कोचिन पत्तन प्राधिकरण
Cochin Port Authority

COCHIN PORT AUTHORITY
Tele:91-0484 -2666639/0484-2582300
Tele Fax:91-0484-2666639
E-mail: cme@cochinport.gov.in
Website: www.cochinport.gov.in

Tender Document

Manning, operation, maintenance and repairs of Facilities and Services provided at the MULT Terminal and Barge Jetty at Cochin Port for a period of One year extendable by one more year at the discretion of Cochin Port Authority.

(TECHNICAL BID)

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

Tender Document for "Manning, operation, maintenance and repairs of Facilities and Services provided at the MULT Terminal and Barge Jetty at Cochin Port for a period of one year extendable by one more year at the discretion of Cochin Port Authority".

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

No. D3/MULT O&M/One year/2024-M

Dated: 19.07.2024

NOTICE INVITING TENDER

1. Tenders are invited through Government e- Marketing Place (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 the work of "Manning, operation, maintenance and repairs of Facilities and Services provided at the MULT Terminal and Barge Jetty at Cochin Port for a period of one year extendable by one more year at the discretion of Cochin Port Authority". Tenderers, who fulfill the Minimum Qualification Criteria and Terms and Conditions given below, may register their tenders through GeM Portal well in advance on or before the scheduled date of submission.
2. Minimum Qualification Criteria (MQC):Tenderer shall fulfill the following minimum qualifying criteria to prove the techno - commercial competence and submit the documents in support thereof:

2.1. Experience: The tenderer should have executed Repair / Repair and maintenance / Annual maintenance contracts involving Maintenance / repairs of Mechanical, Electrical and Firefighting installations in Ports / PSUs / Private organizations in a single contract for a period of one year as detailed below, during the last seven years ending on 30.06.2024.

2.1.1. One contract work costing not less than Rs. 78,00,000/-. OR

2.1.2. Two contract works, each costing not less than Rs. 48,75,000/-. OR

2.1.3. Three contract works, each costing not less than Rs. 39,00,000/-.

2.2. The details for experience shall be furnished as per Annexure-3 of the tender document. Notarized copy of work order and work completion certificate issued by the Client shall be submitted along with the tender. The experience for having carried out the work under subcontract to the main contractor will also be considered.

2.3. Financial Turnover: Average annual financial turnover of the tenderer shall be at least Rs. 29,25,000/-, during the last three financial years, ending 31.03.2024(2021-22, 2022-23 and 2023-24).

2.4. A statement duly certified by the Chartered Accountant showing the Average annual financial turnover over the last three financial years ending 31.03.2024 (2021-22, 2022-23 and 2023-24) shall be submitted along with the tender. Chartered Accountant should furnish their UDIN in the certified copy along with UDIN QR code.

2.5. The bidder shall possess valid 'A Class' Electrical Contract License issued by any State / Central licensing authority or the bidder should carry out the maintenance of electrical works through a licensed A Class contractor. If in the case of engaging the licensed Electrical contractor, an agreement shall be submitted in a stamp paper of value Rs. 200/- between the Tenderer and the Electrical license holder.

2.6. Following enhancement factors will be used for the costs of works executed for bringing the financial figures to a common base value in respect of the works 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

2.7. Experience certificates of contracts executed in Private organizations shall be considered on submission of Form 26 AS / Form 16A along with work order and completion certificate.

2.8. Performance / Completion certificate shall be submitted in support of the Minimum Qualification Criteria. In the case of ongoing / Running Contracts, if the value of the completed portion of the contract meets the Minimum Qualification Criteria mentioned at Clause No. 2 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 etc.

4. Bid information:

Table 2

1	Estimated Amount put to tender for one year	Rs. 97,50,000/- including GST.
2	Earnest Money Deposit (Exemption shall be given as per Clause No. 10 below)	Rs. 1,95,000/- (EMD shall be furnished in the form of Account Payee Demand Draft / Banker's Cheque in favor of "FA&CAO, Cochin Port Authority" or Fixed Deposit Receipt or Bank Guarantee from any of the Commercial Banks as per format or payment online in an acceptable form duly safeguarding the purchaser's interest in all respects).
3	Validity period of tender	90 days from the last date for receipt of tenders.
4	Date of commencement of contract	30 days from the date of LoA.
5	Period of Contract	One year from the date of commencement of contract.

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 is responsible 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. The bidder shall upload signed copies of Tender document, Addendums, Amendments and Replies to the queries along with the tender.

7. Bank details of Cochin Port Authority are as follows: State Bank of India, Cochin Port Trust Branch, IFSC Code: SBIN0006367, Account No. 41401802288.

8. Each tender should be accompanied by an Earnest Money amounting to Rs. 1,95,000/-. EMD shall be furnished in the form of Account Payee Demand Draft / Banker's Cheque in favor of "FA&CAO, Cochin Port Authority" or Fixed Deposit Receipt or Bank Guarantee from any of

the Commercial Banks as per format or payment online in an acceptable form duly safeguarding the purchaser's interest in all respects. EMD will not carry any interest.

9. 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 as provided in GFR 2017. The tenderers shall furnish a copy of the NSIC / MSME / UAM certificates for the exemption of EMD along with the Technical bid.
10. 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 technical bid 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 shall be uploaded along with the tender. Non submission of above documents will make the tender liable for rejection. The certificate of registration shall carry a QR code.
11. The bidder should not have been blacklisted or debarred by any Central / State Government / Agency of Central / State Government / Public Sector Undertaking / Regulatory Authority of India at the time of submission of this bid.
12. The undersigned reserves the right to reject / cancel / postpone / annul the tenders at any stage of the tender, which will be binding on all bidders.
13. This tender notice shall form part of the tender document and are to be signed and uploaded along with the technical bid.
14. Independent External Monitor: The Employer has appointed the following panel of Independent External Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission:

14.1. Shri. M.J. Joseph, ICAS (Retd.), 37, Da Costa Square, 3rd cross, Cooke Town, Bangalore, 560084, Email: joseph.iem@cochinport.gov.inand

14.2. Shri. Punati Sridhar, IFoS (Retd.), 8C, Block-4, 14-C Cross, MCHS Colony, HSR 6th Sector, Bangalore, 560102, Email: sridhar.iem@cochinport.gov.in

15. The task of the Monitor shall be to review independently and objectively, whether and to what extent the Parties comply with the obligations under this Pact. The Monitor shall not be subject to instructions by the representatives of the Parties and perform their functions neutrally and independently. Both the parties accept that the Monitor have the right to access all the documents relating to the Project/Bidding, including minutes of meetings. As soon as the Monitor notices or has reason to believe that a violation of this Pact has occurred, he will so inform the Authority designated by the Employer. The Bidder accepts that the Monitor has the right to access without restriction to all Project documentation of the Employer, including that provided by the Bidder. The Bidder will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his Project documentation. The same is applicable to Subcontractors. The Monitor shall be under Contractual obligation to treat the information and documents of the Bidder /Subcontractor(s) with confidentiality. The Employer, will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the Contractual relations between the parties. The Parties will offer to the Monitor, the option to participate in such meetings to him by the Employer / Bidder and, should the occasion arise, submit proposals for correcting problematic situations. The Monitor will submit a written report to the designated Authority of Employer within 8 to 10 weeks from the date of reference or intimation. A person signing the IP shall not approach the Courts while representing the matters to IEMs and he/ she will await their decision in the matter. In case of Joint Ventures all the partners of the joint venture should sign the Integrity Pact. In case of sub-contracting, the Principal contractor shall take the responsibility of the adoption of IP by the sub-contractor. It is to be ensured that all sub-contractors also sign the IP.

Sd/-

Chief Mechanical Engineer

INSTRUCTIONS TO TENDERERS

1. Introduction: Multi-User Liquid Terminal (MULT) has been constructed at Cochin Port in Puthuvypeen, based on a Concession Agreement between Cochin Port Authority (CoPA) and M/s. Indian Oil Corporation Limited (IOCL). The Terminal consists of two Jetties viz. MULT Jetty (for handling LPG and POL cargo) and Barge Jetty (for Bunkers and POL handling) constructed adjacent to the MULT Jetty. MULT Jetty is capable of handling Tankers up to 80,000 DWT. Barge Jetty is capable of handling Barges up to 5000 DWT. A lay out of the MULT Jetty and Barge Jetty is furnished as Appendix-1. Construction works of MULT Terminal were completed in September, 2018. MULT Jetty consists of LPG cargo handling facility (viz. 2 Nos. LPG Loading / Unloading Arms and related safety control Systems, LPG Pipelines to the Booster area etc.) and POL Pipelines to Manifold No.1, utility lines etc. whereas Barge Jetty consists of POL Pipelines to Manifold No.2, utility lines etc. Non-LPG hydro-carbon (POL) handling facilities at MULT Jetty as well as at Barge Jetty is not expected to be operational in the initial phase since line connectivity / storage facilities are not yet established by the stake holders. Full-fledged Fire fighting system has been installed and commissioned at MULT Terminal as per OISD 156 Standards (integrated for LPG and other liquids). Commercial operation of LPG cargo handling at MULT Terminal has been commenced during September 2023. As per the conditions of Concession Agreement dated 04.04.2014 executed between Cochin Port Authority and M/s. Indian Oil Corporation Limited, Cochin Port Authority is obliged to manage, operate, maintain and repair the Common Facilities and Services provided at the Terminal, in accordance with the provisions of the Concession Agreement on cost sharing basis between M/s. IOCL and CoPA in the ratio of 45:55. CoPA is also obliged for manning, operation and maintenance of Non-LPG Handling Facilities and Services provided, separately at its own risk and cost.
2. Scope of Work: As IOCL has engaged CoPA as the Management Contractor thereby entrusting CoPA with the responsibilities of operating and managing the Common Facilities and Services, CoPA propose to invite open tenders in two parts viz. Part A and Part B for engaging an O&M Contractor as per the following brief Scope of Work:

2.1. Part A: To carry out manning, operation, maintenance and repairs of Common Facilities and Services provided at the MULT Terminal include but not limited to the following components:(Detailed inventory of Common Facilities and Services of the Terminal are furnished as Appendix-4).

