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Cochin Port Authority

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Tender Document

**Fabrication, Supply, Testing and Commissioning of one number Foam Tender
for Cochin Port Authority**

**Office of the Chief Mechanical Engineer
Cochin Port Authority
Willingdon Island, Cochin, 682009
Kerala, India**

Fabrication, Supply, Testing and Commissioning of one number Foam Tender for Cochin Port Authority

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Office of the
Chief Mechanical Engineer
Cochin Port Authority
Cochin, 682009

No. D3/Foam Tender/2023-M

Dated: 15.01.2024

NOTICE INVITING TENDER

1. Tenders on EPC contract basis are invited through GeM Portal in Single Stage Two Cover bidding procedure (Technical Bid and Financial Bid), by the Chief Mechanical Engineer, Cochin Port Authority, Willingdon Island, Cochin, 682009, from reputed firms meeting the Minimum Qualification Criteria specified below for “Fabrication, Supply, Testing and Commissioning of one number Foam Tender for Cochin Port Authority”. Tenderers, desirous to participate in the Tender are requested to submit their tenders through GeM Portal.
2. Minimum Qualification Criteria (MQC): Tenderer should satisfy the following pre-qualification criteria to prove the techno-commercial competence and submit the documents in support.
 - 2.1. The tenderer should have adequate experience in design, fabrication and supply of Foam Tenders and should have executed the supply of similar works during the last 7 years as on 31.12.2023 to Ports / Air Ports / Petrochemical Industries / State / Central Government / Private Organisations as follows:
 - 2.1.1. One similar completed work costing not less than Rs. 1,16,11,200/-. OR
 - 2.1.2. Two similar completed works, each costing not less than Rs. 72,57,000/-. OR
 - 2.1.3. Three similar completed works, each costing not less than Rs. 58,05,600/.
 - 2.2. Similar work means “Fabrication, supply, testing and commissioning of Foam Tender mounted on a Heavy Motor Vehicle chassis of GVW 28 tons or above”.
 - 2.3. The details of experience shall be furnished as per Annexure-3 of the tender document. Notarized copy of supply order and completion certificate issued by the Client shall be submitted along with the tender.
 - 2.4. The Average Annual Financial Turnover of the tenderer should be not less than Rs. 43,54,200/- during the last three financial years ending 31.03.2023. A statement as per Annexure-4 duly certified by the Chartered Accountant showing the Average Annual Financial Turnover over the last three financial years ending 31.03.2023 shall be submitted along with the tender. Chartered Accountant should furnish their UDIN in the certified copy along with UDIN QR code.
 - 2.5. Experience certificates of contracts executed in Private organizations shall be considered on submission of Form 26 AS / TDS certificate along with work order and completion certificate.
 - 2.6. Completion Certificate shall be submitted in support of the Minimum Qualification Criteria. In the case of ongoing / running contracts / supply orders, if the value of the completed portion of the contract meets the Minimum Qualification Criteria mentioned above, the same will be considered for evaluation.

3. Even though the tenderers meet the above qualifying criteria, they are subjected to be disqualified if they have:
 - 3.1. Made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and / or
 - 3.2. Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history or financial failures, black listing / debarring by Govt. Departments etc.
4. Bid information:

Table 2

1	Estimated Cost	Rs. 1,45,14,000/- including GST.
2	Earnest Money Deposit (Exemption shall be given as per Clause No. 8 below)	Rs. 2,91,000/-. (EMD shall be furnished in the form of Account Payee Demand Draft / Banker's Cheque drawn in favour of "FA&CAO, Cochin Port Authority" / Online payment in an acceptable form safeguarding the purchaser's interest in all respects)
3	Validity period of tender	120 days from the last date of Tender submission.
4	Period of Supply	180 days from the date of receipt of LoA.
5	Commencement of the Contract	Within 30 days from the date of receipt of LoA.

5. Cochin Port Authority will not be held responsible for any technical snag or network failure during online bidding. It is the bidder's responsibility to comply with the system requirement, i.e. hardware, software and internet connectivity, at bidder's premises to access the GeM Portal.
6. Under any circumstances, Cochin Port Authority shall not be liable to the bidders for any direct / indirect loss or damages incurred by them, arising out of incorrect use of the GeM Portal or internet connectivity failures. The bidder has to download Addendums / Amendments / Errata / Replies to the queries of the bidder etc., if any, issued by the Employer, from the website before submission of the bid.
7. Bank details of Cochin Port Authority are as follows: State Bank of India, Cochin Port Authority Branch, IFSC Code: SBIN0006367, Account No. 41401802288.
8. Exemption from the payment of EMD shall be given to Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by the Department of Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organization or the concerned Ministry or Department. The tenderers shall furnish a copy of the NSIC / MSME / UAM certificates for the exemption of EMD along with the Technical bid. Such Certificates should mention the QR code of such registration.
9. The bidder shall submit instruments towards the cost of EMD in original to the Chief Mechanical Engineer, Cochin Port Authority, Willingdon Island, Cochin, 682009, Kerala before the opening date of the tender and upload the scanned copy of the instruments towards the cost of EMD through GeM Portal along with the technical bid. In the case of MSEs, copy of MSME / NSIC / UAM Registration certificate having QR code shall be uploaded along with the tender. Non submission of above documents will make the tender liable for rejection.

**Sd/-
Chief Mechanical Engineer**

INSTRUCTIONS TO TENDERERS

1. **Introduction:** Tenders are invited through GeM Portal in Single Stage Two Cover bidding procedure (Technical Bid and Financial Bid), by the Chief Mechanical Engineer, Cochin Port Authority, Willingdon Island, Cochin, 682009, from Proprietorship / Individual / Limited Company / LLP / Registered Partnership firms meeting the Minimum Qualification Criteria specified below for “Fabrication, Supply, Testing and Commissioning of one number Foam Tender for Cochin Port Authority”. Tenderers, desirous to participate in the Tender, are requested to submit their tenders through GeM Portal.
2. **Minimum Qualification Criteria (MQC):** Tenderer should satisfy the following pre-qualification criteria to prove the techno-commercial competence and submit the documents in support.
 - 2.1 The tenderer should have adequate experience in design, fabrication and supply of Foam Tenders and should have executed the supply of similar works during the last 7 years as on 31.12.2023 to Ports / Air Ports / Petrochemical Industries / State / Central Government / Private Organisations as follows:
 - 2.1.1. One similar completed work costing not less than Rs. 1,16,11,200/-. OR
 - 2.1.2. Two similar completed works, each costing not less than Rs. 72,57,000/-. OR
 - 2.1.3. Three similar completed works, each costing not less than Rs. 58,05,600/.
 - 2.2 Similar work means “Fabrication, supply, testing and commissioning of Foam Tender mounted on a Heavy Motor Vehicle chassis of GVW 28 tons or above”.
 - 2.3 The details of experience shall be furnished as per Annexure-3 of the tender document. Notarized copy of supply order and completion certificate issued by the Client shall be submitted along with the tender.
 - 2.4 The Average Annual Financial Turnover of the tenderer should be not less than Rs. 43,54,200/- during the last three financial years ending 31.03.2023. A statement as per Annexure-4 duly certified by the Chartered Accountant showing the Average Annual Financial Turnover over the last three financial years ending 31.03.2023 shall be submitted along with the tender. Chartered Accountant should furnish their UDIN in the certified copy along with UDIN QR code.
 - 2.5 Experience certificates of contracts executed in Private organizations shall be considered on submission of Form 26 AS / TDS certificate along with work order and completion certificate.
 - 2.6 Completion Certificate shall be submitted in support of the Minimum Qualification Criteria. In the case of ongoing / running contracts / supply orders, if the value of the completed portion of the contract meets the Minimum Qualification Criteria mentioned above, the same will be considered for evaluation.
3. Following enhancement factors will be used for the cost of supplies executed for bringing the financial figures to a common base value in respect of the supplies completed in past years.

Table 1

Year before	Multiplying factor
One year	1.07
Two years	1.14
Three years	1.21
Four years	1.28
Five years	1.35
Six years	1.42

4. Even though the tenderers meet the above qualifying criteria, they are subjected to be disqualified if they have:

- 4.1 Made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and / or
- 4.2 Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history or financial failures, black listing / debarring by Govt. Departments etc.
5. The supply is to be executed as described in the tender document and in particular in the General Conditions, Special Conditions, Technical Specifications, Scope of Supply etc.
6. Before submitting the bid, the bidder shall examine carefully all conditions of contract, technical specifications, scope of supply, drawings etc.
7. Canvassing in any form by the bidder or by any other agency acting on behalf of the bidder after submission of the bid may disqualify the said bidder. The Employer's decision in this regard shall be final and binding on the bid.
8. Employer will not be liable for any financial obligation in connection with the work until such time the Employer has communicated to the successful bidder in writing his decision to entrust the Work.
9. Any error in description, any omissions there from shall not vitiate the contract and relieve the contractor from the execution of whole or any part of the works comprised therein according to drawing and specifications or from any of his obligations under the contract.
10. The contractor shall be registered under GST and shall furnish copy of the GST registration certificate.
11. Invitation for Bids: The Invitation for Bids is open to all eligible bidders meeting the Minimum Qualification criteria.
12. Clarification of the Bidding Documents: The tenderers are advised to examine the Tender Document carefully and if there be or appear to be any ambiguity or discrepancy in the documents, or any clarifications needed on the tender document, these shall be sent by mail to the Chief Mechanical Engineer, Cochin Port Authority, Willingdon Island, Cochin, 682009, so as to reach the above office on or before the pre-bid meeting date and time. It is to be noted that no queries, clarifications will be answered after the pre-bid meeting.
13. Pre-Bid Meeting: A prospective tenderer requiring any clarification of the tender shall submit their queries through e-mail in advance before the pre-bid meeting. The Pre-Bid meeting will be held through Video Conference and the link will be shared to the bidders on their request. The bidders who wish to attend the Pre-bid Meeting may send clarifications before the Pre bid meeting.
14. Amendment of Bidding Documents: The Chief Mechanical Engineer, Cochin Port Authority shall have the right to revise or amend the Bid documents prior to the due date of submission of the Bid by issuance of addenda / corrigenda. Any addendum / corrigendum thus issued shall be part of the tender document. The addendum / corrigendum, if any, shall be hosted in the GeM Portal as well as in the website of the Cochin Port and CPP Portal. In order to afford the Bidders reasonable time to take any addendum into account, or for any other reason, Cochin Port Authority may, at its discretion, extend the due date for submission of Bid and Bid Extension Notice shall be hosted in the GeM Portal and web site of Cochin Port and CPP Portal.
15. Eligibility of the Bidder: The firms who meet the Minimum Qualification Criteria are eligible to participate in the Tender.
16. Bid Validity: Bids shall remain valid for a period of 120 days from the last date of Tender submission. A bid valid for a shorter period shall be rejected by the Employer as non-responsive. Should any tenderer withdraw his tender before the expiry of validity period, or make any modification in the terms and conditions of the tender which are not as per the tender conditions, such tenders will be summarily rejected. In exceptional circumstances, prior to expiry of the original time limit, the Employer may request the

Bidder to extend the period of validity for an additional period. The request and bidders response shall be made through GeM Portal only. A bidder agreeing to the request will not be permitted to modify his bid, i.e. the extension shall be unconditional.

17. Bid Security / EMD:

17.1. Each tender should be accompanied by an Earnest Money amounting to Rs. 2,91,000/ (Rupees Two Lakhs Ninety One Thousand only). EMD shall be furnished in the form of Account Payee Demand Draft / Banker's Cheque drawn in favor of "FA&CAO, Cochin Port Authority" payable at Cochin / Online payment in an acceptable form safeguarding the purchaser's interest in all respects. EMD will not carry any interest. Instruments towards remittance of EMD shall be forwarded to the Chief Mechanical Engineer, Cochin Port Authority, Willingdon Island, Cochin, 682009 before the due date for opening of Tender.

17.2. Exemption from the payment of EMD shall be given to Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organization or the concerned Ministry or Department. The tenderers shall furnish a copy of the NSIC / MSME / UAM certificates for the exemption of EMD along with the Technical bid. Such Certificates should contain the QR code of such registration.

