors & other equipments for repairs shall be dismantled in presence of Engineer-in-Charge or his representative and list of defects/parts to be replaced shall be prepared jointly as per the proforma given here-in-after. Old fixtures/accessories retrieved shall not be destroyed/removed from site till pumps, motors & other equipments is tested and fully functional to the entire satisfaction of Engineer-in-charge and taken over by MES.
- 65.2 INSPECTION SHEET OF PUMPS, MOTORS & OTHER EQUIPMENTS AFTER DISMANTLING
- | | |
|---|---------------------------------|
| CA No. : | Name of contractor : |
| Date : | |
| S No./ SM No. of pump, motor etc : | Make : |
| List of defects : | |
| List of unserviceable parts : | |
| PRB No. / Page No. | |
| Gate Pass No. & date | |
| Date on which received back : | |
| Signature of Contractor
or his authorized representative | Signature of Engineer-in-charge |
- 65.3 TESTING OF REPAIRED EQUIPMENTS
- (a) After repairs of pumps, motors & other equipments, testing shall be carried out all as per IE rule and as directed by Engineer-in-charge. The test shall be carried out in the presence of Engineer-in-Charge and shall be signed by Engineer-in-Charge and Contractor. Three copies of test sheets duly signed by contractor and Engineer-in-Charge shall be submitted by contractor.
- (b) All testing instrument, labour, materials and incidentals necessary to conduct the tests shall be arranged by contractor at his own cost.
- (c) After repairs the pump will be tested at work shop testing bench and after installation in presence of Engineer-in-Charge on full load for one hour. The Pump will be delivered after satisfactory test carried out so that it need not to be taken out after installation. Electricity for testing shall be supplied by the department free of cost.

PARTICULAR SPECIFICTIONS

65.4 TESTING SHEET AFTER INSTALLATION OF PUMP

CA No. :		Name of contractor :			
Date :					
S No./ SM No. of pump, motor etc :		Make :			
Tube well No :					
Depth of lowering :					
Time start	Time stop	Hours Run	Amp	Voltage	Discharge head
Sound	Vibrations	Overload Tripping	Over load		
		Setting of starter (Amp)		Condition found O.K or not.	
Signature of Contractor or his authorized representative			Signature of Engineer-in-charge		

66. FIRE SAFETY

All electrical equipment shall satisfy the requirements laid down in ISO 1646 Code of Practices for fire safety of buildings (generals) electrical installations and IS- 3034> Code of practices for fire safety of industrial buildings electrical generating and distributing stations to the extent applicable.

Signature of Contractor

AGE (Contracts)
for Accepting Officer

PARTICULAR SPECIFICATIONS (Contd....)

- 67.0 List of Manufacturer
- 67.1 Materials to be incorporated in the Work shall be any one of the following MAKE as approved by the GE in writing before incorporated in the Work. These shall strictly comply with latest appropriate Indian Standard Specification or where IS Specification is not available these shall comply with the latest BS Specification. Please note that the make applicable for the contract shall be considered and balance shall be treated as BLANK.