2.1.1. MULT Jetty with Breasting dolphins and Mooring dolphins equipped with capstan controlled quick release hooks and Service platform (34m x14m) capable of handling vessels of LOA 100 m to 230 m and 10000 DWT to 80000 DWT.

2.1.2. Control building with Fire pumps, Foam pumps, Jockey pumps, MCC panel and Power panel etc. in Ground floor, Foam tanks , Employer office rooms and server battery backup etc. in First floor and Fire control panel, Mimic panel, Fire alarm panel, Public address system , Trelleborg Marine systems, Communication system etc. in Second floor .

2.1.3. Fire fighting facilities complying to OISD -156 STD (integrated for LPG and other liquids), the pipeline network from control building to DG station covering Fuel station, MULT Jetty, booster area hook up point excluding Manifold 1 hydrant lines.

2.1.4. Fuel station with 2x20000 L Underground tanks with Fuel pumps, controls etc.

2.1.5. 11 KV Sub-Station, HT/LT Switch Gears, Transformer, DG station with DG sets, HT/LT control panels etc.

2.1.6. Lighting arrangements complying to OISD STD on entire MULT road and inside the terminal excluding points beyond DG station up to Barge Jetty.

2.1.7. Potable water line arrangement on MULT Trestle.

2.1.8. Bituminous road with road side drain up to DG Station and approach trestle of the MULT Jetty.

2.1.9. Fire Safety.

2.1.10. Safety.
2.1.11. House Keeping of the Terminal.
2.1.12. Water Supply System.

2.2. Part B: To carry out manning, maintenance, repairs and up-keeping of POL handling facilities and other ancillary services to ensure healthiness of the all installed systems which are exclusively identified as Non-LPG Cargo Handling Facilities at MULT Terminal include but not limited to the following components: (Detailed inventory of Non-LPG Cargo handling facilities at the Terminal are furnished as Appendix-5).

2.2.1. Barge Jetty (100m x 10m) capable of handling vessels of LOA 40 m to 120 m and 1500 DWT to 5000 DWT.
2.2.2. 12" Piggable Product lines from MULT and Barge jetty extending to the Manifolds with slop / stripper pumps and slop tanks at jetties.
2.2.3. Compressor, Nitrogen and Slop return line from MULT and Barge jetty to the Manifolds.
2.2.4. Potable water line arrangement on Barge trestle.
2.2.5. Manifold 1&2 each equipped with 1 x 20000 Litre Underground slop tank with slop pumps, compressor for pig launching purpose and nitrogen cylinders for line purging.
2.2.6. Fire fighting facilities complying to OISD -156 STD (integrated for LPG and other liquids) extending from DG station up to Barge jetty including both Manifolds.
2.2.7. Lighting arrangements complying to OISD STD from points beyond DG station up to Barge Jetty.
2.2.8. Bituminous road with road side drain from DG Station to the end of road towards Barge Jetty and approach trestle of the Barge Jetty.

3. Minimum Qualification Criteria (MQC):The tenderer shall fulfill the following minimum qualifying criteria to prove the techno-commercial competence and submit the documents in support thereof:

3.1. Experience:The tenderer should have executed Repair / Repair and maintenance / Annual maintenance contracts involving Maintenance / repairs of Mechanical, Electrical and Firefighting installations in Ports / PSUs / Private organizations in a single contract for a period of one year as detailed below, during the last seven years ending on 30.06.2024.

3.1.1 One contract work costing not less than Rs. 78,00,000/-. OR
3.1.2 Two contract works, each costing not less than Rs. 48,75,000/-. OR
3.1.3 Three contract works, each costing not less than Rs. 39,00,000/-.

3.2 The details for experience shall be furnished as per Annexure-3 of the tender document. Notarized copy of work order and work completion certificate issued by the Client shall be submitted along with the tender. The experience for having carried out the work under subcontract to the main contractor will also be considered.

3.3 Financial Turnover: Average annual financial turnover of the tenderer should be at least Rs. 29,25,000/- during the last three financial years, ending 31.03.2024(2021-22, 2022-23 and 2023-24).

3.4 A statement duly certified by the Chartered Accountant showing the Average annual financial turnover over the last three financial years and audited financial statements for the last three years ending 31.03.2024(2021-22, 2022-23 and 2023-24) shall be submitted along with the tender. Chartered Accountant should furnish their UDIN in the certified copy along with UDIN QR code.

3.5 The bidder shall possess valid 'A Class' Electrical Contract License issued by any State / Central licensing authority or the bidder should carry out the maintenance of electrical works through a licensed A Class contractor. If in the case of engaging the licensed Electrical contractor, an agreement shall be submitted in a stamp paper of value Rs. 200/- between the Tenderer and the Electrical license holder.

3.6 Following enhancement factors will be used for the costs of works executed for bringing the financial figures to a common base value in respect of the works completed in past years.

Table 3

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

3.7 Experience certificates of contracts executed in Private organizations shall be considered on submission of Form 26 AS / Form 16A along with work order and completion certificate.

3.8 Performance / Completion certificate shall be submitted in support of the Minimum Qualification Criteria. In the case of ongoing / Running Contracts, if the value of the completed portion of the contract meets the Minimum Qualification Criteria mentioned at Clause No. 3 above the same will be considered for evaluation.

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 etc.

5. The work is to be executed as described in the Bid document and in particular in the General Conditions, Special Conditions, Scope of Work, Appendices, Schedule of Quantities and Drawings and in general includes, but is not limited to supplying all including consumables and equipment necessary to execute the work as described in the Bid Document.

6. Before submitting the bid, the bidder shall examine carefully all conditions of contract, specifications, drawings etc. supplied herewith. The bidders shall inspect the site of work with prior appointment with the Engineer-in-Charge of the work to get himself acquainted with the site conditions and to assess and satisfy himself of the difficulties and constraints which may be involved in executing the work in the location. It will be deemed that prior to the submission of tender, the tenderer has visited the site and has satisfied himself as to the nature and location of the work, general and local conditions, particularly those pertaining to transportation, handling and availability and storage of materials, availability of labour, weather conditions, tidal variations at site, working conditions, ground level, nature of soil etc. and that the tenderer has estimated his cost accordingly and Cochin Port Authority will be in no way responsible for the lack of such knowledge and also consequences thereof to the tenderer. Failure to visit the site will in no way relieve the successful bidder of any of the obligations in performing the work in accordance with this Bid Document including addendum/corrigendum, within the quoted price.

7. A bidder shall be deemed to have full knowledge of all documents, site conditions etc. whether he has inspected them or not. The submission of a bid by the bidder implies that he has read the notice and conditions of contract and has made himself aware of the scope and specifications and other factors bearing on the bid and that they are binding on him.

8. The bidders may please note that the Employer will not entertain any correspondence or query on the status of the offers received against this Bid. Bidders are also requested not to depute any of their personnel or agents to visit the Employer's offices for making such enquiries till finalization of the bid. If the Employer find it necessary to seek any clarification, technical or otherwise the concerned bidder will be duly contacted by the Employer.

9. 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.

10. 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 (covered by the bid document issued to him).

11. Telex / E-mail offers will not be considered. Bidders should prepare their bid themselves. Bids submitted by agents will not be accepted.
12. While evaluating the document, regard would be paid to National Defense and Security considerations, at the discretion of the Cochin Port Authority. Bid received from any bidder may be summarily rejected on National security consideration without any intimation thereof to the bidder.
13. 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.
14. All the Bank Guarantees (BGs),to be furnished by the contractor in connection with the tender, shall be sent to the Chief Mechanical Engineer, Cochin Port Authority directly by the issuing bank under registered post with AD. The contractor shall take the responsibility of sending BGs directly to the Cochin Port Authority by the issuing bank.
15. The contractor shall comply with all the provisions of the Indian Workmen's Compensations Act, Provident Fund Regulations, Employees Provident Fund and ESI Act etc. amended from time to time and rules framed there under and other laws affecting the contract labour that may be brought in to force from time to time.
16. The contractor shall be registered under EPF and ESI Act and shall furnish a copy of the Registration certificates. The contractors shall regularly remit the employer and employee contribution to the authorities. If not, the Department would remit the same and the amount so remitted shall be deducted from the contractor's bills.
17. The contractor shall be registered under GST and shall furnish copy of the GST registration certificate.
18. Invitation for Bids: The Invitation for Bids is open to all eligible bidders meeting the Minimum Qualification criteria.
19. Cost of Bidding: The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs.
20. Site visit: The Bidder, at the Bidder's own responsibility and risk is advised to visit and examine the work site and its surroundings and acquaint himself before submitting the bid.
21. 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 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. (Tele-fax No. 91-0484-2666639, Email ID: cme@cochinport.gov.in / mathew.varghese@cochinport.gov.in
22. Pre-bid meeting: A prospective tenderer requiring any clarification of the tender shall submit their queries in writing/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 well in advance by email to the Chief Mechanical Engineer so as to share the link for attending the meeting through Video Conference.
23. 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 uploaded in the GeM Portal as well as in the website of the Cochin Port and CPP Portal. It is the responsibility of the Bidders to download such addenda / corrigenda hosted in the website and upload the same duly signed along with the Bid. 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.