17.3. Bid Security / EMD will be forfeited if (a) Bidder withdraws his bid during the period of bid validity (b) Successful bidder fails either to commence the work, within the specified time limit or to sign the Agreement or furnish the required Performance Security within the specified time limit without prejudice to any other rights of the Employer for such default by the bidder.

18. Bid Submission: Bid shall be submitted in prescribed form in two parts: Technical Bid and Financial Bid.

19. Part-I, Technical Bid: The bids shall be submitted online only through the GeM Portal and should contain the scanned copies of the following documents. No bids shall be submitted offline.

19.1. Bid Security / EMD or relevant certificate for the exemption of EMD.

19.2. Letter of Submission as per Annexure-1.

19.3. Power of Attorney as per Annexure-2. Power of Attorney in original in favour of Signatory to the Tender duly authenticated by the Notary Public shall be submitted. In case of a Proprietary Concern, a declaration of the same along with the proof of business may be submitted. In case of the Partnership Firm, all partners shall together authorize one Partner by Power of Attorney. In case of a Company, a resolution of the Board of the Company shall be submitted, authorizing any person to bid the tender, sign all tender documents and for carrying out all the activities in connection with tender when awarded. If MD / CMD is signing on behalf of Board of Directors or Directors then the name of such signatory to be mentioned in the Board note / Memorandum of Association.

19.4. Tenderer shall give the information regarding their details of experience as per the format at Annexure-3.

19.5. Proof of experience in support of MQC: Notarized copy of supply orders and completion certificate issued by the Client for the same.

19.6. Financial documents in support of MQC: A statement duly certified by Chartered Accountant showing Average Financial Turnover of the tenderer for the last three financial years ending 31.03.2023 as per Annexure-4. Chartered Accountant should furnish their UDIN in the certified copy along with UDIN QR code.

19.7. The tenderer shall submit the full particulars of the offered Foam tender along with supporting documents / drawings etc. along with the tender.

19.8. Copies of PAN, GST Registration, EPF and ESI Registration certificates.

19.9. Declaration as per Annexure-5.

- 19.10. Bank information for e- Payment system as per Annexure-6.
- 19.11. Partnership Deed or Memorandum and Articles of Association of the company and Registration Certificate of the company as the case may be.
20. Part II: Financial Bid: Tenderers shall submit their price as per the Price Bid in GeM Portal.
21. Deadline for Submission of the Bids: Tenders attaching all documents shall be submitted through GeM Portal strictly in accordance with the instructions to the tenderers, terms and conditions of the tender document before the time and the date notified.
22. Technical Bid Opening: The tender will be opened online in the GeM Portal by the Chief Mechanical Engineer or his representative on the Tender opening date and time.
23. Price Bid Opening: Price Bid of those bidders found responsive after the Technical bid Evaluation will be opened later.
24. Clarification of Bids: Chief Mechanical Engineer shall ask for clarification / shortfall of documents before technical evaluation of the tenders. The request for clarification and the response shall be through GeM Portal, but no change in the price or substance of the Bid shall be sought, offered, or permitted. Any effort by the Bidder to influence the Employer's bid evaluation, bid comparison or contract award decisions, will result in the rejection of his bid.
25. Examination of Bids and Determination of Responsiveness:
 - 25.1. Prior to the Technical evaluation of Bids, Cochin Port Authority will determine whether each Bid meets the Minimum eligibility criteria as defined in Clause No. 2 above has been substantially responsive to the Tender requirements.
 - 25.2. A responsive bid is one which conforms to all the terms, conditions and specification of the bidding documents, without material deviation or reservation. A material deviation or reservation is one which affects in any substantial way the scope, quality or performance of the works (a) which limits in any substantial way, the Employer's rights or the Bidder's obligations under the Contract (b) whose rectification would affect unfairly the competitive position of other Bidders presenting responsive bids.
 - 25.3. If a Bid is not substantially responsive, it shall be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.
26. Evaluation and Comparison of Bids: Only those tenders, as determined to be substantially responsive to the requirements of the tender documents will be evaluated. Other non-responsive tenders will be rejected. Employer's decision on this shall be final, conclusive and binding.
27. Alteration of tender documents: No alteration shall be made in any of the tender documents or in the Bill of Quantities and the tender shall comply strictly with the terms and conditions of the tender document.
28. Award of Contract: The Employer will award the Contract to the bidder whose bid has been determined to be responsive to the bidding documents and who has offered the lowest evaluated bid price. It shall not be binding on Cochin Port to accept any tender or lowest tender. Cochin Port reserves the right to accept tender or reject all or any tender.
29. Release of Bid Security / EMD: The Bid Security / EMD of unsuccessful bidder other than successful bidder will be refunded immediately after opening the Price Bids. The Bid security of successful bidder shall be refunded after award of contract and execution of Agreement on payment of Security Deposit.
30. Performance Guarantee / Security Deposit:
 - 30.1. The successful bidder is required to submit Security Deposit within 21 days from the date of receipt of Letter of Acceptance (LoA) during the Guarantee Period of one year from the date of commissioning and Handing over of the Foam Tender, to guarantee fulfillment of performance and the obligations of the contract, in any one of the following forms: (a) Account Payee Demand Draft from a Nationalized / Scheduled

Bank in favour of FA&CAO, Cochin Port Authority (b) An irrevocable and unconditional Bank Guarantee as per the Format enclosed in Annexure-7 of the tender document, from a Nationalized / Scheduled Bank or (c) On-line payment to the Bank Account of Cochin Port Authority.

- 30.2. The Security Deposit shall be 10% of the total contract price.
- 30.3. In case the Security Deposit is furnished in the form of Bank Guarantee, the same should remain valid for a period of 60 days beyond the completion of contract period.
- 30.4. Cochin Port is not bound to pay interest on the Security Deposit furnished by the successful bidder.
- 30.5. In the event of the Contractor failing to honor any of the commitments entered into under this Contract, Cochin Port shall have unconditional option to encash the Security Deposit. The bank shall be obliged to make payment to Cochin Port Authority upon mere demand and without any reference to the contractor.
- 30.6. In the event of the tenderer, after the issue of the communication of acceptance of offer by the Board, failing / refusing to furnish the security deposit within the stipulated period or to execute the agreement as hereinafter provided within the stipulated period, the tenderer shall be deemed to have abandoned the contract and such an act shall amount to and be construed as the Contractor's calculated and the willful breach of the contract. In such event, Cochin Port shall be entitled to cancel the Letter of Acceptance / Agreement forthwith.
31. Signing of Agreement: The successful tenderer will be required to execute an Agreement at his expense within 28 days from the date of receipt of LoA, on Kerala State Stamp Paper of appropriate value in the prescribed form as per Annexure-8. The agreement as finally executed will include the Employer's Bid Documents and the Bidder's offer as finally accepted by the Employer together with addendum / corrigendum, bid clarification and all correspondences exchanged between Employer and the Bidder, if any. Till the formal agreement is executed, the Letter of Acceptance together with the offer as finally accepted along with correspondences shall form a binding contract between the two parties.
32. Third Party Inspection Agency (TPIA) shall be arranged by the Successful bidder on award of contract and TPIA shall be approved by the National Accreditation Board of Certification Bodies (NABCB) and the expense for the inspection shall be borne by the contractor.
33. Fraud and Corrupt Practices: The bidder and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Selection Process. Notwithstanding anything to the contrary contained in this document, the Port shall reject the tender without being liable in any manner whatsoever to the bidder, if it determines that the bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the "Prohibited Practices") in the Selection Process. In such an event, the Port shall, without prejudice to its any other rights or remedies, forfeit and appropriate the Bid Security or Performance Security, as the case may be, as mutually agreed genuine pre-estimated compensation and damages payable to the Port for, inter alia, time, cost and effort of the Authority, in regard to the Tender, including consideration and evaluation of such Bidder's Proposal. Such Bidder shall not be eligible to participate in any tender or RFP issued by the Authority during a period of two years from the date such Bidder is found by the Authority to have directly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be. For the purposes of this Clause, the following terms shall have the meaning hereinafter respectively assigned to them:
 - 33.1. "Corrupt practice" means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the

Selection Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Authority who is or has been associated in any manner, directly or indirectly with the Selection Process or the LoA or has dealt with matters concerning the Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Authority, shall be deemed to constitute influencing the actions of a person connected with the Selection Process; or (ii) engaging in any manner whatsoever, whether during the Selection Process or after the issue of the LoA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LoA or the Agreement, who at any time has been or is a legal, financial or technical consultant / adviser of the Authority in relation to any matter concerning the Project;

- 33.2. "Fraudulent practice" means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process;
- 33.3. "Coercive practice" means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person's participation or action in the Selection Process;
- 33.4. "Undesirable practice" means (i) establishing contact with any person connected with or employed or engaged by the Authority with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process; or (ii) having a Conflict of Interest; and
- 33.5. "Restrictive practice" means forming a cartel or arriving at any understanding or arrangement among Applicants with the objective of restricting or manipulating a full and fair competition in the Selection Process.
34. Rejection of Tender: Any Tender not conforming to the foregoing instructions will not be considered. The Employer does not bind himself to accept the lowest or any tender and has the right to reject any tender without assigning any reason thereof. No representation whatsoever will be entertained on this account.

GENERAL CONDITIONS OF CONTRACT

1. **Definitions:** In the Contract (as hereinafter defined) the definition of the following words and expressions shall have the meanings hereby assigned to them except where the context otherwise requires:
 - 1.1. “Approved” or “Approval” shall mean approval in writing.
 - 1.2. “Bidder / Tenderer” means the Proprietorship / Individual / Limited Company / LLP / Registered Partnership firm who submits a Bid / Tender for the subject work.
 - 1.3. “Contractor” means the Proprietorship / Individual / Limited Company / LLP / Registered Partnership firm whose tender to perform the Contract has been accepted by the Employer and is named as such in the Contract Agreement and includes his servants, agents and workers, personal representatives, successors and permitted assigns.
 - 1.4. “Contract” means the Contract Agreement entered into between the Employer and the Contractor, together with Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
 - 1.5. “Contract Documents” means the documents listed in the contract agreement, including any amendments thereto.
 - 1.6. “Contract Price” is the price stated in the LoA and thereafter adjusted in accordance with the provisions of the Contract.
 - 1.7. “Chief Mechanical Engineer” means the Chief Mechanical Engineer of Cochin Port Authority and includes any officer who is authorized on his behalf for the purpose of this contract.
 - 1.8. “Day” shall mean English Calendar Day.
 - 1.9. The “Drawings” means the drawings, issued with the specification which will ordinarily be identified by being signed by the Chief Mechanical Engineer and any further drawing submitted by the Contractor with his tender and duly signed by him and accepted or approved by the Chief Mechanical Engineer and all other drawings supplied or furnished by the Contractor or by the Chief Mechanical Engineer in accordance with these contract conditions.
 - 1.10. “Employer / Cochin Port Authority / CoPA / Port / Board” means Board of Major Port Authority for Cochin Port, a body corporate under the Major Port Authorities Act, 2021, acting through its Chairperson, Dy. Chairperson, Chief Mechanical Engineer or Deputy Conservator or any other officers so nominated by the Board.
 - 1.11. “GCC” means the General Conditions of Contract.
 - 1.12. “SCC” means Special Conditions of Contract.
 - 1.13. “Letter of Acceptance” means the letter of formal acceptance, signed by the Employer, of the Bid submitted by the Bidder, including any annexed documents.
 - 1.14. “Month” means English Calendar Month.
 - 1.15. “Engineer” / “Engineer in Charge” means Employee of Employer or any other person or firm, nominated by the Employer.
 - 1.16. “Sub-Contractor” means any natural person, private or Government entity, or a combination of the above, to whom any part of the work / services to be executed as per the contract is subcontracted by the contractor, with the approval of the Employer.
 - 1.17. “Specifications” means the specification referred to in the tender documents and any modifications thereof or additions thereto or amendments thereto as may be made from time to time, be furnished or approved in writing by the Employer.
 - 1.18. “The Site” shall mean the Cochin Port Harbour and whole of the premises, in or upon which the system or works is or are to be provided, executed, done or carried out.
 - 1.19. The “Schedule” shall mean the schedule or Schedules attached to the specifications.
 - 1.20. “Tender” means the offer of the Contractor along with all other relevant documents as referred to in the contract.