LIST OF MANUFACTURERS

Sl No	Description of item	Name of manufacturer
1	2	3
1.	Copper winding	Devidyal, Bharat Bijli, Starlite, Hindalco
2.	Contactor	ABB/BCH/L&T/SIEMENS/C&S/SCHIENDER
3.	Sheet Glass Plain/ Frosted	Modiguard/ Asahi/ Saint gobain
4.	MS pipes & fittings	Tata/ Jindal /JSW/ SAIL
5.	CI pipes & fittings	Electro steel/ Kejriwal/ NECO/ Kesoram
6.	Gun metal valves	Leader/ Zoloto/ Kirloskar/ Bir
7.	Fire brigade	MINIMAX/ VIJAY/SAFEX/ CEASE FIRE/ SAFEZONE/ MONARCH ENGINEERS
8.	Fire Hose Pipe/ Reel/Box	MINIMAX/ VIJAY/SAFEX/ DUNLOP
9.	Fire extinguisher	MINIMAX/ VIJAY/SAFEX/ CEASE FIRE/ SAFEZONE/ MONARCH ENGINEERS
10.	Fire hydrant valve	MINIMAX/ VIJAY/SAFEX/ CEASE FIRE
11.	BRANCH PIPE NOZZLE AND COUPLINGS	MINIMAX/ VIJAY/SAFEX/ CEASE FIRE/ SAFEZONE/ MONARCH ENGINEERS
12.	CONTROL PANELS	CEASE FIRE/ VIJAY FIRE PROTECTION SYSTEMS/ EX-FLAME
13.	All types Gun metal gate valves/ Brass ball valves/ Sluice valves/ Air release valves/ Float valves/ CI Foot valves/ Brass Ferrule/NRV	Shakti / NVI / Leader / Zoloto/ KEJRIWAL/ L&T (Audco)/ Kartar/ BIR/ Kirloskar/ Sant/ Satyam / Upadhya / Venus / Kartar
14.	Paint	Asian paints/ Berger/ Nerolac/ ICI India
15.	Air release valve	Leader/ Sant/ Kirloskar/ Bir/ L&T/ Upadhyay
16.	Pumps for fire fighting	Kirloskar/ Mather & Platt/ Crompton Motor/ ABB
17.	Maintenance free battery	EXIDE/AMAR RAJA/AMCO/AMARON
18.	Pressure Gauge	FIEBIG/ BAKER MERCER/ DANFOSS/L&T
19.	Butterfly valves	Leader/ Sant/ Kirloskar/ Zoloto/ L&T/ Upadhyay
20.	MCB/ MCCB	L&T/ ABB/ Siemens/Schneider/Legrand/Indo Asian/ C&S
21.	Non return valves	Leader/ Zoloto/ Kirloskar/ Bir/ L&T/ Upadhyay
22.	Foot valves	Leader/ Venus/ Sant/ Kirloskar/ Upadhyay
23.	Cables for wiring	Paragon /Havels /Plaza / Finolex/ Cabcom/ V Guard
24.	PVC rigid conduits and conduit fittings	Garware / Finolex / Avon Plast / Kalinga / Konseal / Modi / Chemplast / Balco
25.	Wires(Copper conductor)	Finolex/National/Havells/Paragon
26.	LED Aviation Lamps	Havells/ Philips / Crompton Greaves/ Wipro / Jaquar
27.	Glazing	Saint Gobain / Modiguard / Asahi / Atul glass industries / Gold Fish
28.	Components of fire fighting equipments/incinerator	As per existing OEM Makes
29.	Energy Meter	Secure, L & T, Havells, ABB, BHEL
30.	Bearing	SKF/NBC/LUCAS/TATA
31.	Change Over Switch /Starter/ Contactor DOL/ Star-Delta/ Synchronous/Push Button/ Single Phase preventor/ FASD/SASD/ Transformer	ABB/ Havells/ Siemens / Larsen & Tubro / Control & Switchgear / Crompton Greaves / Indo Asian / Benlo /AE
32.	Air Blower	ISI Marked
33.	Wet Scrubber	ISI Marked
34.	Digital automatic temperature controller	ISI Marked

Signature of Contractor

AGE (Contracts)
for Accepting Officer

PARTICULAR SPECIFICATIONS (Contd....)

Appendix ‘A’

CEMENT SUPPLY AND ACCEPTANCE REGISTER

1. CA No and Name of Work : 2. Control No * :
3. Name of Manufacturer / Brand Name / Gde of Cement :
(a) Manufacturer (b) Brand (c) Grade
4. Quantity of cement & Lot No / Week No (in bags) : (a) Qty ...(b) Lot No / Week No
5. Manufacturer’s Test Certificate to
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)

	Physical Requirements (As per IS 4031)									
						Compressive strength (Mpa)				
	Specific surface Area (Sqm/kg)	Soundness by Le Chatell ar	Soundness by Auto Clave	Initial setting time (Minutes)	Final setting time (Minutes)	03 days	07 days	28 days	Temp during Testing	Standard consistency (%)
As per relevant IS										
As per Manufacturer’s test certificate										
As per random test certificate										
1	2	3	4	5	6	7	8	9	10	11
	Compressive strength (Mpa)									
	Lime saturation Factor (Ratio)	Alumuna Iron Ratio	Insoluble Residue (%)	Magnasium (%)	Sulphuric Anhydride (%)	Loss on ignition (%)	Alkalies (%)	Chlorides(%)		
As per relevant IS										
As per Manufacturer’s test certificate										
As per random test certificate										
1	12	13	14	15	16	17	18	19		

7. Details of Physical and chemical Properties :
Remarks with Signature

Accepted / Rejected

Contractor Junior Engineer Engineer-in-Charge Garrison Engineer
Remarks of BOO / Inspecting Officer / CWE

*To be allotted serially by GE consignment wise