24. Eligibility of the Bidder: This tender is open to companies registered and incorporated in India under Companies Act, 1956/2013/ Pvt. / Public Ltd. Companies / Proprietary firms.
25. Currencies of Bid and Payment: The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees.
26. Bid Validity: Bids shall remain valid for a period not less than 90 days from the last date of submission of Bid. 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.
27. Bid Security / EMD:

27.1. Each tender should be accompanied by an Earnest Money amounting to Rs. 1,95,000/-. EMD shall be furnished in the form of Account Payee Demand Draft / Banker's Cheque in favor of "FA&CAO, Cochin Port Authority" or Fixed Deposit Receipt or Bank Guarantee from any of the Commercial Banks as per format or payment online in an acceptable form duly 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.

27.2. 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 as provided in GFR 2017. The tenderers shall furnish a copy of the NSIC / MSME / UAM certificates for the exemption of EMD along with the Technical bid. The certificate of registration shall carry QR code.

27.3. 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.

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

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

28.1.1. Bid Security / EMD or relevant certificate for the exemption of EMD.
28.1.2. Letter of Submission as per Annexure-1.
28.1.3. Power of Attorney as per Annexure-2.
28.1.4. Details of experience as per the format at Annexure-3.
28.1.5. Proof of experience in support of MQC: Notarized copy of completion certificates of each work issued by the Clients, and work order for the same shall be attached. The certificate shall invariably contain the following among other things: (a) Details of work. (b) The completion cost of the work and (c) Date of commencement and (d) Date of completion of the work. The works indicated in Annexure-3 will only be considered for evaluation.
28.1.6. Financial documents in support of MQC: (A statement duly certified by Chartered Accountant showing Average Financial turnover of the tenderer over the last three financial years 2020-21, 2021-22 and 2022-23).
28.1.7. Copies of PAN, GST Registration, EPF and ESI registration.
28.1.8. Partnership Deed or Memorandum and Articles of Association of the company and Registration Certificate of the company as the case may be.
28.1.9. "A Class" Electrical Contractor's license.
28.1.10. Declaration as per Annexure-4.
28.1.11. Bank information for e- Payment system as per Annexure-5.

28.1.12. Format of Pre-contract Integrity Pact duly signed as per Annexure-8.

28.2. Part II: Financial Bid: Tenderers shall submit the Price Bid as per BoQ in GeM Portal.

29. 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.

30. Technical Bid Opening: The tender will be opened online in the GeM Portal by the Chief Mechanical Engineer or his representative on the Tender Submission date and time.

31. Price Bid Opening: Price Bid of those bidders found responsive after the Technical bid Evaluation will be opened later.

32. 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 in writing, 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, may result in the rejection of his bid.

33. Examination of Bids and Determination of Responsiveness:

33.1. Prior to the Technical evaluation of Bids, Cochin Port Authority will determine whether each Bid (a) meets the Minimum eligibility criteria defined in Clause No. 3 above (b) has been substantially responsive to the Tender requirements.

33.2. 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 Contractor (b) whose rectification would affect unfairly the competitive position of other Bidders presenting responsive bids.

33.3. 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.

34. 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. The tenderers shall quote their total cost for all the items as per schedule, including GST, in the GeM Portal. In order to determine the lowest evaluated bid, Cochin Port Authority will consider overall lowest of all the items together.

35. 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.

36. 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.

37. Release of Bid Security / EMD: The Bid Security / EMD of unsuccessful bidder other than the successful bidder will be refunded immediately after opening the Price Bids. The Bid Security of the successful bidder will be refunded after he has furnished the required Performance Security and signed the Agreement.

38. Performance Security and Security Deposit:

38.1. The successful bidder is required to submit Security Deposit within 21 days from the date of receipt of Letter of Acceptance (LoA), to guarantee fulfillment of performance and the obligations of the contract, in any one of the following forms:(a) Account Payee Demand Draft / Fixed Deposit Receipt from a Commercial Bank in favour of FA&CAO, Cochin Port Authority (b) An irrevocable and unconditional Bank Guarantee as per the Format enclosed in Annexure-6 of the tender document from a Commercial Bank or (c) On-line payment in an acceptable form safeguarding the purchaser's interest in all respects.

38.2. The value of Security Deposit shall be 10% of the total contract value.

38.3. 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.

38.4. Cochin Port is not bound to pay interest on the Security Deposit furnished by the successful bidder.

38.5. 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 upon demand. The bank shall be obliged to make payment to Cochin Port Authority upon mere demand and without any reference to the contractor.

38.6. 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.

39. Signing of Agreement: The successful tenderer will be required to execute an Agreement at his expense within 28 days from the date of issue of LoA, on proper value Kerala State Stamp Paper in the prescribed form**.** 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.

40. 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 2 (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:

40.1. "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;

40.2. "fraudulent practice" means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process;

40.3. "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;

40.4. "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

40.5. "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.

41. 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" shall mean 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" shall mean 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 Trustees of Cochin Port, a body corporate under the Major Port Authority's Act, 2021, by notification issued by the Government of India, acting through its Chairperson, Dy. Chairperson, Chief Mechanical Engineer or Deputy Conservator or any other officers so nominated by the Board.

1.11. "GCC" mean the General Conditions of Contract.

1.12. "Letter of Acceptance" means the letter of formal acceptance, signed by the Employer, of the Bid submitted by the Bidder, including any annexed documents.

1.13. "Month" shall mean English Calendar Month.

1.14. "Engineer in Charge"/ "Officer in Charge" means Employee of Employer or any other person or firm, nominated by the Employer.

1.15. "Sub-Contractor" means any natural person, private or Government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Services is subcontracted by the contractor, under intimation to the Employer.

1.16. "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.

1.17. "The Site" shall mean the Cochin Port MULT area and whole of the premises, in or upon which the system or works is or are to be provided, executed, done or carried out.

1.18. The "Schedule" shall mean the schedule or Schedules attached to the specifications.

1.19. "Tender" means the offer of the Contractor along with all other relevant documents as referred to in the contract.

1.20. "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. Tenure of O&M Contract: Period of O&M Contract shall be initially for one year from the date of commencement and the same is extendable for further period of one year at the same quoted rates and terms and conditions, at the discretion of the Employer.
3. Commencement of Service: The O&M Contractor is required to commence the Operational Services within 30 days from the date of issue of Letter of Acceptance by the Employer. Before commencing the Operational Services, the O&M Contractor shall complete the requirements given 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:

4.1.1. Account Payee Demand Draft/Fixed Deposit Receipt from a Commercial Bank in favor of FA&CAO, Cochin Port Authority.

4.1.2. An irrevocable and unconditional Bank Guarantee as per the format enclosed in Annexure-6of tender, from a Commercial Bank.

4.1.3. On-line payment to the Bank Account of Cochin Port Authority indicated in Clause No. 7 of Notice Inviting Tender.

4.2. The value of 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 Authority shall have unconditional option for encashment of 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. In such event, Cochin Port shall be entitled to cancel the Letter of Acceptance /Agreement forthwith.

5. Execution of Agreement: Upon the receipt of letter intimating award of the Contract (Letter of Acceptance / LoA), the Contractor shall prepare two sets (one original and one duplicate) of the Agreement as per Annexure-7 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 Rs. 200/- within 28 days from the date issue of LoA. Original of the agreement will be retained by the Cochin Port Authority and the duplicate will be returned to the Contractor after the signature of the Chief Mechanical Engineer.
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 O&M 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. Personnel:

8.1. The Contractor shall employ the appropriate personnel with educational qualification and experience as mentioned in the Job description Appendix-3 to carry out the functions stated in the Schedule or other personnel approved by the Engineer in Charge or his nominee.

8.2. In case of non-availability / absence of any of the employees as per Appendix-3, a penalty will be imposed @ Rs. 2000/- per shift as applicable for each non-available / absent employee. In order to monitor the attendance, the O&M Contractor is required to furnish the details of attendance of employee taken from the Bio-metric Access Control System.

8.3. If the Engineer in Charge or his nominee asks the Contractor to remove a person who is a member of the Contractor's staff from his work force stating the reasons, the Contractor shall ensure that the person leaves the site within seven days and has no further connections with the work in the contract.

8.4. Recruitment of various categories of Personnel, obtaining approval of the Employer to deploy the manpower identified, complete the training of Employees selected etc. shall be carried out by the Contractor before commencement of contract.

9. Insurance:

9.1. 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 the following:

9.1.1. loss of or damage to the Works, Plant and Materials

9.1.2. loss of or damage to Equipment;

9.1.3. loss of or damage of property (except the Works, Plant, Materials and Equipment) in connection with the Contract; and

9.1.4. personal injury or death.

9.2. 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.

9.3. 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.

9.4. Alterations to the terms of insurance shall not be made without the approval of the Engineer in Charge or his nominee.