- 1.21. “Trials” and “Tests” shall mean such trials and tests as are provided for in these conditions of contract and described in the specification and shall include all other tests to be carried out as per the requirement of the ‘Employer’.
2. Period of Supply: The Foam tender shall be supplied within 180 days from the date of receipt of Letter of Acceptance at the Fire Station, Cochin Port Authority, Willingdon Island, Cochin.
3. Commencement of contract: The Contractor is required to commence the contract within 30 days from the date of receipt of Letter of Acceptance. Before commencing the contract, the Contractor shall complete the requirements as per GCC Clause Nos. 4 and 5 stated below.
4. Performance Security / Security Deposit:
 - 4.1. The successful bidder is required to submit Security Deposit within 21 days from the date of receipt of Letter of Acceptance, to guarantee fulfillment of performance and the obligations of the contract, in any one of the following forms: (a) Account Payee Demand Draft from a Nationalized / Scheduled Bank in favour of FA&CAO, Cochin Port Authority (b) An irrevocable and unconditional Bank Guarantee as per the Format enclosed in Annexure-7 of the tender document, from a Nationalized / Scheduled Bank or (c) On-line payment to the Bank Account of Cochin Port Authority.
 - 4.2. The Security Deposit shall be 10% of the total contract price.
 - 4.3. In case the Security Deposit is furnished in the form of Bank Guarantee, the same should remain valid for a period of 60 days beyond the completion of contract period.
 - 4.4. Cochin Port Authority is not bound to pay interest on the Security Deposit furnished by the successful bidder.
 - 4.5. In the event of the Contractor failing to honor any of the commitments entered into under this Contract, Cochin Port shall have unconditional option to encash the Security Deposit. The bank shall be obliged to make payment to Cochin Port Authority upon mere demand and without any reference to the contractor.
 - 4.6. In the event of the tenderer, after the issue of the communication of acceptance of offer by the Board, failing / refusing to furnish the security deposit within the stipulated period or to execute the agreement as hereinafter provided within the stipulated period, the tenderer shall be deemed to have abandoned the contract and such an act shall amount to and be construed as the Contractor’s calculated and the willful breach of the contract, the cost and consequence of which shall be to the sole account of the tenderer and upon such an event the Board shall have full right to claim damages therefore either together with or in addition to suspension of the bidder from participating in the Tenders invited by Cochin Port Authority, for a period of two years from the date of such suspension. In such event, Cochin Port shall be entitled to cancel the Letter of Acceptance/Agreement forthwith without payment of any compensation to the contractor for any expense or loss suffered.
5. Execution of Agreement: Upon the receipt of letter intimating award of the Contract (Letter of Acceptance / LoA), the Contractor shall prepare the Agreement as per Annexure-8 attached in the tender, after taking into account any changes thereafter agreed by both the parties, at the earliest without any delay and complete all the formalities and submit the same to the Cochin Port Authority duly executed on Kerala stamp paper of appropriate value within 28 days from the date of receipt LoA. Signed original of the agreement will be retained by the Cochin Port Authority and the copy of the Agreement will be given to the Contractor.
6. Care and Diligence: The Contractor shall exercise all reasonable care and due diligence in the discharge of all technical, professional and contractual duties to be performed by them under this contract and shall be fully responsible to Employer for the proper, efficient and timely execution of the contract.

7. Assignment and Sub-letting: The contractor shall not be permitted to sublease / sublet the work nor assign the right and interest in these presents nor assume a fresh partner or partners nor dissolve the partnership at present existing between him in reference to this contract without the written permission of the Employer and such consent, if any, given shall not relieve the Contractor from any liability or obligations under the contract and he shall be responsible for the acts, defaults and neglects of any sub-contractor or his servants, agents or workmen as full as if they were the acts, defaults or neglects of the Contractor provided always that the provisions on manning / labour or a piecework basis shall not be deemed to be a sub-letting under this clause.
8. Insurance:
- 8.1. The Contractor shall provide in the joint names of the Employer and the Contractor, insurance cover from the Start date to the end of the contract period for (i) loss of or damage to the Works, Plant, Equipment, Materials and property in connection with the Contract and (ii) personal injury or death.
- 8.2. Policies and certificates for insurance shall be delivered by the Contractor to the Engineer in Charge or his nominee for approval before the start date. All such insurances shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.
- 8.3. If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from any payments due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.
- 8.4. Alterations to the terms of insurance shall not be made without the approval of the Engineer in Charge or his nominee.
- 8.5. Both parties shall comply with all conditions of the insurance policies.
9. Contractor to indemnify Board:
- 9.1. The Contractor shall indemnify and hold harmless the Employer, the Employer's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:
- 9.1.1. Bodily injury, sickness, disease or death, of any person whatsoever arising out of or in the course of or by reason of the execution of the Contract by the Contractor and the remedying of any defects, unless attributable to any negligence, willful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents.
- 9.1.2. Damage to or loss of any property, real or personal; and
- 9.1.3. Any loss or damage arising to the Employer by reason of breach of any of the conditions of this Agreement by the Contractor.
- 9.2. Should Board have to pay any money in respect of any claims or demands in connection with the Contract, the amount so paid and the costs incurred shall be charged to and paid by Contractor and the contractor shall not be at liberty to dispute or question the right of Cochin Port Authority to make such payments notwithstanding the same may have been made without his consent or authority or in law or otherwise to contrary.
10. Payment Terms:
- 10.1. Advance payment of 25% of the total contract value including GST will be paid to the contractor after procurement of HVM chassis by the contractor and submission of Bank Guarantee encashable at Kochi from a Nationalized / Scheduled bank equal to 110% of the advance claimed valid for a period of six months from the date of receipt of LoA or the date of commissioning and handing over of the Foam Tender in all respects duly certified by the Engineer in Charge.
- 10.2. Balance 75% of the total contract value including GST and all other charges will be paid after successful commissioning and handing over of the Foam tender in all respects to Cochin Port Authority and submission of bills.

11. Payment of Taxes and Duties :

- 11.1. The Contractor shall pay all taxes, levy, duty which they may be liable to pay to State of Kerala and Government of India or other authorities under any law for the time being in force in respect of or in accordance with the execution of Work. The Contractor shall further be liable to pay such increase in the taxes, levy, duty etc., under the existing law or which may be liable as a result of introduction of any law. The contractor is also bound to pay any penal interest, penalty or fine payable/paid by the contractor to the Tax Authorities on the Taxes and Duties.
- 11.2. Income Tax Deduction: TDS at the applicable rates will be deducted from the Bills while releasing payment of monthly hire charges.

12. Liquidated Damages:

- 12.1. Time is essence of this contract. Without prejudice to any other rights of Cochin Port, in the event of failure of the supply, testing and commissioning the Foam tender complete in all respects as per specifications, as ordered, within the completion period stipulated in the order / tender the contractor would be liable to pay liquidated damages. The extension of completion time granted for the delays occurred due to reasons attributable to the contractor will not exonerate the contractor from his liability to pay liquidated damages. The contractor shall pay to the Board of Major Port Authority for Cochin Port as liquidated damages and not as penalty for the delay, a sum equivalent to ½ % (one 'half' percent) of the contract price per week for such delay or part thereof, the maximum of which shall not exceed 10% (ten percent) of the contract price. The liquidated damages fixed as above shall be considered as reasonable compensation without any actual proof of loss or damage. The Board of Major Port Authority for Cochin Port shall have power to deduct such sum or sums from the money due to the contractor.
- 12.2. No variation made in the supply shall be of any excuse for delay in completing the supply nor prevent the deduction of the said liquidated damages, unless an extension of the completion period shall have been granted by Chief Mechanical Engineer in writing in respect of such variation.
- 12.3. The liquidated damages paid / deducted as above shall not relieve the contractor from the obligation to complete the supply order/contract or from other obligations and liabilities under the contract.
- 12.4. In such events as when the contractor is unable to make any work progress for the reasons not attributable to him, he shall apply for grant of extension of completion time within 15 days of such occurrence of event and Engineer in Charge shall examine the merit of the case and accordingly extension with or without levy of LD shall be given by Cochin Port Authority.

13. Force Majeure:

- 13.1. In the event of either party being rendered unable by Force Majeure to perform any obligation required to be performed under this contract, the relative obligation of the party affected by such Force Majeure shall upon notification to the other party be suspended for the period during which such cause lasts. No payments may be made for force majeure period.
- 13.2. The term Force Majeure shall mean acts of God, war, riot, sabotage and acts and regulations of Government of India, State Government or any local Government / Authority.
- 13.3. Upon the occurrence of such cause and upon its termination the party alleging that it has been rendered unable as aforesaid thereby, shall notify the other party in writing immediately not later than 24 hours of the alleged beginning and ending thereof giving full particulars and satisfactory evidence in support of its claim. Failure to do so is liable to be denied of the exemption under Force Majeure.

- 13.4. Employer shall examine the merit of the case and accordingly Time for performance of the relative obligation suspended by the Force Majeure shall then stand extended by the period for which such cause lasts.
- 13.5. The decision of the Employer shall be final and binding in this regard.
- 13.6. Notwithstanding with anything contained therein above the total contract period as stipulated in GCC Clause No. 2 will no way be enhanced by way of operation of the clause.
- 13.7. However, should such a delay even if due to reason of Force Majeure be protracted for more than three months, the Employer reserves the right to cancel the contract, subject to the consent of the Contractor, at no charge to the Employer in Contractor's favour.
14. Extension of contract:
- 14.1. If at any time during performance of the contract, the contractor or its sub contractors (permitted by Cochin Port) should encounter conditions impeding timely delivery of the goods or completion of related services, pursuant to GCC Clause No. 2, the contractor shall promptly notify the employer in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the contractor's notice, the employer shall evaluate the situation and may at its discretion extend the contractor's time for performance, in which case the extension shall be ratified by the parties by amendment of the contract.
- 14.2. Except in case of Force majeure, as provided under GCC Clause No. 13, a delay by the contractor in the performance of its delivery and completion of obligations shall render the contractor liable to the imposition of Liquidated Damages pursuant to GCC Clause No. 12, unless an extension of time is agreed upon, pursuant to GCC Clause No. 14.1.
15. Termination of Contract:
- 15.1. The Employer reserves the right to terminate the contract by giving 15 days notice to the Contractor, in case of a breach of any obligation of the contractor under the contract or in case of breach of any terms of the contract.
- 15.2. The Employer reserves the right to terminate the contract by giving 10 days notice to the Contractor, if the contractor, in the judgment of the Employer has engaged in fraud and corruption, in competing for or in executing the contract.
16. The Engineer in Charge for the contract shall be the Chief Fire Officer, Cochin Port Authority. The contractor shall inform the Engineer in Charge of CoPA, every week, the progress made in the work. The contractor shall be bound to progress the work in its natural course so that the work will be completed within the scheduled time and the foam tender will be commissioned. If at any point, Cochin Port Authority reasonably finds that no sufficient progress is made by the contractor so that the work will be completed within the scheduled period or within the extended period (at the discretion of Cochin Port) or within a period for which maximum of LD is to be levied, then Cochin Port Authority has unconditional right to terminate the contract without paying any compensation to the contractor for any expense or damages incurred or suffered by him.
17. Settlement of Dispute and Arbitration: (Settlement of Disputes through Conciliation)
- 17.1. In the event of any dispute or differences arising out of this contract, it is hereby agreed to settle the dispute amicably by mutual discussions/ negotiations.
- 17.2. In the event of failure of mutual discussions/ negotiations the parties together shall appoint a sole arbitrator by mutual consent to resolve the dispute as per the provisions of the Arbitration and Conciliation Act, 1996. The award of the Arbitrator so appointed shall be final and conclusive and binding on all the parties to the Agreement. The fees and expenses of the Arbitrators and all other expenses of the Arbitration shall be equally shared by both the parties. The Arbitrator may, with the consent of the parties extend the time, from time to time, to make and publish award as the case may be.