9.5. Both parties shall comply with all conditions of the insurance policies.

10. The Contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labor and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works.

11. Contractor to indemnify Board:

11.1. 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:

11.1.1. 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.

11.1.2. Damage to or loss of any property, real or personal; and

11.1.3. Any loss or damage arising to the Employer by reason of breach of any of the conditions of this Agreement by the Contractor.

11.2. 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.

12. Payment Terms: Payment of O&M Charges and re-imbursement of various expenses incurred by the Contractor as described in the tender document will be made on monthly basis within 30 days from the date of submission of invoice and all other supporting documents specified in the tender clear in all respect.

13. Invoicing: The Contractor may note that the MULT Terminal is located within the Puthuvypeen SEZ area. The Contractor shall raise the invoices and debit notes to the Chief Mechanical Engineer of Cochin Port Authority as per GST applicable to SEZ.

14. Payment of Taxes &Duties :

14.1. The Contractor shall pay all taxes, levy, duty which they may be liable to pay to State of Kerala & 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.

14.2. Income Tax Deduction: TDS at the applicable rates will be deducted from the payment of Revenue.

15. Liquidated Damages:

15.1. Except as provided under GCC Clause No. 16 (Force Majeure) and Clause No. 17 (Extension of date of commencement of contract), if the Contractor fails to commence the O&M contract in all respects within the scheduled time of commencement of contract, the Contractor shall be liable to pay to the Cochin Port Authority as Liquidated Damages (LD), a sum equivalent to 0.5% of the total contract value for one year, per week or part thereof of delay subject to a maximum of 10% of the total contract value for one year.

15.2. The Liquidated Damages fixed as above shall be considered as reasonable compensation without any actual proof of loss or damage. No variation made in the scope of contract shall be of any excuse for delay in commencement of O&M contract nor prevent the recovery of the said liquidated damages, unless an Extension of date of commencement of contract shall have been granted by the Employer in writing in respect of such variation. The liquidated damages paid/ recovered as above shall not relieve the Contractor from the obligation to commence the O&M contract or from other obligations and liabilities under the contract.

16. Force Majeu**re:**

16.1. 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.

16.2. For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Party claiming to be affected thereby, (the "Affected Party"), which is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the affected party. Such events may include, but not be limited to, acts of the Employer in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

16.3. Upon the occurrence of such cause and upon its termination the Affected Party, shall notify the other party in writing immediately not later than 48 hours of the alleged beginning and ending thereof giving full particulars and satisfactory evidence in support of its claim. Failure to do so may liable the party being denied of the shelter of the clause.

16.4. 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.

16.5. The decision of the Employer shall be final and binding in this regard.

16.6. However, should such a delay even if due to reason of Force Majeure be protracted for more than 3 months, the Employer may cancel the contract, subject to the consent of the Contractor, at no charge to the Employer in Contractor's favor.

16.7. The Contractor shall not be liable for forfeiture of its Performance Security, Liquidated Damages, or Termination for default if and to the extent that it's delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

17. Extension of date of commencement of contract:

17.1. Except in case of Force Majeure, as provided under GCC Clause No. 16, a delay by the contractor in commencement of O&M contract shall render the contractor liable to the imposition of Liquidated Damages pursuant to GCC Clause No. 15, unless an extension of time is agreed upon, pursuant to this clause.

18. Termination of Contract:

18.1. The Employer reserves the right to terminate the contract by giving 30 days' notice to the Contractor, in case of a breach of agreement.

18.2. The Employer reserves the right to terminate the contract by giving 30 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.

18.3. The Employer may at any time terminate the Contract by giving 7 days' notice to the Contractor if the Contractor becomes bankrupt or otherwise insolvent.

18.4. Employer reserves the right to terminate the contract by giving 30 days' notice in writing to the Contractor in the case of the contractor is not able to commence the O&M contract as per the scheduled date of commencement.

19. Compliance with statutory requirements:

19.1. The Contractor shall at all times during the contract period comply fully with all existing Acts, Regulations and bye laws including all statutory amendments and re-enactment of State or Central Government and other local authorities and any other enactments and acts that may be passed in future either by the State or the Central Government or the local authority, including Employees Compensation Act, 1923, Contract Labour (Regulation and Abolition) Act, 1970 and equal Remuneration Act, 1976, Factories Act, Minimum Wages Act, Provident Fund Regulations, Employees Provident Fund Act, Merchant Shipping Act, and other maritime legislations/rules/regulations, the Dock Worker's Act-1948 etc., in as far as they are applicable to this contract. The Contractor shall indemnify and keep the Board indemnified in case any proceedings are taken or commenced by any authority against the Board for any contravention of any of the laws, bye- laws or scheme by the Contractor. If as a results of contractor's failure, negligence, omission, default or non-observance of any provisions of any laws, the Board is called upon by any authority to pay or reimburse or required to pay or reimburse any amount, the Board shall be entitled to deduct the same from any moneys due or that may become due to the Contractor under this contract or any other contract or otherwise recover from the Contractor any sums which the Board is required or called upon to pay or reimburse on behalf of the Contractor. All statutory Approvals are in the contractor's scope. For the work carried out within dock area in the vicinity of any wharf or quay, the contractor shall abide by all the provisions of the Dock Workers (Safety, Health &Welfare) Regulation 1990.

19.2. Notwithstanding the contractual obligation, the Board shall be entitled to all protections and defenses under the provisions of the Major Port Authority Act, 2021 and the Indian Ports Act 1908 including any amendments / changes as may be incorporated.

20. Contractor's subordinate staff and their conduct:

20.1. If and whenever the Contractor's employees, agents, or other employees shall in the opinion of the Engineer in Charge be guilty of any misconduct or be incompetent or be insufficiently

qualified or negligent in the performance of their duties or that in the opinion of the Engineer in Charge, it is undesirable for administrative or any other reason for such persons to be employed in the terminal, the Contractor, if so directed by the Cochin Port Authority shall at once remove such person and persons so removed from the work shall not again be employed in connection with the work without the written permission of the Cochin Port Authority.

20.2. Any person so removed from the work shall be immediately replaced at the expense of the Contractor by a qualified and competent substitute. Should the contractor be requested to repatriate any person removed from work shall do so and shall bear all costs in connection therewith.

21. The Engineer in Charge for the contract shall be the Superintendent Engineer (M), Tanker Terminals, Cochin Port Authority.

22. Settlement of Dispute and Arbitration: (Settlement of Disputes through Conciliation)

22.1. 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.

22.2. 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 subject to as amended from time to time or any statutory re-enactment thereof for the time being in force. The Arbitrator shall decide by whom and in what proportions the Arbitrator's fees as well as cost incurred in Arbitration shall be borne. 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.

22.3. 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 Trustees of Cochin Port subject to the delegation of powers.

23. 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.

24. 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.

25. 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.

26. Employees of Board not individually liable: No official or employee of the Board shall in any way be personal 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. Terminal operation Timing: The Terminal has to be operated 24 x 7 basis. The Contractor may adhere to the shift timing for his Employees as per Annexure-3. The Contractor has to ensure continuous/ uninterrupted operation and maintenance requirement of the Terminal round the clock. The employees performing duties in shifts shall be permitted to leave from the duty place after proper taking over of duties by the personnel of the succeeding shift. In order to ensure proper handing over/taking over of the works, there shall be an overlapping of 10 minutes in the shift arrangements.
2. Bio-metric Access Control System: The Contractor has to install an appropriate Bio-metric Access Control System to record the attendance, entry and exit of his employees. All the costs associated with the installation, operation and maintenance of Bio-metric Access Control System shall be borne by the Contractor. Installation of appropriate Bio-metric Access Control System shall be done by the Contractor with the approval of Employer. CoPA should be able to download the attendance particulars of all the employees from the Bio-metric Access Control System installed by the O&M Contractor.
3. Availability requirement of Critical Systems**:** O&M Contractor is required to ensure the availability percentage of various systems as shown below during the contract period:

Sl. No.	**Equipment / System**	**Availability requirements on monthly basis**
1	Fire Pumps of 760 m^3/hr. in Tower system, 3 Nos.	100% availability of at least 2 Nos. pumps should be assured at all times.
2	Fire Pumps of 750 m^3/hr. in Hydrant system, 3 Nos.	100% availability of at least 2 Nos. pumps should be assured at all times.
3	Jockey Pumps of 144 m^3/hr, 2 Nos.	100% availability of at least 1 No. pump should be assured at all times.
4	Foam transfer pumps of 750 lit/min.@17bar at Fire Pump Room, 2 Nos.	100% availability of at least 1 No. pump should be assured at all times.
5	Trelleborg Marine System	100% availability during the berthing / un berthing and stay of the Tankers at MULT should be ensured.
6	DG Sets, 2 Nos.	100% availability should be assured during power failure.
7	Tower Monitors, 4 Nos.	95%
8	Jumbo Curtains, 2 Nos.	95%
9	Ground Water Monitors, 2 Nos.	95%
10	Ground Water Monitors at Barge Jetty, 2 Nos.	95%
11	Under deck curtains	95%
Periodicity of trials of all the above items shall be twice in a week, as per the OISD norms.		

4. Penalty for non-achievement of minimum required availability of equipments and manpower:

4.1.The penalty in case of non-achievement of 100% availability requirements:

Sl. No.	**Equipment/System**	**Availability requirement**	**Penalty for non-achievement of required availability.**
1	Fire Pumps of 760 m^3/hr. in Tower system, 3 Nos.	100% availability of at least 2 Nos. Pumps, should be assured at all times.	Rs. 24,000/- per day or part thereof on prorata basis.
2	Fire Pumps of 750 m^3/hr. in Hydrant system, 3 Nos.	100% availability of at least 2 Nos. Pumps, should be assured at all times.	Rs. 24,000/- per day or part thereof on prorata basis.

3	Jockey Pumps of144 m^3/hr., 2 Nos.	100% availability of at least 1 No. Pump, should be assured at all times.	Rs. 12,000/- per day or part thereof on pro rata basis.
4	Foam transfer pumps of 750 lit/min. @ 17 bar at Fire Pump Room, 2 Nos.	100% availability of at least 1 No. Pump, should be assured at all times.	Rs. 12,000/- per day or part thereof on pro rata basis.
5	Trelleborg Marine System	100% availability during the berthing / un berthing and stay of the Tankers at MULT should be ensured.	Rs.48,000/- per day or part thereof on prorata basis.
6	DG Sets, 2 Nos.	100% availability should be ensured during the power failures.	Rs. 24,000/- per day orpart thereof on pro rata basis.

4.2. In case of non-availability / absence of any of the employees as per Appendix-3, a penalty will be imposed @ Rs. 2000/- per shift as applicable for each non-available / absent employee. In order to monitor the attendance, the O&M Contractor is required to furnish the details of attendance of employee taken from the Bio-metric Access Control System.

5. Annual Maintenance Contract requirements for critical equipments:

5.1. The O&M Contractor is required to cover the following Critical Systems of the Terminal under Comprehensive AMC with the respective OEMs of the System till the end of the O&M Contract period to ensure its availability as detailed above.

Sl. No.	System	Nos.
1	Trelleborg Marine System including PLC	Complete set
2	DG Sets including PLC	2
3	Tower Water Monitors	2
4	Tower Water Foam Monitors	2
5	Ground Water Monitors (MULT Jetty)	2
6	Ground Water Monitors (Barge Jetty)	2
7	Fire Pumps, Engines, Jockey Pumps, Foam Pumps, Fire Fighting Control Panels including PLC, DG Sets and Control panels.	Complete set

5.2. The O&M Contractor shall enter into Comprehensive AMCs with the OEMs of respective Systems within 60 days from the date of Employer's LoA issued to the O&M Contractor. The Contractor has to consider the availability requirements mentioned above while framing the terms & conditions of AMC with the OEMs of critical equipments. The O&M Contractor is required to furnish the offers of OEM of above equipments indicating the AMC charges and obtain prior approval of CoPA before entering into AMC with the OEMs of the above equipments. If AMCs with the OEM of any of the equipment has been already entered into by the Employer before commencement of contract, the same shall be got extended by the O&M Contractor till the completion of the contract.

5.3. As per OISD 156 Standards, the Contractor shall maintain minimum quantity of Diesel in the storage tanks of Fire pumps, Foam pump and DG sets at his cost and risk for continuous working of equipmentsfor 6 hours as detailed below.

Sl. No.	Equipment	Diesel tank capacity in litres	Minimum quantity of diesel in litres to be maintained as per OISD -156 Standards for 6 hours operation of engine
1	Fire Pump 1	480	480
2	Fire Pump 2	480	480
3	Fire Pump 3	480	480
4	Fire Pump 4	750	660

5	Fire Pump 5	750	660
6	Fire Pump 6	750	660
7	Foam Pump 2	88	88
8	DG Set 1	500	480
9	DG Set 2	500	480
	Total	**4778**	**4468**

6. Payment of AMC charges: AMC charges during the tenure of AMC shall be paid to the OEMs by the O&M Contractor and the same will be re-imbursed by the Employer to the O&M Contractor on production of documentary evidence. Period of AMC shall be covered till completion of O&M Contract.
7. Electricity: Electricity required for functioning of the Terminal as per the Scope of Work of the Contract will be provided by Cochin Port Authority on its account.
8. Scrap: All the scraps generated during the tenure of the Contract shall be the property of the Employer and the same shall be stored by the Contractor at the designated place identified by the Employer. All the debris generated in the Terminal shall be stored by the Contractor at a designated place identified by the Employer. Such debris shall be removed/ disposed by the Contractor periodically as per the direction of the Employer and also by complying statutory norms.
9. Material Movements: All the returnable items owned by the Contractor which are brought to the MULT Terminal shall be entered in the "Returnable Items Inward Register" maintained at the security gate. Such items shall be listed, jointly verified and documented by the Employer and the Contractor. While returning such items from the Terminal, prior approval of the Employer should be taken and such movements shall also be recorded in the "Outward Register" at the Security Gate. All consumable items brought to the MULT Terminal should be entered in the Inward Register maintained at the Security Gate. The Shift in Charge shall maintain the record of all the consumables received and issued by him. Before sending any equipments/machineries owned by the Employer from the Terminal for repairs etc., prior approval of the Employer should be taken. Movement of such items shall be documented in the respective work place and also shall be recorded in the "Returnable Outward Register" maintained at the Security Gate.
10. Procedure for handing over / taking over of the terminal on commencement of contract:

10.1. In order to facilitate the handing over and taking over process for commencing the O&M Contract, a joint inspection of the Terminal, various equipment, systems, buildings, substations, spares and store items, communication devices etc. need to be conducted to confirm that all the items as per the inventory list attached as Appendix-4 and Appendix-5 are available at the Terminal.

10.2. Joint inspection shall be done in the presence of authorised representatives of O&M Contractor and Cochin Port Authority.

10.3. The condition, status, shortages if any of all the items specified in the inventory list of MULT Terminal shall be recorded in the Joint Inspection Report. The Contractor has to take over the Operation & Maintenance activities of the Terminal on "As is where is basis" and all the related documents shall be jointly signed. The repairs / renewal of any item for which defects are noticed at the time of handing over / talking over of the Terminal on commencement of contract shall be got repaired / renewed by the contractor or through AMC with OEM on taking over the same for which the cost will be reimbursed by CoPA on submission of bills.

10.4. The O&M Contractor shall also submit a list of items, tools and tackles owned by him and brought to the MULT Terminal in connection with the execution of contract, to the Employer and a register shall be maintained to this effect. At the time of joint inspection, the details of tools and tackles and other item subsequently brought by the O&M Contractor to the Terminal/withdrawn from the Terminal shall be recorded in a register and the same shall be submitted for periodical verification by the Employer.

10.5. Cochin Port Authority will provide all available drawings, OEM manuals etc. required for operation and maintenance of the Terminal at the time of handing over. It is the responsibility of Contractor to preserve such documents during the tenure of the O&M Contract.

10.6. Preparation of various formats of reports, registers and schedules shall be done by the Contractor and submitted to the Employer within 15 days and the all the document formats are to be finalised within 21 days from the date of takeover. Maintenance of all documents shall be the responsibility of the Contractor.

11. Procedure for handing over /taking over of the terminal on completion of contract:

11.1. The original inventory list of equipments, facilities, installations, materials etc. mutually signed at the time of commencement of Contract (Handing over/Taking Over document) shall be maintained in the form of a Register and shall be updated as and when any addition/deletion of equipments, facilities, materials etc. are made in the inventory then and there and the same shall be signed by the Representatives of the Employer and the O&M Contractor. A final inventory list shall be prepared by the Contractor and submit the same to the Employer at least three weeks prior to the expiry of Contract period. A joint inspection of the inventory of equipments, facilities, installations, materials etc. will be carried out by the authorised representatives of Employer and the O&M Contractor shall be carried out within 7 days prior to the date of expiry of Contract which will be signed by the authorised representatives of O&M Contractor and the Employer. The condition, status, shortages if any of all the infrastructure and properties of the Terminal shall be recorded in the Joint Inspection Report. Any deficiencies/ shortage identified in any of the structures, Systems, installations, equipments etc. during the joint inspection (except the normal wear and tear) shall be rectified by the Contractor at his cost and risk within a reasonable time as notified by the Employer. If the Contractor failed to rectify the deficiency/shortage within in time period notified by the Employer, the Employer reserves that right to rectify the deficiencies/shortages and the cost of the same will be recovered from the Contractor.

11.2. Movement of any materials/ items from the Terminal after finalising the inventory of items shall be done only after obtaining Employer's consent.

11.3. On the date of completion of the Contract, the Employer will take over the assets as mutually finalised.

11.4. On the date of completion of Contract period, the O&M Contractor should have completed the following requirements:

11.4.1. The Contractor shall remove all of the Contractor's tools, equipment and materials brought by the Contractor.

11.4.2. The Contractor shall remove its entire personnel except as otherwise instructed by Cochin Port Authority. The Contractor shall be solely liable for resettlement, compensation or any other obligations in respect of the Contractor's personnel engaged during the term of the contract. The Contractor shall keep Cochin Port Authority indemnified against claims, if any, pertaining to O&M Contractor's personnel.

11.4.3. The Contractor shall settle all dues, recoveries, insurance claims, if any, with Cochin Port Authority.

11.4.4. The Contractor shall handover all the records / instruction manuals/ drawings / documents received from Cochin Port Authority in properly bound and documented condition.

11.4.5. The Contractor shall prepare and handover all the records such as, but not limited to, Terminal performance, logs and history data of the equipment which may or may not be part of day to day report in hard and soft copy.