- 17.3. In the event of any dispute or differences between the parties which could not be resolved amicably by mutual consultations / Arbitration, then the Chairperson of Cochin Port Authority may refer such unresolved disputes or differences to a Conciliation Committee / Council comprising of independent subject experts, set up by the Port Authority to enable speedy disposal of pending/ new cases. Recourse to such conciliation shall be open before, during or after the arbitration proceedings. The award of the Conciliation Committee/Council, if agreed by both the parties, shall then be placed for consideration of the Board of Major Port Authority for Cochin Port subject to the delegation of powers.
- 17.4. The venue of the arbitration shall be at Cochin. The fees and expenses of the Arbitrators and all other expenses of the Arbitration shall be equally shared by both the parties. However, the Arbitrator may at his discretion award costs.
18. The Consignee of all materials is Dy. Materials Manager, Cochin Port Authority, Cochin, 682009, Kerala. The way bills, invoices etc. shall be addressed to him under intimation to Chief Mechanical Engineer, Cochin Port Authority.
19. Third Party Inspection: Third Party Inspection Agency (TPIA) shall be arranged by the Successful bidder on award of contract and TPIA shall be approved by the National Accreditation Board of Certification Bodies (NABCB) and the expense for the inspection shall be borne by the contractor.
20. Governing law: The contract shall be governed by and interpreted in accordance with the laws of India. Any suit or other proceedings relating to this contract shall be filed, taken by the contractor in a Court of Law only in Cochin.
21. Changes in constitution of firm: In the case of a tender by partners, any change in the constitutions of the firm shall be forthwith notified by the Contractor to the Chief Mechanical Engineer for his information.
22. Employees of Board not individually liable: No official or employee of the Board shall in any way be personally bound or liable for acts or obligation under the contract or answerable for any default or omission in the observance or performance of any of the acts, matters or things which are herein contained.

SPECIAL CONDITIONS OF CONTRACT

1. The Special Conditions will override the General Conditions of Contract wherever they differ.
2. Guarantee: Irrespective of manufacturer's usual warranties, the contractor shall guarantee that the Foam Tender whether manufactured by them or bought out shall be free from defects for a period of twelve calendar months (which is the guarantee period) from the date of commissioning of the Foam Tender. In the event of any defect or deficiency being noticed in the functioning of the Foam tender during the guarantee period, the contractor shall make good the same at his cost. The contractor shall supply new parts to replace any component that may be proved to have been so defective, free of cost to Cochin Port Authority. The cost of all replacement of such defective parts of materials, including freight, insurance, clearance, customs duty, sales tax, delivery charges etc. shall be borne by the contractor who will also arrange at his cost for the fitting / replacement. If the equipment is rendered idle during guarantee period for more than five days consecutively on account of any of the guarantee obligation on the part of the contractor the guarantee period of the same shall be extended beyond the normal period by such period, not exceeding the period of idleness, as the Chief Mechanical Engineer of the Cochin Port Authority may decide.
3. During guarantee period, the service personnel of the Contractor should attend immediately in case of any complaint regarding working of any equipment, in addition to the mandatory visit for the preventive maintenance of the equipment. The contractor shall be equipped to undertake the major repairs (under guarantee or otherwise) if called for by the employer. They should also be in a position to render necessary guidance and service. In case the contractor fails to attend the defects on intimation from Cochin Port Authority, without prejudice to the rights of Cochin Port to terminate the contract and forfeit the SD, the defects will be got attended from other source at the risk and cost of the contractor.
4. In case of any dispute as to whether any material / workmanship are defective, the decision of the Employer shall be final and binding.
5. Registration and Insurance: Contractor shall arrange for Temporary registration of the vehicle, as per the Central Motor Vehicles Regulation Act. All arrangements to transport the vehicle from Manufacturer's works to Cochin Port Authority and transit insurance shall be made by the contractor. Documents required for Permanent registration of vehicle with Motor Vehicle Registering Authority, Cochin in favour of Dy. Conservator, Cochin Port Authority should be furnished by the contractor. Permanent registration and final insurance will be arranged by Cochin Port Authority at CoPA's expenses. If the Registering authority requires any modification / addition / alteration / removal etc., the contractor shall at his own cost make such changes with the consent of Cochin Port.
6. All the materials forming a permanent part of the system and all consumables, equipments etc. required for commissioning shall be brought by the contractor. Cochin Port Authority does not intend to supply any materials required for permanent installation or for commissioning the Foam Tender.
7. All items, components and accessories offered should be brand new. All fittings / materials used are to be of approved quality and standards and fit for use in the tropical saline corrosive atmosphere. All work should be completed to the entire satisfaction of the Engineer in Charge.
8. Inspection and Testing:
 - 8.1. At least two inspections shall be carried out by Port's representatives at the Manufacturer's site at Manufacturer's cost. First stage inspection will be at the time of fabrication of body and the second stage inspection will be on completion of the entire work, before dispatch.

- 8.2. In addition to the above stage inspection and tests at the manufacturer's site, the Foam Tender shall also be subjected to a final test run, at Cochin Port's site in actual working condition and to such other functional and related tests found necessary by the Employer. Those tests / trials shall be carried out at sole risk and cost of the Contractor and to the entire satisfaction of the Employer.
- 8.3. Any defect / deficiency noticed during inspection / test / trials shall be made good by the Contractor at his cost. In case of any dispute in this issue, the decision of the Employer shall be final and binding.
9. Taking over: The Foam tender shall be transported from Manufacture's factory to Cochin Port Authority Fire Station by the contractor at his cost and responsibility. When all performance tests called for by the Engineer in Charge have been successfully carried out, the equipments shall be accepted and a taking over certificate shall be issued. In the event of final or any outstanding tests being held over, such taking over certificate shall be issued subject to the results of such final or outstanding tests.
10. Facilities to be provided by Cochin Port Authority subject to availability for final testing, commissioning and guarantee repairs of the equipment at Cochin Port Authority premises.
 - 10.1. Service of 3T Forklift Trucks on chargeable basis.
 - 10.2. Foam and water free of cost.
 - 10.3. Diesel free of cost.
11. Safety and Security:
 - 11.1. The men deployed for the work (commissioning / guarantee repairs) at site and the materials brought by the contractor for the work shall be insured at his own cost. Cochin Port Authority will be in no way responsible for the accident / loss / damages to the men/ materials in connection with the work.
 - 11.2. The contractor shall furnish the list of employees working under him at Cochin Port site to the Engineer in Charge before starting the work. Any change in employees shall be made only with prior permission of Engineer in Charge.
 - 11.3. All employees of the contractor working at the site shall have a valid entry pass issued by the Security Officer, Cochin Port Authority. Entry passes will be issued only to those employees who are covered under the insurance.
 - 11.4. The instruction / procedures recommended by the Fire / Safety Divisions of Cochin Port Authority shall be complied with.
 - 11.5. The contractor shall take necessary precautions and comply with rules, regulation, bye-law, applicable code and safe working practices.

SCOPE OF WORK & TECHNICAL SPECIFICATIONS

1. **Scope of Work:** The Scope of Work covers fabrication, supply, testing and commissioning of one number brand new Foam Tender of Foam tank capacity 2000 litres, Water tank capacity of 8000 litres capable of combating both Class A & B Fire Hazards as per IS 10460-1983 Standards or latest along with all accessories on a brand new chassis as detailed below. Contractors shall complete the supply in all respects, complete the final trials to the full satisfaction of the Employer and hand over the equipment in operating condition to the Employer at Fire Station of Cochin Port Authority. The foam tender including all its accessories and equipments shall be designed and manufactured as per IS 10460-1983 or latest Standards and sound engineering practices.
2. **General:**
 - 2.1. The Foam Tender shall be fabricated on suitable 28 Ton Cabin Chassis having minimum 230 BHP engine. The chassis shall be as per the latest prevailing CMVR norms. The bidders should offer a complete package including the cost of the chassis. Chassis shall be mounted with 8000 litres Water Tank, 2000 litres Foam Tank, along with 4000 LPM normal pressure pump, Power Take Off (PTO) and accessories as listed here.
 - 2.2. No part of the chassis shall be cut or mutilated by the successful tenderer without the prior permission of Chassis manufacturer or the customer.
 - 2.3. The successful tenderer will be solely responsible for the safe custody and proper maintenance of the chassis or any part thereof till the fabrication is completed and the vehicle is handed over to the Chief Fire Officer after satisfactory tests and submission of test certificates.
 - 2.4. The successful tenderer will have to complete the work as per specifications stipulated below and complete the vehicle in all respect to put into operation and ready to use.
3. **Chassis:**
 - 3.1. 28 Ton, Cabin Chassis, right hand drive, having minimum 230 BHP engine and minimum 6 cylinder water cooled, with BS VI emission norms. The chassis shall be as per the latest CMVR prevailing norms. It should have manual transmission.
 - 3.2. Engine: The engine shall be six cylinder in line, water cooled, direct injection diesel engine with intercooler, developing minimum 230 BHP.
 - 3.3. Transmission : The vehicle shall have manual synchromesh 6 speed.
 - 3.4. Steering : Hydraulic assisted Power Steering
 - 3.5. Brakes : Air braking system with auto slack adjuster and ABS, graduated valve-controlled spring brake chamber integral with rear brake for parking brake.
 - 3.6. Suspension: Parabolic spring for Front and semi-elliptical Multi leaf spring at Rear.
 - 3.7. Frame: The chassis frame shall be Heavy duty Ladder type Frame to support the gross weight of the body and all other equipment under specified operating conditions.
 - 3.8. Wheels and Tyres : Radial Tube Tyres (including one spare tyre)
 - 3.9. Fuel Tank : 365 litres or above as per the Manufacturer's Standard.
 - 3.10. Electrical System : 12 / 24 Volts. With suitable AH capacity battery with Alternator. Battery main switch for cutting all power from the battery, switch shall be located at suitable location.
 - 3.11. Cabin : OEM fitted Day Type Cabin
 - 3.12. GVW : Not more than 28000 Kgs.
 - 3.13. Tool kit : Standard tool kit with jack.
4. **Water tank:**
 - 4.1. The water tank should have capacity of max. 8,000 litres with internal baffle plates to

avoid water surging while accelerating braking or cornering.

- 4.2. The water tank should be fabricated from 5 mm thick SS-304 sheets. The tank shall be mounted with suitable plates on the chassis immediately behind the cab to allow full contents to flow to the pump.
 - 4.3. The tank should have sufficient baffles of 4mm thick to prevent surge while the vehicle is accelerating, cornering & braking. The design of the baffles shall provide access to all compartments for repairs & maintenance. The baffles shall be easily removable & only SS-304 nut and bolts, should be used.
 - 4.4. The water tank and the superstructure shall be mounted on a sub-frame equipped with anti-vibration meta cones. The mounting should be such a way that full rated contents of the tank flows into the pump.
 - 4.5. Suitable eyes shall be provided on the shell of the tank to enable it to be lifted off the vehicle for repairs/replacement as and when necessary.
 - 4.6. There shall be two filling orifices not less than 25 cm diameter and shall be fitted with a removable strainer and filter and filter cap clearly marked "WATER".
 - 4.7. Two man holes of 450 mm shall be provided on top of the tank with suitable locking system.
 - 4.8. A drain cock and a pipe of not less than 50 mm shall be provided at the bottom of the tank for complete draining out for cleaning purpose.
 - 4.9. An overflow pipe of not less than 70 mm diameter. The discharge end of the overflow pipe shall be taken down to a point well below the chassis without reducing the ground clearance. The pipe shall be designed, or other means provided to ensure that water will overflow this way only while refilling the tank but no water shall overflow through this pipe when the appliance is in motion, is standing on uneven ground, and/or brakes are applied to the moving appliance.
 - 4.10. Two 63 mm instantaneous hydrant connections incorporating a strainer shall be provided as close to the pump panel control as possible for filling the tank.
 - 4.11. A suitable bore pipeline shall be taken from the tank to the suction inlet of the pump incorporating a 150 mm quick action butterfly type valve.
 - 4.12. Separate valves for performing all the function shall be provided to control the flow of water to the hose reel equipment.
 - 4.13. Drain plugs for drain cocks shall be provide, wherever necessary. A suitable size filter should be provided between the tank and pump to prevent solid debris entering the pump.
 - 4.14. A quick cleaning mechanism should be provided for cleaning the filter in the event of blockage during pump operation.
 - 4.15. The tank connected with the pump, hose reel and valve(s) shall be provided in such a way that any of the following operations are possible.
 - 4.15.1. Hydrant - tank,
 - 4.15.2. Hydrant - reel,
 - 4.15.3. Tank – pump – hose reels,
 - 4.15.4. Hydrant – pump – hose reel, and
 - 4.15.5. Tank - Pump - Monitor
 - 4.15.6. Off. (Recirculation of water to tank when all outlets are in closed position)
 - 4.16. The complete top of the tank and rear portion of the vehicle including foot board should be covered with Aluminium Chequered plate of minimum 2.5 mm thickness with beading all around.
 - 4.17. The tank shall be tested by compressed air @ 5 PSI with 90% full of soapy water. The duration of the test shall be 30 minutes. All welded seams shall be checked for leakage on the outsides.
5. Foam Compound Tank:
- 5.1. The foam tank of 2000 litres capacity will be fabricated out of minimum 4 mm thick SS-