11.4.6. The Contractor shall remove all the items owned by him such as tools, his equipment, machinery and surplus material and shall leave the site premises area in a neat, clean and usable condition.

11.5. Upon receipt of the certificate of final acceptance, the Contractor will make application to Cochin Port Authority for final payment, i.e. (monthly payment for last 1 month) within 30

days. Cochin Port Authority shall make payment to the Contractor within 30 days after receiving the final payment application, complete in all respect.

12. Preparation of various formats of Documents to be maintained and reports to be furnished to the Employer and obtain Employer's approval.
13. Drawings and manuals of the Terminal: Drawings, specification and OEMs manuals of various systems, Drawings of Terminal, buildings, substations, programme for PLCs etc. that are required for performing the Scope of Work of the O&M Contract shall be handed over to the O&M Contractor by the Employer. It is the responsibility of the contractor to keep the above documents in the safe custody with satisfactorily indexed. Photos/ videos of important activities performed during the tenure of O&M Contract shall also be preserved by the O&M Contractor for the records of the Employer. Such drawings, manuals, etc. handed over to the O&M Contractor shall continue to be the property of Cochin Port Authority. Confidentiality of such documents shall be maintained by the Contractor except for the scopes under contractual obligations and same shall be returned to Cochin Port Authority on completion of the contract.
14. Tools and tackles, special tools and tackles, testing equipment, scaffolding etc. required for operation and maintenance shall be arranged by the Contractor at his cost and risk.
15. Cochin Port Authority may conduct inspections / audit of the Terminal to check the health of the Terminal and maintenance and operation standards followed by the Contractor. The Contractor shall provide all necessary assistance / documents for such inspections/audit as desired by Cochin Port Authority.
16. The contractor shall notify Cochin Port Authority promptly regarding the occurrence of any emergency situation and take quick action to prevent any threatened damage, injury or loss to the Terminal or persons or property inside the Terminal.
17. Responsibility to rectify loss or damage:

17.1. If any loss or damage happens to the works/property, or any part thereof due to negligence of the Contractor of which the Contractor is supposed to take care during the period of the contract, the Contractor shall, at his own cost and risk, rectify such loss or damage to the works/property to the satisfaction of the Cochin Port Authority.

17.2. In the event of an emergency where, in the judgment of Cochin Port Authority, delay would cause serious loss or damage, repairs or adjustments may be made by Cochin Port Authority or a third party chosen by Cochin Port Authority by giving advance notice to the contractor and the cost of such works shall be paid by the contractor.

18. Employer's right for termination of O&M Contract for Non-performance of the Contractor: If the overall availability of critical equipments mentioned at Clause No. 3 above, falls below the required level consecutively for two months, the Employer reserves the right to terminate the Contract by giving 30days' notice. In such situations, the Employer shall forfeit the Security Deposit of the Contract.
19. Sub-Contracting:

19.1. Except to the extent provided below, the O&M Contractor shall not sub-contract or otherwise engage any independent contractor to perform any of its obligations under the O&M Contract:

19.1.1. Engagement of OEMs for AMC of critical equipments as specified in the O&M Contract.

19.1.2. Engagement of OEMs for emergency repairs of any other items installed in the Terminal and is not covered under Clause No. 19.1. above.

19.1.3. Engagement of Sub-contractor for carrying out housekeeping works as per the Scope of Work of tender, if so desired by the O&M Contractor.

19.1.4. Engagement of any other Contractor for specialised nature of work to be competed on emergency basis.

19.2. Any sub-contracting as stated above shall only be undertaken subject to the approval of and in the manner as directed by CoPA. The Sub-contractor selected by the O&M Contractor shall possess relevant experience and skills for undertaking the sub-contracting activities and shall be an independent entity not related to O&M Contractor. The O&M Contractor shall obtain

CoPA's prior approval in respect of the selected Sub-contractor and any contract in respect of such activities. All the employees of the Sub-contractors engaged for the works are required to comply with all the various safety norms, due procedures, Rules &Regulations and standing instructions applicable for the Personnel working inside the MULT Terminal. The O&M Contractor shall fully responsible for ensuring the above requirements while engaging Personnel of Sub-contractors.

20. Incident Reporting: The O&M Contractor shall notify CoPA immediately in the prescribed format of any event related to the performance of this Agreement which could have caused, has caused, or could in the future cause injury or illness to any Person, or which could have caused or has caused loss of or damage to the facilities/property of CoPA and /or of the O&M Contractor, or which could have caused or has caused a negative impact on the environment. The O&M Contractor shall either investigate such events and / or shall co-operate fully with CoPAin cases where CoPA decides to carry out its own investigation of such events. The O&M Contractor shall implement all recommendations arising from investigations and shall ensure that findings are fully communicated to the Personnel, serving throughout this agreement period, and to CoPA.
21. Staff Selection and Deployment:

21.1. The bidder need to ensure that the Personnel deployed meet the educational qualifications and experience and other criteria specified in Appendix-3 of the tender.

21.2. Within 7 days from the date of issue of Letter of Acceptance by the Employer, the successful bidder shall furnish the list of Personnel proposed to be deployed at MULT terminal under O&M Contract, to Cochin Port Authority together with the relevant details and documents. After verification of the details and observing the formalities / requirements specified in the tender, the Employer, after ensuring the suitability of personnel as per the tender requirement, shall furnish a list of approved personnel to be deployed at MULT Terminal. During verifications, if it is found that the Personnel proposed by the successful bidder is not meeting the requirements specified in the tender same shall be notified to the successful bidder and alternate personnel meeting the tender requirement shall be deployed at the Terminal.

21.3. Police verification of contractor's Employees: The O&M Contractor shall furnish necessary Home-town Police Clearance Certificate in respect of character and antecedents of all Employees engaged, before commencing the deployment at the Terminal. The above requirement is also applicable in scenarios where the O&M Contractor is deploying sub-contracted Employees in the Terminal with the approval of the Employer. This will be a part of Contractual Agreement, as entire Cargo Jetty, Oil Jetty area has been declared as "Prohibited Area".

21.4. The Contractor shall ensure that all the required personnel / resources are available at the time of the handover so as to be able to appropriately takeover and commence the intended services in relation to each systems and equipments.

21.5. If the Contractor is required to deploy the staff on overtime basis, additional over time charges applicable if any, has to be borne by the Contractor. The Employer is obliged to pay the monthly O&M charges as accepted by the Employer, in accordance with the terms of the Contract.

21.6. The personnel of the Contractor must possess proper photo identity cards issued by the O&M Contractor. Entry and exist of the personnel to the Terminal shall be recorded in the Bio-metric Access Control System as detailed in the Tender Document.

21.7. On emergency situations, if the Employer requires additional manpower, the Contractor is required to provide such additional man power. The cost of such additional manpower will be paid by the Employer as per the rate quoted in the tender for the respective category. 24 hours prior notice will be given by the Employer for such additional man-power.

21.8. Any new Personnel being deployed by the Contractor shall undergo orientation training as and when required.

21.9. Removal of Personnel at CoPA's Request: If CoPA complains of the conduct of the any of the Personnel deployed by the O&M Contractor and provides the reasons thereof, the O&M Contractor shall remove such Personnel forthwith, but in any event within a period of seven days from the date of receipt of such compliant from CoPA and O&M Contractor shall nominate a suitable replacement which replacement shall be subject to the prior approval of CoPA. All costs associated with such removal and replacement of such Personnel shall be borne by the O&M Contractor.

22. Damages: Any damage caused by the workmen engaged by the Contractor to any machinery or equipment or installation or property of Cochin Port Authority due to negligence, ignorance or malafide intention shall be made good at the cost and risk of the Contractor within a reasonable period of time acceptable to Cochin Port Authority, failing which the cost of the damages assessed by Cochin Port Authority shall be recovered from the bill of the Contractor or any money due to the Contractor.
23. All individuals engaged in the performance of the Contractor's obligations under this contract shall be the employees of the Contractor and their working hours, rates of compensation and all other matters relating to their employment shall be determined solely by the Contractor in accordance with the applicable laws & regulations. The Contractor shall be solely responsible for employment policies that specify the requirements for staff working under him and such policies are to be consistent and in line with the applicable labour laws and any government directives applicable to Cochin Port Authority.
24. Public Transport Facility: The MULT Terminal is located Puthuvypeen where public transport means are not available. The Contractor may note the above position and provide appropriate and safe transport arrangement for to and fro journey of his employees to the Terminal as well as that for Cochin Port officials in charge of the O&M contract at his cost and risk for the entire contract period.
25. The O&M Contractor shall provide for boarding, lodging, transport, leave and other facilities to all its Personnel in a manner to ensure timely, efficient, safe and reliable discharge of the Services to the CoPA.
26. O&M Contractor shall ensure that the Personnel deployed by him shall comply with, and the O&M Contractor shall be liable for and indemnify CoPA against any breach, infringement or non-compliance with any and all applicable Laws by such Personnel.
27. The O&M Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Personnel, and to preserve peace and protection of persons and property on and near the area where the Services are performed. The O&M Contractor shall give prompt notice to CoPA of any such anticipated or actual unlawful, riotous or disorderly conduct.
28. Social Benefits: The O&M Contractor shall provide such social and employment benefits for its Personnel as are required by Laws.
29. Drug and Alcohol Policy: The O&M Contractor is responsible for ensuring that all the Personnel during the period of O&M Contract are not at any time in possession of, do not take, have not taken, and/or not under the influence of any intoxicating substance, or alcohol, or drug. The O&M Contractor shall ensure that all of the Personnel deployed by him at the Terminal are made aware of and comply with the above requirement.
30. In the case of contradictions in the conditions, the conditions given in the "Special Conditions of Contract" shall prevail.