- 316 L plates for bottom & the sides & baffles.
- 5.2. In addition, a 2% of expansion space will be made in the tank, over and above foam compound capacity.
 - 5.3. The tank to be suitably baffled.
 - 5.4. Inspection hole of 450 mm with cover to be provided.
 - 5.5. The cleaning hole of 100 mm & drain pipe with a ball valve & plug incorporated in it is to be provided.
 - 5.6. The filler orifice of 150mm dia. with a removable strainer (Material - Resistant to the attack of foam compound) to be provided. The filler cap will be clearly marked "FOAM".
 - 5.7. The design of the tank shall incorporate a removable sump fitted with a drain valve.
 - 5.8. The foam compound draw-off tube shall be positioned in the centre of the sump in such a manner that foreign matter or sludge will not pass into the compound line.
 - 5.9. The draw off tube will be connected to the foam proportioner with NRV in addition to the main control valve.
 - 5.10. The draw off pipe will be fitted with removable strainer.
 - 5.11. Provision will be made for drawing foam compound direct from an external source through a pick up tube while producing foam.
6. Foam Proportioner:
- 6.1. Manually operated selector type around the pump foam proportioning system shall be provided at the rear of the pump.
 - 6.2. The Pump proportioner shall induct foam & water proportionately to feed the foam monitor and hand lines at rate of (+) 6% / (-) 0.5% foam.
 - 6.3. The proportioner shall be calibrated to ensure the correct intake of air foam liquid to foam equipment having five different position selector valves, i.e., 0, 1, 2, 3 & 4.
7. Pump:
- 7.1. The pump shall be EN / NFPA certified, normal pressure centrifugal type, of reputed make such as Godiva / Firefly / Magirus make confirming to EN 1028 Standards or UL classified in accordance with NFPA 1904.
 - 7.2. The pump shall comply following performance parameters:
 - 7.2.1. Normal Pressure output : 4000 LPM at 10 kg/cm²
 - 7.2.2. Deep lifting capacity of pump min. 7 mtrs: Not more than 30 seconds at NTP conditions.
 - 7.3. Normal pressure type centrifugal fire pump shall be made of Gun Metal construction and shall be mounted at the rear of the vehicle driven by vehicle engine through a power take off of suitable ratio to ensure maximum rated hydraulic efficiency of the pump.
 - 7.4. The pump shall be compact in design and have one inlet from tank to pump suction of not less than 140 mm.
 - 7.5. There shall be four 63 mm deliveries with hose pressure relief arrangement shall be fitted with instantaneous delivery coupling as per IS 901-1988 or latest, on the built-in discharge manifold having provision for monitor piping.
 - 7.6. The centrifugal impeller shall be made up of Stainless steel and shall be dynamically balanced, mounted on a stainless-steel shaft.
 - 7.7. The pump shaft shall be held in heavy duty ball/roller bearings running in oil bath. The pump shall have a self-adjusting mechanical carbon seal.
 - 7.8. The pump shall be fitted with inbuilt water ring type priming system capable of priming the pump from 7 metres in not more than 30 seconds, when tested with the 140 mm suction hose at NTP conditions and considering the allowances as stated in IS: 950-2012.
 - 7.9. There shall also be an additional exhaust ejector primer along with water ring primer.
 - 7.10. The pump shall also be tested for the following tests:
 - 7.10.1. Static hydraulic test of assembly at 21 bar for 10 min.

- 7.10.2. Dry vacuum test shall attain 620 mm of hg within 20 seconds while tested.
- 7.10.3. Deep lift test 7.0 mtr within 36 seconds at NTP condition with 140 mm suction hose.
- 7.10.4. The pump shall be kept running for a period of three hours non-stop delivering the guaranteed duty point (low pressure) output with a suction lift of 3.0.
- 7.10.5. All relevant material test certificates like material test certificate, impeller balancing certificate etc. shall be issued.
- 7.11. Details of pump such as its make and model with full technical features, supported with catalogues, brochures, drawing etc. and pump performance curve at low and high pressure shall be attached with the bid.
- 7.12. Details of pump such as its make and model with full technical features, supported with catalogues, brochures, drawing etc. and pump performance curve at low and high pressure shall be attached with the bid.
8. Power Take Off Unit:
- 8.1. FIREHAWK / VAS / OMSI / WEBSTER / KOZMAKSON make power take-off unit shall be able to transfer full torque of the engine to the axle.
- 8.2. The PTO shall have a suitable input to output ratio so as to keep the engine rpm within the maximum torque range specified by the chassis / engine manufacturer while the pump is operated at its duty point.
- 8.3. The main casing shall be made preferably in light aluminium alloy and shall be heat treated for additional strength, the bearing holders however shall be made in cast iron, and the gears shall be helical and shall be ground for noiseless operation.
- 8.4. The gear shifting shall be of single lever type only and multiple linking to engage/disengage the pump side shall not be allowed. There shall be inbuilt self-locking arrangement to keep the unit firmly in the gear selected.
- 8.5. The PTO shall have inbuilt water-cooling arrangement to enable the usage of PTO in harsh environments on continuous basis.
- 8.6. The maximum operating temperature of the oil shall not exceed 85-90° C (at NTP conditions) when the PTO is tested for endurance test with cooling arrangement.
- 8.7. The PTO unit shall have provision to judge the oil level reasonably and shall be fitted with a magnetic drain plug along with breather and oil filler cap.
- 8.8. Oil seals used shall be of highest quality and rotary seals / water slingers shall be used over & above the oil seals to prevent dust/water entering into the oil seals.
- 8.9. The gear shifting shall be achieved pneumatically with the aid of vehicle's air tank and an illuminated indication shall be given near the driver to indicate the completion of PTO engagement.
- 8.10. The design of the PTO shall be such that all the gears / oil seals / bearings etc. on the drive and driven side can be removed from the casing in situ (without taking the PTO down from the vehicle), to reduce the down time of the vehicle under PTO maintenance.
9. Monitor:
- 9.1. TFT / AKRON / ELKHART make monitor shall be provided on the roof of the vehicle capable for delivering up to 1000 GPM.
- 9.2. Monitor shall be made of material Pyrolite with polyester coating, thermic treatment, high strength protected against corrosion and anodized to resist to chemical attack of foam concentrates.
- 9.3. It should have T-handle for vertical and horizontal movement, horizontal movement adjustment lock able by knob and vertical movement adjustment lock able by knob.
- 9.4. It should be capable for (+) 90⁰ to (-) 45⁰ vertical movement and capable 360⁰ horizontal movement. Inlet should be 3 inch (80 mm Flanged).
- 9.5. Monitor dimensions shall be as minimum as possible and weighing less than 7 kgs.
- 9.6. The monitor shall have built in pressure gauge.
- 9.7. The monitor shall have cast in turning vanes & integrated removable stream shaper for maximum reach and stream performance.

- 9.8. The diffuser for monitor should have wide, dense, fully adjustable fog pattern.
- 9.9. Max operating pressure 14 bar.
- 9.10. It should be constructed of lightweight Pyrolite Material and shall have spinning teeth.
- 9.11. The diffuser or nozzle shall have wide, dense, fully adjustable fog pattern constructed of lightweight Pyrolite Material and shall have spinning teeth.
- 9.12. It shall have Manual Pattern fixed gallon-age setting of 500 GPM at 7 Bar.
- 9.13. Diffuser shall have 2.5 inch inlet matching to monitor outlet & weight shall not exceed 2.5 kg.
- 9.14. It shall have reach of not less than 60-65 meters at 7 bars is provided at nozzle inlet.
- 9.15. Monitor shall meet EN-15767-1 with warranty as per OEM Standard.

10. Control Panel:

- 10.1. The control panel shall be provided on the rear portion of the appliance near the pump, designed keeping in mind the ease of operation and maintenance.
- 10.2. Control panel shall be ergonomically designed to ensure that all controls come to hand easily and intuitively and shall ensure that scheduled operations and preventive maintenance is easily possible.
- 10.3. Pump control panel shall include pressure governor and monitoring display kit, including a control module, intake pressure sensor, discharge pressure sensor, and cables.
- 10.4. The control module case shall be waterproof and have dimensions not to exceed 175 mm x 120 mm and the control knob shall be 2 inch in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the centre. It shall not extend more than 50mm from the front of the control module.
- 10.5. Inputs for monitored engine information shall be from a J1939 databus or independent sensors or equivalent. Outputs for engine control shall be on the J1939 databus or engine specific wiring or equivalent. Inputs from the pump discharge and intake pressure sensors shall be electrical.
- 10.6. The following continuous displays shall be provided on the control panel:
 - 10.6.1. Engine RPM with illumination.
 - 10.6.2. Check engine and stop engine warning indication lamp.
 - 10.6.3. Engine oil pressure indicator with illumination.
 - 10.6.4. Engine coolant temperature indicator with illumination.
 - 10.6.5. Transmission Temperature indicator with illumination.
 - 10.6.6. Battery voltage indicator with illumination.
 - 10.6.7. Pressure and RPM operating mode indicator with illumination.
 - 10.6.8. Pressure / RPM setting indicator with illumination.
 - 10.6.9. Throttle ready indicator with illumination.
 - 10.6.10. Illuminated message display shall show diagnostic and warning messages as they occur, showing monitored apparatus information, stored data, and program options when selected by the operator.
- 10.7. All illumination intensity shall be automatically adjusted for day and night-time operation.
- 10.8. The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button and shall monitor inputs and support audible and visual warning alarms for the following conditions:
 - 10.8.1. High Battery Voltage
 - 10.8.2. Low Battery Voltage (Engine Off)
 - 10.8.3. Low Battery Voltage (Engine Running)
 - 10.8.4. High Transmission Temperature
 - 10.8.5. Low Engine Oil Pressure
 - 10.8.6. High Engine Coolant Temperature

- 10.8.7. Out of Water (visual alarm only)
- 10.8.8. No Engine Response (visual alarm only).
- 10.9. The program features shall be accessed via push buttons located on the front of the control module.
- 10.10. There shall be a USB port or equivalent other arrangement located on the control module to upload future firmware enhancements.
- 10.11. The governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes.
- 10.12. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 2 bar.
- 10.13. A throttle ready indicator with illumination shall light when the interlock signal is recognized.
- 10.14. Other safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle.
- 10.15. The pressure governor and monitoring pressure display shall be programmed at installation for a specific engine.
- 10.16. The details of the Electronic Control Panel such as its make and model, supported with authorization and catalogues / brochures / drawings etc. should be attached with the offer.
- 10.17. In addition to the Pressure Governor, following Analogue control and gauges shall also be provided:
- | | | |
|-----------|--|--|
| 10.17.1. | Pressure gauge 3" dia. | : Low pressure - 0 to 17 kg/cm ² |
| 10.17.2. | (Glycerine filled) | : High pressure - 0 to 50 kg/cm ² |
| 10.17.3. | Compound gauge 3" dia. | : Vacuum - 0 to 680 mm of hg in Red.
: Pressure - 0 to 10 kgs/cm ² in Black. |
| 10.17.4. | High pressure hose reel circuit control. | |
| 10.17.5. | Cooling water circuit control. | |
| 10.17.6. | Change over lever from LP to HP mode located at convenient position. | |
| 10.17.7. | Water level indicator calibrated on full, ¾, ½, ¼ and empty. | |
| 10.17.8. | Auxiliary throttle control for engine. | |
| 10.17.9. | Vacuum (compound) gauge | |
| 10.17.10. | Pump prime button | |
- 10.18. Pump compartment shall be illuminated adequately. The entire area shall be covered by roller shutters.
11. Cooling System:
- 11.1. An indirect cooling system of close circuit type heat exchanger shall be provided for cooling the radiator water & Engine and back to the pump inlet.
- 11.2. The pipe line of coolant tank shall be of copper for effective cooling.
12. Crew Cabin:
- 12.1. The driver cum crew cabin shall be made in line and in continuation and shall be such as to accommodate driver and officer in the front and 4 to 5 firemen at the rear.
- 12.2. The under frame cross members shall be fabricated and made out of rolled M.S. channel of 100 x 50 x 5 mm, secured to the runner running full length of the chassis frame with suitable mounting plates. The runner shall be fixed to the chassis frame with suitable arrangement.
- 12.3. The complete superstructure of the cabin shall be constructed out of SS-304 square tube of 30 x 30 x 2 mm. The superstructure shall be strengthened specifically on the

- members where the doors and window frames are to be fitted and also on the other members by providing brackets and the gusset plates securely fitted.
- 12.4. The flooring of the driver cum crew cabin shall be fabricated out of SS-304 angles of 40 x 40 x 4 mm thick which shall be properly welded/ bolted to the cross members.
 - 12.5. The driver-cum-crew cabin shall be equipped with full four doors, one for driver, one for officer in the front and two at the rear for the crew members.
 - 12.6. All the doors shall be fitted on the super structural members each hung upon the two/three numbers coach type stout hinges and fitted with best quality N.P. handles. In addition to the automatic door lock, aluminum tower bolt of 8 inch shall be provided for the doors from inside.
 - 12.7. The window on all the doors shall be full lift type.
 - 12.8. A peep window of suitable size shall be provided at the officer's side bottom panel above the floor level for the use of driver to see clearly the off side.
 - 12.9. For all the above windows, 5 mm thick toughened safety glasses in an aluminum extruded frame shall be provided.
 - 12.10. The front-end structure, cowl shall be original and shall be retained as supplied with the chassis. The wind screen glasses shall be semi curved type single piece.
 - 12.11. The wind screen glass frames shall be made from SS 304 sheet of min. 18 SWG.
 - 12.12. The rubber bedding used for fitting glasses and window frames shall be E.P.D.M. rubber.
 - 12.13. The complete external paneling of driver-cum-crew cabin, including doors shall be of 16 SWG aluminum sheet and the roof shall be of 2 mm thick aluminum sheet. The domes and corners shall be as small as possible and shall be of 18 S.W.G. aluminum sheets for roof. All the sheets of the outer panelling will be glued to the framework. Riveting / bolting / screws shall not be permitted.
 - 12.14. The complete internal paneling of driver-cum-crew cabin shall be of 16 SWG aluminum sheet properly riveted and bided to the super structural members.
 - 12.15. The flooring of the driver-cum-crew cabin shall be fabricated from 2.5 mm aluminum chequered plates except over the mudguard arches which shall be of 2 mm aluminium chequered plate rigidly fixed to the under frame by means of nuts and bolts or riveting. Trap doors for topping up wherever necessary shall be provided.
 - 12.16. All the super structural members and under frame cross members shall be painted with three coats of anti-corrosive paint. All the under frame cross members shall be painted with two coats of chassis black paint.
 - 12.17. Non-slip type steps and rails shall be provided in the cabin to assist the crewmembers to get in and out. The grab handles shall be provided from inside the cabin preferably on door pillars.
 - 12.18. The driver seat shall be fully adjustable type both vertical upward and downward, forward and backward, fixed to the flooring by means of nuts and bolts. The seat assembly shall be of original design approved by chassis manufacturer.
 - 12.19. The officer's seat shall be fixed type rigidly fixed to the flooring by means of nuts and bolts and shall have integrated BA set mounting arrangement.
 - 12.20. The seat cushion shall be of high-density latex foam rubber upholstered in good quality fabric/foam leather cloth of approved shade. The backrest shall be of high-density latex foam rubber upholstered in good quality fabric / foam leather cloth of approved shade.
 - 12.21. The crew seat shall be suitable for 4 to 5 firemen, rigidly fixed to the floor by means of nuts and bolts, running full width of the vehicles. The fireman's seat shall be provided with high density latex foam rubber upholstered in good quality fabric /foam leather of approved shades. The screw seat shall have facility to integrate ready to use BA sets.
 - 12.22. Below the crew seat, two lockers shall be provided, one for Trickle type battery charger and another for keeping accessories. A First-Aid box shall also be provided in the

cabin at easily accessible location.

- 12.23. Cabin shall have one roof light and two sidelights. Two numbers of large sun visors and rear-view mirrors shall be provided on each side.
- 12.24. The driver will be provided with large size rear view mirrors on both sides of the cab and convex round mirrors for overall rear view of the vehicle from top to bottom and left to right.
- 12.25. The above specifications are not applicable for Factory built, fully trimmed driver or crew cabin provided by the chassis manufacturer suitable for fire fighting vehicles. In case of OEM supplied driver cabin, separate crew cabin shall be built just behind the driver's cabin as per respective specification to accommodate 4 to 5 firemen with 2 doors, windows and peep windows, paneling, seats, etc. as mentioned above.

13. Rear Body

- 13.1. The rear body shall accommodate sufficient number of lockers to keep suction hoses delivery hoses, and other accessories and water tank, Pump, P.T.O. ladder, etc.
- 13.2. The rear body shall be fabricated in continuation and in line. The under frame cross members shall be fabricated from M.S. rolled channel section of 100 x 50 x 5 mm.
- 13.3. A full-length runner fabricated from MS rolled channel section of 100 x 50 x 5mm thick shall be provided and fixed on the chassis frame by means of 6mm thick MS plate bolted to the chassis frame as per the available bolt holes. A 5/8" dia 'U' clamp shall be provided where the fixing plate cannot be provided due to non-availability of bolt holes on chassis frame.
- 13.4. The complete superstructure of the rear body shall be constructed out of SS-304 square tube of 30 x 30 x 1.6 mm manufactured by reputed company. The superstructure shall be strengthened specifically on the members where the doors and window frames are to be fitted and also on the other members by providing brackets and the gusset plates securely fitted. The details of super structure members shall be mentioned clearly in the drawing and shall be submitted along with the offer.
- 13.5. The flooring of the lockers shall be fabricated from SS-304 angles of 40 x 40 x 4mm thick.
- 13.6. All the under frame cross members and other Mild Steel members shall be painted with two coats of rust preventive paint. All the under frame cross members shall be painted with two coats of chassis black paint.
- 13.7. The side paneling of lockers shall be made of 16 SWG aluminium chequered sheet and the flooring shall be made from 2.5 mm chequered aluminium sheet.
- 13.8. The complete top deck of the rear body shall be provided with 3 mm aluminium chequered sheet rigidly fixed to the super structure members.
- 13.9. The complete vehicle shall be panelled externally with 2 mm Aluminium sheets and internally with 16 SWG aluminium sheet.
- 13.10. Access to the Diesel tank should be through an opening near diesel tank for filling by a cut out inside panelling and also to facilitate dip measurement of the Diesel in the tank.

14. Lockers:

- 14.1. Sufficient number of lockers shall be provided at both the sides of rear body for keeping all the equipment and tools mentioned in the specification.
- 14.2. The lockers shall be divided into compartments and halves and arranged in such a manner that the load distribution shall be equal on both sides. The final design will be decided at the time of fabrication work.
- 14.3. The size and placement of lockers shall be clearly shown in the drawing. There shall be lockers provided at the skirt level of suitable size on both the sides.
- 14.4. All lockers' floors shall be laid with 2.5 mm Aluminium chequered plate.
- 14.5. All lockers shall be provided with internal automatic on-off lighting system with a master switch in cab. All lockers shall also be suitably labelled so that each item will

have identification when it is required to be accessed.

14.6. All lockers below the chassis level shall have flap door opening downward, while all the lockers above chassis level including the pump room shall have roller shutters.

14.7. Roller shutter assembly including drip channel, sill plate, LED lights and its sensors shall be of MCD / ROM / KOZMAKSON only.

15. Miscellaneous:

15.1. The original rear bumper as provided by the chassis manufacturer shall be retained.

15.2. All light fittings at the rear shall be suitably protected by expanded metal to prevent damage due to movement of crew.

15.3. Two cat ladders made out of SS pipe of at least 1" dia shall be fixed at the rear.

15.4. The rails on the roof top and the rear shall be of SS 304 pipe of 30mm diameter with suitable mount of bracket and approx. 300mm from the roof top.

15.5. The appliance shall be fitted with a towing arrangement at the rear of adequate strength to carry one ton trailer.

15.6. The overall height shall not exceed the permissible limits.

16. Pipelines:

16.1. All piping and plumbing shall be designed to have minimum pressure drop and achieve the required pressure & flow at various locations.

16.2. All pipe fitting and valves shall be of SS-316, material.

16.3. All piping shall be designed for 10% over the maximum pressures encountered in the piping.

16.4. The piping shall be flanged as far as possible for ease of maintenance.

16.5. All lines shall be hydraulically tested at 1.5 times the design pressure however in no case the lines shall be hydraulically tested below 18 bar.

16.6. All bolting will be SS 304. All valves shall be of AUDCO/ L&T make only.

16.7. One number of male coupling with ball / butterfly valve shall be provided at the rear each side for filling the tank and the filling pipe shall be 100 mm and connected to the tank from the top.

16.8. The overflow pipe should be provided on top centre of the tank. From the water tank to pump, the main pipe should be of 150 mm dia with suitable valve as required and the horizontal part of the pipe shall have Bellows type rubber joint.

16.9. Proper road clearance of 20" should be provided while connecting the pipe.

17. Telescopic Ladder:

17.1. It shall have extended length of 4m intended for rescuing and carry up to 3 people with a maximum load of 500 kg. it shall conform to EN1147 & NFPA.

17.2. It shall be fabricated from triangular aluminium section, weighing less than 20 kgs.

17.3. Ladder tread shall be approx. at 75 degrees, so that when the ladder is inclined against the wall, tread shall remain almost horizontal, for the fireman to work efficiently.

17.4. Authorization letter, Brochure and Certificate shall be submitted along with the bid.

18. Ladder Gallows:

18.1. The gallows shall be provided to carry aluminum Double extension ladder of 10.5 mtrs height, as per IS 4571.

18.2. The design of the gallows shall be such that the ladder can be released without difficulty from a reasonably accessible position.

18.3. Means shall be provided for locking the ladder when stowed.

19. Electrical System & Accessories:

19.1. All-important electrical circuits shall have separate fuses suitably indicated & shall be grouped into a common fuse box located in an accessible position in Driver's cab and fitted with means for carrying four spare fuses.

19.2. The wiring should be single pole and should not be exposed to the atmosphere. Conduits shall be used wherever necessary.