SCOPE OF WORK

A. General

1. Multi-User Liquid Terminal (MULT) has been constructed at Cochin Port in Puthuvypeen, based on a Concession Agreement between Cochin Port Authority (CoPA) and M/s Indian Oil Corporation Limited (IOCL). The Terminal consists of two Jetties viz. MULT Jetty (for handling LPG and POL cargo) and Barge Jetty (for bunkers and POL handling) constructed adjacent to the MULT Jetty. MULT Jetty is capable of handling Tankers up to 80,000 DWT. Barge Jetty is capable of handling Barges upto 5000 DWT. A lay out of the MULT Jetty and Barge Jetty is furnished as Appendix-1.
2. Construction works of MULT Terminal were completed in September, 2018. MULT Jetty consists of LPG cargo handling facility (viz. 2 Nos. LPG Loading/Unloading Arms and related safety control Systems, LPG Pipelines to the Booster area etc.) and POL Pipelines to Manifold No.1, utility lines etc. Whereas Barge Jetty consists of POL Pipelines to Manifold No.2, utility lines etc.
3. Non-LPG hydro-carbon(POL) handling facilities at MULT Jetty as well as at Barge Jetty is not expected to be operational in the initial phase since line connectivity/storage facilities are not yet established by the stake holders. Full-fledged fire-fighting System has been installed and commissioned at MULT Terminal as per OISD 156 standards (integrated for LPG and other liquids).
4. Commercial operation of LPG cargo handling at MULT Terminal has been commenced during September 2023. As per the conditions of Concession Agreement dated 04.04.2014 executed between Cochin Port Authority and M/s. Indian Oil Corporation Limited, Cochin Port Authority (CoPA) is obliged to manage, operate, maintain and repair the Common Facilities and Services provided at the Terminal, in accordance with the provisions of the Concession Agreement on cost sharing basis between M/s. IOCL and CoPA in the ratio of 45:55. CoPA is also obliged for manning, operation and maintenance of Non-LPG Handling Facilities and Services provided, separately at its own risk and cost.
5. As IOCL has engaged CoPA as the Management Contractor thereby entrusting CoPA with the responsibilities of operating and managing the Common Facilities and Services, CoPA propose to invite open tenders in two parts viz. Part A and Part-B for engaging an O&M Contractor as per the following brief Scope of Work which consists of:

5.1. Part A: To carry out manning, operation, maintenance and repairs of Common Facilities and Services provided at the MULT Terminal and

5.2. Part B: To carry out manning, maintenance, repairs and up-keeping of POL handling facilities and other ancillary services to ensure healthiness of the all installed systems which are exclusively identified as Non-LPG Cargo Handling Facilities at MULT Terminal.

6. <u>Part A. Common Facilities & Services at the Terminal include but not limited to the following components: (Detailed inventory furnished at Appendix-4)</u>

6.1. MULT Jetty with Breasting dolphins and Mooring dolphins equipped with capstan controlled quick release hooks and Service platform (34m x14m) capable of handling vessels of LOA 100 m to 230 m and 10000 DWT to 80000 DWT.

6.2. Control building with Fire pumps, Foam pumps, Jockey pumps, MCC panel and Power panel etc. in Ground floor, Foam tanks, Employer office rooms and server battery backup etc. in First floor and Fire control panel, Mimic panel, Fire alarm panel, Public address system, Trelleborg Marine systems, communication system etc. in Second floor.

6.3. Fire fighting facilities complying to OISD -156 STD (integrated for LPG and other liquids), the pipeline network from control building to DG station, covering Fuel station, MULT jetty, booster area hook up point excluding Manifold 1 hydrant lines.

6.4. Fuel station with 2x 20000 litres Underground tanks with Fuel pumps, controls etc.

6.5. 11 KV Sub-Station, HT/LT Switch Gears, Transformer, DG station with DG sets, HT/LT control panels etc.

6.6. Lighting arrangements complying to OISD STD on entire MULT road and inside the terminal excluding points beyond DG station up to Barge jetty.
6.7. Potable water line arrangement on MULT trestle.
6.8. Bituminous road with road side drain up to DG Station and approach trestle of the MULT Jetty.
6.9. Fire Safety
6.10. Safety
6.11. House Keeping of the Terminal.
6.12. Water Supply System

7. Part B. Non- LPG Cargo handling facilities at the Terminal include but not limited to the following components: (Detailed inventory furnished at Appendix-5)

7.1. Barge Jetty (100m x 10m) capable of handling vessels of LOA 40 m to 120 m and 1500 DWT to 5000 DWT.
7.2. 12" Piggable product lines from MULT and Barge jetty extending to the Manifolds with slop / stripper pumps and slop tanks at jetties.
7.3. Compressor, Nitrogen and Slop return line from MULT and Barge jetty to the Manifolds.
7.4. Potable water line arrangement on Barge trestle.
7.5. Manifold 1&2 each equipped with 1x 20000 litres underground slop tank with slop pumps, compressor for pig launching purpose and nitrogen cylinders for line purging.
7.6. Fire fighting facilities complying to OISD -156 STD (integrated for LPG and other liquids) extending from DG station up to Barge jetty including both Manifolds.
7.7. Lighting arrangements complying to OISD STD from points beyond DG station up to Barge Jetty.
7.8. Bituminous road with road side drain from DG Station to the end of road towards Barge jetty and approach trestle of the Barge Jetty.

B. Scope of Work

8. This section provides details of Services to be provided by the O&M Contractor under the Agreement. In addition to the description set out hereunder, description of Services required to be provided by the O&M Contractor is also enumerated in other provisions of the Agreement. Without prejudice to such description hereunder and under various provisions of the Agreement, the O&M Contractor shall provide all such services which may be required for the timely and efficient performance of the Services.
9. The O&M Contractor selected by Cochin Port Authority through open e-tendering shall be responsible for carrying out the manning, operation, maintenance and repairs of Common Facilities & Services at the Terminal as indicated at Clause No. 6 above (Part A) and to carry out manning, maintenance and repairs of Non- LPG Cargo handling facilities at the Terminal as indicated at Clause No. 7 above (Part B) by providing appropriate man power possessing the required qualification, experience and training as set out in the tender document and satisfying the conditions required by the Agreement, as per the detailed Scope of Work mentioned hereunder and subject to the Terms & Conditions mentioned in this tender document. The bidder is required to quote the O&M charges of Part A and Part B against each line item of Bill of Quantities (BoQ). The period of O&M Contract shall be one year from the date of commencement of O&M Services extendable for further one more year at the same rate and terms & conditions, at the discretion of Cochin Port Authority.
10. The equipments and facilities provided at the Terminal shall be operated and maintained in accordance with Original Equipment Manufacturers (OEM) Manuals, as per the relevant IS and standard guidelines of NFPA/ OISD guidelines, in accordance with Good Industry Practice ensuring compliance with applicable Laws and Rules & Regulations promulgated by Cochin Port Authority or any other authority exercising jurisdiction in Cochin Port area, IOCL or any other applicable Governmental Authorities.
11. The contractor shall enter into Comprehensive Annual Maintenance Contract with the OEMs/OEM's Authorised service centres for the critical equipments viz. (i) Fire pumps and engines including auto control system (ii) Foam pump and engine (iii) Jockey pumps and auto

control system (iii) Trelleborg Marine system (iv) DG sets and associated Systems (v) All PLCs and Control Panels / Systems (vi) Fire Monitors at MULT Jetty and Barge Jetty during the tenure of Contract, to ensure uninterrupted operation of the above critical equipments.

12. The Contractor shall prepare the formats of Records to be maintained during the tenure of Contract pertaining to the operations, maintenance works and breakdown repairs and get it approved by CoPA.
13. All the staff deployed by the Contractor at the Terminal should be aware of the basic safety norms to be followed in a Port Terminal handling hydrocarbons and are bound to comply with the such safety norms of the Terminal.
14. Major cleaning and cutting of heavy vegetation in and around the Terminal in addition to routine housekeeping works shall be carried out by the O&M contractor.

15. Exclusions: The following items of works are excluded from the Scope of Work of O&M Contractor:

15.1. The facilities exclusively made for LPG cargo handling viz. 2 Nos. LPG Loading/Unloading Arms and related safety control Systems, Pipelines laid to the Booster Area which will be manned, operated and maintained by M/s. IOCL.

15.2. Supply of Security Personnel for MULT Terminal for which CoPA will make its own arrangement.

15.3. Procurement of Foam required for Fire Fighting is not included under the Scope of O&M Contract.

15.4. The scheduled total painting of the equipments, pipe lines, installations, systems and facilities provided at the Terminal.

C. Detailed Scope of Work of Part A (Manning, operation, maintenance and repairs of common facilities & services of the MULT Terminal).