- 19.3. All equipment lockers should have individual lights, and these should be operated by means of a master switch on the dashboard in the driver's cabin.
- 19.4. A trickle type battery-charger shall be provided for recharging the battery.
- 19.5. In addition to the normal lights, the vehicle shall be fitted with the following electrical lights & accessories:
- 19.6. Four Side Lights (Two on each side)
 - 19.6.1. Reversing lights on either side should be fixed suitably at the rear of the appliance with wire mesh in such a manner to prevent accidental damage by the fireman while mounting the tank top.
 - 19.6.2. Reverse Alarm
 - 19.6.3. GRAND / SOLPHIN / REX / ECTROS make LED Light bar shall be mounted on top of the driver cabin collectively consisting of Red, White & Blue colour.
 - 19.6.4. Public Address System with 2 tone hooter shall be provided above the driver's cabin, and speakers (microphone) inside the driver's cabin.
 - 19.6.5. Two ISI marked fog lamps should be suitably attached to the front bumper of appliance.
 - 19.6.6. A spotlight of 50 W power shall be provided at the rear portion of appliance near the pump.
 - 19.6.7. 2 Nos. Dual Red-White, 2 Nos. Dual Blue-White and 2 Nos. Dual Red-Blue Scene-Lighting LED blinkers with inbuilt flasher having Aluminium Polycarbonate Base shall be installed on both sides of the body. The lights shall be rated IP66 or higher and shall have Vibration and Optical Test Certification from NABL Accredited Lab. Certificate of the same shall be submitted with the technical bid.
 - 19.6.8. A powerful search light suitable halogen type & adjustable to give flood or beam light, capable of being readily disconnected and also mounted on a tripod away from the appliance should be provided with tripod and not less than 100 ft of best quality TRS cable with reel. Suitable brackets should be provided on top of tank for the spare wheel.

20. Workmanship and Material:

- 20.1. Workmanship executed shall be of the highest order.
- 20.2. All rivets and bolt holes shall have a coat of approved paint on both surfaces before riveting or bolting or welding.
- 20.3. All steel screws, bolts, nuts, rivets etc. shall be zinc coated or shall have rust proof coats by are cognized process.
- 20.4. The roof joints shall be subjected to rigid water test at vendor's workshop in presence of purchaser's representatives.
- 20.5. All directions and instructions on all points related to the fabrication shall be executed whenever given by the purchaser's representative for quality and workmanship.
- 20.6. All the material used in the fabrication of the body work shall be of good quality or approved make and type.
- 20.7. All equipment and material shall comply with the requirements of the latest relevant IS specifications.

21. Painting and Marking:

- 21.1. The basic structure material should be zinc plated and thereafter it should be prepared by grinding the welded surfaces, priming the finished material with a zinc rich primer and then finally coated with a two coat of epoxy-based paint.
- 21.2. The crew cabin and the inside lockers shall be painted in pale cream.
- 21.3. The chassis and wheel articles shall be painted Black.
- 21.4. The entire appliance shall be painted in DUPONT make "FIRE RED" paint & thickness of 0.12 to 0.2 mm thickness, using double coat spray painting on the outside. Lettering work in yellow color on both sides of the Tender as given below:

The paint shall conform to IS: 2932-1974.

- 21.5. Owner's emblem in original colour together with name shall be written in golden yellow colour on both sides of the vehicle. The matter shall be conveyed at the time of fabrication.
22. Acceptance Test: Acceptance test shall be carried out as per IS Standards in practice. The following acceptance test will be carried out prior to dispatch of Foam Tender from the vendor's site / workshop.
 - 22.1. Road Test
 - 22.1.1. Acceleration & Performance Test
 - 22.1.2. Braking Test
 - 22.1.3. Turning Circle Test
 - 22.2. Stability Test
 - 22.2.1. Under fully laden vehicle (including crew) to the designed payload conditions.
 - 22.2.2. Vehicle shall pass Overturning Test.
 - 22.2.3. The stability of the appliance shall be such that when under fully equipped and loaded conditions, excluding the crew, if the surface on which the appliance stands is tilted to either side, the point at which overturning occurs is not passed at an angle of 25° from the horizontal.
 - 22.3. Articulation Test
 - 22.4. Shower Test
 - 22.5. Pipe Leakage Test: All the piping will be subjected to optimum hydraulic test pressure for a period of minimum 30 minutes.
23. Data, Information & Drawing:
 - 23.1. Full detailed information of the body shall be submitted for approval before fabrication.
 - 23.2. Instruction book for the guidelines of the user, including both operating and normal maintenance procedures shall be supplied during the time of commissioning.
 - 23.3. The detailed drawing of the body, showing the details of construction, water tank drawing showing baffle arrangement, mounting arrangement of all fitments on the appliance, shall also be submitted at the time of commissioning.
24. The appliances shall be conforming to IS: 10460-1983 Standards or latest.
25. Accessories: Accessories as per Annexure-9 shall be supplied along with the vehicle.

**LETTER OF SUBMISSION - COVERING LETTER
(On the Letter Head of the Bidder)**

To

The Chief Mechanical Engineer,
Cochin Port Authority.

Sir,

Sub: Tender for “Fabrication, Supply, Testing and Commissioning of one number Foam Tender for Cochin Port Authority”

Being duly authorized to represent and act on behalf of
(Hereinafter referred to as “the Bidder”) and having reviewed and fully understood all of the requirements of the bid document and information provided, the undersigned hereby apply for the project referred above.

We are submitting our Bid enclosing the following, with the details as per the requirements of the Bid Document, for your evaluation.

1. Financial instrument for remittance of EMD or copy of document for EMD exemption.
2. Power of Attorney as per Annexure-2.
3. Experience details for Minimum Eligibility Criteria as per Annexure-3 with supporting documents.
4. Annual Financial Turnover for the last three financial years as per Annexure-4 certified by Chartered Accountant.
5. Declaration as per Annexure-5.
6. Bank details as per Annexure-6.
7. Copies of PAN, GST Registration.
8. Partnership deed or Memorandum and Articles of Association of the company and Registration certificate of the company as the case may be.
9. Full particulars of the offered Foam tender along with supporting documents / drawings etc.

(Signature of Authorized Signatory)

PROFORMA OF POWER OF ATTORNEY / LETTER OF AUTHORITY

(To be submitted on Non-judicial Stamp Paper of appropriate value, duly notarized)

(Power of Attorney in original in favour of Signatory to the Tender duly authenticated by the Notary Public shall be submitted. In case of a Proprietary Concern, a declaration of the same along with the proof of business may be submitted. In case of the Partnership Firm, all partners shall together authorize one Partner by Power of Attorney. In case of a Company, a resolution of the Board of the Company shall be submitted, authorizing any person to bid the tender, sign all tender documents and for carrying out all the activities in connection with tender when awarded. If MD / CMD is signing on behalf of Board of Directors or Directors then the name of such signatory to be mentioned in the Board note / Memorandum of Association).

To

The Chief Mechanical Engineer,
Cochin Port Authority,
Cochin 682009,
Kerala, India.

Dear Sir,

We ----- (name and address of the bidder) do hereby confirm that Mr./Ms./Messrs - ---- (name and address of the person), whose signature is given below, is / are authorized to represent us to bid, negotiate and conclude the agreement on our behalf with you against tender for “Fabrication, Supply, Testing and Commissioning of one number Foam Tender for Cochin Port Authority”.

We confirm that we shall be bound by all and whatsoever our said agents shall commit.

Signature of the authorized person:

Name & Designation :

Yours faithfully,

(Signature, name and seal of the certifying authority)

Annexure-3

Details of experience of similar contracts by the tenderer during the last 7 years ending 31.12.2023

Sl. No.	Full particulars of supplies done by the Tenderer	Value of contract	Delivery time as stated in Tender (days)	Actual Delivery time (days)	Year of completion	Name & postal address of Client with Fax / Telephone No.
1						
2						
3						
4						
5						

Note: Bidder shall enclose the following:

- (i) Notarized copies of each Supply Order / Agreement issued by the Client.
- (ii) Notarized copies of each completion certificate / performance report issued by the Client.

Signature of tenderer

Annexure-4

The Average Annual Financial Turnover of the tenderer for the last three Financial years ending 31.03.2023 certified by Chartered Accountant.

(Chartered Accountant should furnish their UDIN in the certified copy along with UDIN QR code).

Name and address of the firm:

Sl. No.	Financial Year	Annual Financial Turnover in Rs.
1	2020-21	
2	2021-22	
3	2022-23	
	Average	

DECLARATION

We, M/s (Name & address of the bidder), hereby declare that:

1. We have not made any payment or illegal gratification to any persons / authority connected with the bid process so as to influence the bid process and have not committed any offence under PC Act in connection with the bid.
2. We disclose with that we have * made / not made payments or propose to be made to any intermediaries (agents) etc. in connection with the bid.
3. We do hereby confirm that no changes have been made in the tender document downloaded and submitted by us for the above bid. Port Tender document will be treated as authentic tender and if any discrepancy is noticed at any stage between the Port's tender document and the one submitted by the tenderer, the Port's document shall prevail.
4. We do hereby confirm that we have no record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history or financial failures, black listing / debarring by Govt. Departments etc.

Signature

(Authorized Signatory)

*** Note: Delete whichever is not applicable.**

FORMAT FOR FURNISHING BANK INFORMATION FOR E-PAYMENT

1	Name and full address of the beneficiary	
2	Credit Account No.	
3	Account Type (SB or CA or OD)	
4	Name of the Bank	
5	Branch (Full address with telephone No.)	
6	IFSC code	
7	MICR code	
8	Telephone/Mobile/Fax No. of the beneficiary	Telephone:
		Mobile :
		Fax :
9	Cancelled Cheque	

Signature of the bidder with seal

PROFORMA OF BANK GUARANTEE FOR PERFORMANCE GUARANTEE / SECURITY DEPOSIT

(To be executed on non-judicial Stamp Paper of appropriate value)

[The bank, as requested by the successful tenderer, shall fill in this form in accordance with the instructions indicated]

In consideration of the Board of Major Port Authority for Cochin Port, incorporated by the Major Port Authorities Act, 2021 (hereinafter called "The Board" which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include the Board of Major Port Authority for Cochin Port, its successors and assigns) having agreed to exempt (Name of the Contractor/s) (hereinafter called the "Contractor") from the demand In consideration of the Board of Major Port Authority for Cochin Port, incorporated by the Major Port Authorities Act, 2021 (hereinafter called "The Board" which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include the Board of Major Port Authority for Cochin Port, its successors under the terms and conditions of the Contract, vide GeM Contract No. ----- dated -----made between the Contractors and the Board for execution of Bank Guarantee covered under GeM Bid No. ----- dated ----- (hereinafter called "the said contract") for the payment of Security Deposit in cash or Lodgment of Government Promissory Loan Notes for the due fulfillment by the said Contractors of the terms and conditions of the said Contract, on production of a Bank Guarantee for Rs. ----- (Rupees ----- only)we, the (Name of the Bank and Address) (hereinafter referred to as "the Bank") at the request of the Contractors do hereby undertake to pay to the Board an amount not exceeding Rs. ----- (Rupees ----- only) against any loss or damage caused to or suffered by or which would be caused to or suffered by the Board by reason of any breach by the Contractors of any of the terms and conditions of the said contract.

We, (Name of Bank and Name of Branch), do hereby undertake to pay the amounts due and payable under this guarantee without any demur merely on a demand from the Board stating that the amount claimed is due by way of loss or damage caused to or which would be caused to or suffered by the Board by reason of any breach by the Contractors of any of the terms and conditions of the said contract or by reason of the Contractors failure to perform the said contract. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to any amount not exceeding Rs. ----- (Rupees ----- only).

We, (Name of Bank and Name of Branch), undertake to pay to the Board any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor(s) shall have no claim against us for making such payment.

We, (Name of Bank and Name of Branch), further agree with the Board that the guarantee herein contained shall remain in full force and effect during the period that would be taken for performance of the said contract and that it shall continue to be enforceable till all the dues of the Board under or by virtue of the said contract have been fully paid and its claims satisfied or discharged or till the Chief Mechanical Engineer, Cochin Port Authority of the

said certifies that the terms and conditions of the said contract have been fully and properly carried out by the said Contractors and accordingly discharge this guarantee. PROVIDED HOWEVER that the Bank shall be the request of the Board but at the cost of the Contractors, renew or extend this guarantee for such further period or periods as the Board may require from time to time.

We, (Name of Bank and Name of Branch), further agree with the Board that the Board shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend the time of performance by the said contract or to extend the time of performance by the said Contractors from time to time or to postpone for any time or from time to time any of the powers exercisable by the Board against the said Contractors and to forbear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variation or extensions being granted to be Contractors or for any forbearance, act or omission on the part of the Board or any indulgence shown by the Board to the Contractors or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

It is also hereby agreed that the Courts in Ernakulam would have exclusive jurisdiction in respect of claims, if any, under this Guarantee.

We, (Name of Bank and Name of Branch), lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Board in writing.

Notwithstanding anything contained herein:

Our liability under this Bank Guarantee shall not exceed Rs. ----- (Rupees ----- only);

This Bank Guarantee shall be valid up to -----; and

We are liable to pay the guarantee amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before ----- (date of expiry of Guarantee).

Date:

Place:

For (Name of Bank)

(Name)

Signature

FORM OF AGREEMENT
Agreement No. ... of

Agreement for “Fabrication, Supply, Testing and Commissioning of one number Foam Tender for Cochin Port Authority”.

This agreement is made on this day ---- of ----- between the Board of Major Port Authority for Cochin Port commonly known as Cochin Port Authority, a body corporate under the Major Port Authorities Act, 2021 having office at Willingdon Island, Cochin, 682009 represented by its Chief Mechanical Engineer Shri. ----, S/o -----, aged ----- years, residing at -----Village, -----Taluk, ---- District (hereinafter referred to as the Employer which expression shall include his successors, assignees and administrators in the office) of the one part and M/s. ----- represented by Shri. -----, S/o -----, aged --- years, residing at -----Village, ---- Taluk, ----- District (hereinafter referred as “Contractors” which expression shall include their successors, assignees and administrators) of the other part.

WHEREAS the Employer invited tenders for ----- vide Tender No. -----dated ----- and the Contractor submitted a tender for the same giving rates agreeing to the terms and conditions etc. of the tender document.

AND WHEREAS the said tender submitted by the Contractor has been accepted by the Employer vide Letter of Acceptance No. ----- dated-----, issued to the Contractor while accepting their tender.

NOW THESE PRESENTS WITNESSETH and the parties hereby agree as follows.

1. The tender submitted by the Contractor for execution for the Board, of the work specified in the underwritten memorandum within the time specified in such memorandum at the rates specified in the schedule attached hereto and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in the “General Conditions of Contract” and with such materials as are provided for, by and in all other respects in accordance with such conditions is accepted.
2. It is mutually understood and agreed that, notwithstanding that the works have been sectioned, every part of it shall be deemed to be supplementary to and complementary of every other part and shall be read with it or into it.
3. The Contractor agreed to abide by and fulfill all the terms and provisions of the said Conditions of Contract or in default thereof forfeit and pay to the Board the sum of money mentioned in the said conditions.
4. The sum of Rs. ----- (Rupees ----- only) has been deposited by the Contractor with Financial Adviser and Chief Accounts Officer of the Cochin Port Authority as Performance Security the full value of which is to be absolutely forfeited to the Board in office without prejudice to any other rights or remedies of the said Board in office, if the Contractor fails to commence the work specified in, underwritten memorandum or if the Contractor not deposit the full amount of security deposit specified in, underwritten memorandum otherwise the said sum of Rs. ----- shall be retained by the Board as on account of such security deposit as aforesaid.
5. It is mutually agreed that the tender submitted in its entirety shall form part of this Agreement. Apart from the tender the following shall also form part of the Agreement:
(a) The Letter of Acceptance (b) Price Schedule (c) Letters exchanged between the Employer and the Tenderer up to the issue of Letter of Acceptance as separately listed and annexed here to and (d) Replies to Pre-bid queries and amendments issued if any.

MEMORANDUM

- a) General description of work : Fabrication, Supply, Testing and Commissioning of one number Foam Tender for Cochin Port Authority.
- b) Estimated cost : Rs. 1,45,14,000/- including GST.
- c) Earnest Money Deposit : Rs. 2,90,280/-
- d) Security Deposit : 10% of the total contract price.
- e) Time for commencement of contract : 30 days from the date of receipt LoA.
- f) Contract period : 180 days from the date of receipt of LoA.
- h) Schedule, specifications, conditions, drawings etc. : As per the tender document.

IN WITNESS WHEREOF THE CONTRACTOR hereunto set his hand and seal on behalf of M/s ----- and on behalf of the Board of Major Port Authority for Cochin Port, the CHIEF MECHANICAL ENGINEER has set his hand and seal and common seal of the Board of Major Port Authority for Cochin Port has been hereunto affixed the day and year first written above.

CONTRACTOR

Signed, sealed and delivered

By Shri. ----- M/s -----
(Common Seal of the Firm)

Signed and affixed seal in the presence of :

1. Signature with address :
2. Signature with address :

Signed, sealed and delivered by the Chief Mechanical Engineer,
Cochin Port Authority on behalf of Board of Major Port Authority for Cochin Port

EMPLOYER

Signed and affixed the common seal of Board of Major Port Authority for Cochin Port in the presence of:

- 1.
- 2.

Annexure-9**Accessories to be supplied along with the vehicle**

Sl. No.	Description	Qty.
1	Aluminium Extension ladder 10.5m trussed type conf. toIS:4571	1
2	Armoured suction hose complete with round thread couplings to suit the pump inlet – 2.5 m long as per IS:902	4
3	Delivery Hose, 63 mm, rubber lined in 30 m lengths as per IS 636 complete with instantaneous couplings as per IS 903.	10
4	Suction Strainer for item 2	1
5	Basket Strainer suitable for item 2 as per IS; 3582	1
6	Dividing breaching made of light alloy as per IS: 5131	2
7	Collecting breaching made of light alloy as IS:905	2
8	Suction wrenches as per IS:4643	1 pair
9	Long line,50mm circumference,30m long	2
10	Short line,50 mm circumference, 15m long	2
11	Hose Bandages Rubberized	12
12	Hose Clamps	6
13	Single Layer Proximity Suits	6 sets
14	Fog nozzle with extension applicator with fog head	1
15	Hand controlled branch for 63 mm size hose coupling	1
16	Branch Pipe universal	1
17	Branch with revolving head	1
18	Branch pipe as per IS:903	1
19	Nozzle of size 12 mm, 16mm, 20mm, 32mm	2 Each
20	(a) Adapter for 100 mm suction female thread and 63 mm male instantaneous (b) Adaptor double female instantaneous patter 63 mm (c) Adaptor double male instantaneous pattern 63 mm	2 each
21	Nozzle spanners as per IS:903	2
22	Portable Electric Box lamp with rechargeable accumulator	1
23	Hand Lamp Rechargeable type.	2
24	Flameproof high-power torch with charger (usable in the presence of inflammable gases)	2
25	Self-contained breathing Apparatus set with ultra-light weight cylinder 300 Bar 6 litres, 45 min duration (EN certified) with one spare cylinder	2
26	First aid box for 10 persons	1
27	Rubber gloves	1 pair
28	Asbestos gauntlets	1 pair
29	Axe, large as per IS:703	1
30	Spade	1
31	Pickaxe	1
32	Crowbar	1
33	Sledge Hammer, 6.5 kgs	1
34	Carpenter's saw, 60 cm	1
35	Hydraulic Jack 30 ton	1
36	Fire Hook	1
37	Tool Kit	1
38	Portable Pump: Portable pump having discharge capacity of 800 LPM @ 5 bar shall be supplied complying any according to EN 14466. Pump shall be driven by Briggs &	1 no.

	Stratton 4 stroke Petrol engine of 18 BHP. The fuel tank capacity shall be enough to run the pump continuously for 1.5 hours. It shall have electric and recoil type starter for instant start. It shall have a vane type priming system and shall have deep lifting capacity of suction height of 7.5 m in less than 25 second. It shall have 2 delivery outlets of 63mm with screw down type valve. The pump shall have a stainless-steel tubular carrying frame with foldable handles. It shall also have flood lights for night operations. It shall be compact in dimension and shall weight less than 90 kgs. It shall be stowed in one of the locker at a suitable place to be used in an emergency situation.	
39	The Nozzle should be adjustable gallonage with multiple flow settings & 63 mm BIM inlet hand nozzle. The nozzle should have selectable flow setting of 150-270-350-475-600 LPM with five different setting flow rates @ 7 bar with flush mode without shut off the nozzle made of Pyrolite / Al material, with pistol grip and with Celcon ball valve. The nozzle shall have feature for straight stream & spray pattern. It should be NFPA 1964 compliant and EN-15182 approved. The documents should be submitted along with bid. Standard instantaneous male inlet should be 2 ½” (63mm). Simple to operate pattern control (1/4 turn from straight stream to fog), Raised lug marks straight stream for limited visibility operations and shall have minimum fog angle of 120° and capable of flushing without shutting down or changing stream patterns. Preferable makes POK or Rex or Akron.	2
40	Battery Operated Combi-tool as detailed below:	1 set
	i. The Combi-tool shall have maximum operating pressure of 700 bars.	
	ii. The Combi-tool shall not need to be connected to an external hydraulic source; generation of the required hydraulic pressure takes place within the body of the device by a quick exchangeable lithium/ion battery.	
	iii. The battery shall be capable to deliver enough power for one hour rescue operation. Battery must be having a rating of not less than 5 Ah, 126 Wh, 25.2 V capacity.	
	iv. The Combi-tool shall equip with lights to facilitate work under poor lighting conditions. For simplicity, the lights must be powered by the same Lithium-Ion battery that powers the Combi-tool and not a secondary battery.	
	v. The cylinder of the tool shall be made of anti-corrosive light aluminium alloy. The housing shall have ventilation holes on both sides of the unit for cooling the motor. The tool should be fully operational for longer periods at temperature of -20 Degree C up to +55 Degree C.	
	vi. The blades of the tool shall be of a straight serrated edge & made of investment cast dropped-forged steel glass pearl. The blades shall be re-grindable.	
	vii. The control mechanism shall feature a star-grip control actuator for ease of operation by allowing 360-degree operations in any position.	
	viii. The tool must provide a non-interflow shear seal “dead man” actuator; The Combi-tool will be equipped with a dual pilot check valve. This is to prevent accidental movement of the arms in the event of power loss.	
	ix. The tool shall be protected by a pressure relief valve that prevents it from being over pressurized. The star grip automatically returns to the central position, guaranteeing the full load-holding.	
	x. Combi-tool shall be supplied with following specifications:	

	a. Min. EN classification (13204:2016-12) - 1I/ 2J/3I/4J/5J,	
	b. Min. NFPA classification (1936:2015) – A7/B8/C7/D8/E7,	
	c. Cutting Capacity - not less than 35 mm round steel bars,	
	d. Cutting force - not less than 490 KN.,	
	e. Maximum Cutting Opening - not less than 275mm,	
	f. Min. Spreading Distance measured at the blade tips - 360mm,	
	g. Spreading Force (measured at 25mm from tip end) – 38 KN – 1500 KN,	
	h. Pulling distance - not less than 380mm,	
	i. Pulling force - minimum 60 KN.,	
	j. Operational Weight - not more than 20 kgs.,	
	k. Protection class – IP54.	
	xi. The tool must be certified as compliant with latest NFPA 1936, 2020 Edition. The OEM must have NFPA compliant manufacturing facility for Rescue Tools here in India.	
	xii. Following accessories to be supplied with combi-tool:	
	a. One Rechargeable Li-Ion batteries as per above specification	
	b. One Battery charger. 230V/50Hz,	
	c. One Power supply 230V/50hz for the alternate operation of the tool off a mains connection.	
	xiii. Factory shall have capability of manufacturing and servicing and testing of Hydraulic Hose line and Battery-operated Rescue tools and shall support spares availability for at least 5 years. Make: Lukas/Hurst only.	
	xiv. Manufacturing facility shall be certified by TUV Germany / FM USA / EIL Delhi and relevant document in support to this shall be submitted at the time of bidding.	
	xv. Third party TUV certificate for NFPA 1936:2020 compliance, Make & Model brochure for the offered model shall be submitted along with the Technical Bid.	
41	Foam Branch (FB 10 X) as per IS Standard	4
42	Foam Branch (FB 10) without Pick up tube as per IS Standard	4
43	Fire Buckets	10
44	Fire Beaters	5