16. Operation and Maintenance of equipments in Fire pump house: The equipments in Fire Pump House include but not limited to the items mentioned in the inventory list enclosed as Appendix-4. The Contractor is required to carry out the manning, operation, maintenance and repairs of equipments, accessories and facilities as detailed below:

16.1. The Scope of work includes Operation, scheduled/preventive maintenance and breakdown repairs of 6 Nos. Fire pumps including engines, gear boxes and all accessories, Foam pumping system comprising of 1No. Foam Pump coupled with engine, 1 No. Foam Pump coupled with electric motor including gear boxes, Foam filling Pump and accessories, 2 Nos. Electric driven Jockey pumps, in accordance with the OEM's manuals and as detailed in this tender document.

16.2. All the batteries of the engines are to be properly charged with the battery charger provided, electrolyte specific gravity/ levels to be maintained, terminals properly tightened, battery surfaces cleaned and terminals to be covered with insulation mats to prevent accidental contact of battery terminals and related records shall be maintained.

16.3. Operation and maintenance of Motor Control Centre (MCC) panel, Power distribution panel, battery charging panel, backup power system, lighting and exhaust system and other controls and all items mentioned under Appendix-4 (Inventory list) shall be under the Scope of work of O&M Contract.

16.4. Repairs and maintenance of various types of electrical / control cables inside the Fire Pump House and cleaning/maintenance/repairs of cable trays shall be under the Scope of Work of O&M Contract.

16.5. The Fire pump house staff shall assist the Fire crew to conduct weekly Fire pump/ Foam pump trials.

16.6. The Fire pump house staff shall fill up diesel in Fire pump/Foam pump engine day tanks.

16.7. The work of replenishing foam in Foam tanks with Foam filling pump and pumping of fresh water to the overhead tanks from ground tanks shall be carried out by the staff deployed at Fire pump house.

16.8. Operation and maintenance of 5 Ton HOT overhead crane inside Fire pump house shall be under the Scope of O&M Contract. Periodical testing of above overhead crane by Competent Authority shall be arranged by the Contractor. Reimbursement of fee paid to the statutory authority by the O&M Contractor will be made by Cochin Port Authority on production of supporting documents.

16.9. For the maintenance and operation of all equipments and systems in the Terminal, 1 Shift in Charge, 2 Motor Mechanics, 1 Electrician and 1 Fireman with necessary qualification and experience as per Appendix-3 shall be posted round the clock.

16.10. Proper records on operation and maintenance and repairs of equipments in Fire pump house as per the formats approved by CoPA, shall be maintained by the Contractor.

17. Operation and Maintenance of Equipments at Control Room:

17.1. The O&M Contractor shall be responsible for shore related works for berthing / unberthing operations of the vessel and to monitor the ship operations (LPG cargo handling operations will be responsibility of M/s. IOCL) during the stay of vessel at berth. In order to carry out the operational functions, O&M Contractor shall post oneShift in Charge of operations in the control room. The duties and responsibilities of Shift in Charge of operations are detailed under Appendix-3.

17.2. The Contractor has to carry out periodical maintenance of all the connected systems of the Trelleborg Marine systems including Power back up facilities installed maintained at the First floor, display system and laser enclosure provided at Jetty frontage. The Contractor needs to ensure 100% availability of Trelleborg system prior to berthing /unberthing and during the stay of vessel at the Terminal. Trelleborg Marine System being a critical equipment required for performing marine operations of the Terminal, in order to ensure 100 % availability of the system during berthing / unberthing/ stay of vessel at the Terminal, the Contractor shall enter into a comprehensive AMC for the System with the OEM.

17.3. Proper records on vessel operations as per the formats approved by CoPA, shall be maintained by the Contractor.

18. Operation and Maintenance of Equipments at Fuel station: Fuel station is equipped with 2 x 20000 litres underground storage tanks with 2 x fuel pumps. The work at Fuel station include but not limited to:

18.1. Receipt of diesel from tanker lorry which may be required once in 3 months or so and to store the diesel in UG Tanks.

18.2. Pumping of diesel from UG tanks to the day tanks located at DG station, Fire Pump Room as per the requirement received from the concerned section.

18.3. Maintenance of documents on receipt and distribution of diesel to individual day tanks at Fire Pump Room and DG Station.

18.4. All safety precautions shall be taken while receiving fuel from tanker lorries.

18.5. Receipt of diesel and pumping to the respective day tanks shall be preferably done during General shift hours.

18.6. As the receipt and distribution of diesel is not a regular affair, dedicated staff is not envisaged at Fuel station.

18.7. The Contractor shall deploy the appropriate staff working in Fire Pump Room as per the requirements at Fuel Station.

18.8. Proper records on operation and maintenance and repairs of equipments in at Fuel Station and also the receipt and distribution of diesel as per the formats approved by CoPA, shall be maintained by the Contractor.

19. Operation and Maintenance of Electrical Sub-Station, DG Sets and Panels:

19.1. Sub-station compound comprises 1 No.11KV/433 V Transformer, 2 Nos. Alternators coupled with diesel engines, power panels, distribution panels and other equipments listed inAppendix-4(Inventory list) and its operation and maintenance comes under Contractor's scope.

19.2. Daily checks, Scheduled and Preventive maintenance of Transformer and DG sets etc. have to be carried out by the Contractor in line with OEM's recommendations and records to be maintained.

19.3. Weekly trials of DG sets to be carried out to ensure auto starting on power failure.

19.4. Pipe lines are provided from Fuel Station to DG station for transferring diesel for the operation of DG Sets. The Contractor has to make arrangement forpumping of diesel to the DG station by deploying appropriate man power. Records for the receipt and consumption of diesel shall be maintained by the Contractor.

19.5. As the DG sets are operating on auto-mode, round the clock dedicated Staff is not envisaged at DG station. The Contractor shall deploy the appropriate electrical staff working in Fire Pump Room as per the requirements at DG Station.

19.6. The Contractor needs to ensure availability of DG sets as per Clause No. 3 of SCC during the Contract period. DG set being a critical equipment required to perform the Terminal operations without any interruption, the Contractor shall enter into a comprehensive AMC for the System with the OEM.

19.7. DGs are operated in master-slave mode depending upon the load, which is controlled by PLC.

20. Operation and Maintenance of Common User Facilities at MULT Jetty Frontage:

20.1. The Fire Fighting Facilities provided at the MULT Jetty Frontage (Appendix-4, Inventory list) are coming under Common User Facilities, are to be maintained by the O&M Contractor. The Scope of Work of Fire Fighting Facilities included under the O&M contract is furnished separately.

20.2. The contractor's scope of work at Jetty frontage includes connection / disconnection of fresh waterlines to the vessels as and when required.

21. Berthing / Un-berthing operations of Tankers:

21.1. The Contractor shall be responsible for mooring / unmooring operations of the Tankers calling at MULT Terminal as per the instructions/requirement of IOCL and CoPA. The contractor shall be responsible for performing the above operations with the available manpower.

21.2. Adequate number of manpower for operation of mooring hook winches, carrying of messenger lines, engaging and disengaging of mooring hooks equipped at mooring and breasting dolphins arranged on either sides of the Service Platform, shall be engaged for berthing operations at MULT Jetty.

21.3. During the stay of vessel at berth, one operational staff has to be deployed for watch duty at operator room of MULT Jetty. One Fire man shall be made available at berth as standby to communicate the operational exigencies to the control room.

21.4. The Contractor is required to monitor environmental parameters such as wind velocity, tide and wave, weather etc. prevailing at the Terminal premises and take appropriate action for the safe cargo handling operations and berthing / unberthing operations.

21.5. During unberthing of vessel, though disengagement of the mooring rope is done from the Trelleborg Hook release control station by the Control room personnel, staff may be deployed at berth to disengage the mooring hook for releasing the mooring rope in case of any failure of Hook release system.

22. Maintenance of Quick Release Mooring Hooks (QRMH): The mooring hooks have to be maintained in good working order as per OEMs maintenance schedule, to ensure 100% availability for vessel berthing / unberthing activity. The Contractor is required to carry out periodical greasing and operational checks of Mooring Hooks, Capstan and Foot switch provided at breasting and mooring dolphins. The Contractor needs to ensure operational readiness of QRMH System sufficiently in advance of berthing of the vessel.

23. Operation and Maintenance of Illumination system of the Terminal: The Contractor shall be responsible for keeping the illumination system of the Terminal in good working order and to

maintain the required illumination level in different areas of the terminal during day and night operations as per requirement.

23.1. Following average Illumination levels provided at various locations of the Terminal shall be maintained by the O&M Contractor in view of the safety requirements:

Sl. No.	Location	Illumination Level in Lux
1	Service Platform MULT Jetty	300
2	Berthing Dolphin	100
3	MULT Bridge	100
4	Approach Trestle MULT Jetty	100
5	MULT Manifold	100
6	Fuel Station	100
7	Road	50
8	Barge Manifold	100
9	Approach Trestle Barge Jetty	100
10	Service Platform Barge Jetty	300
11	Conference / Office / Training Room	50
12	UPS / Electrical Room	30
13	Corridors	20
14	Control Room	50
15	LV and HV Panel room	30
16	Server Room	30
17	Dining area	30
18	Toilets	20
19	Stairways	20
20	Locker room	20

23.2. Operation of all the out-door illumination are regulated through timers. Hence manual intervention is normally not required. In case of malfunctioning of the system, appropriate electrical staff may be deployed from the pool of Fire Pump Room staff for switching on/ off and attending the complaints to the illumination system.

23.3. The repairs/ replacement of lights, repairs and maintenance of total illumination system are under the Scope of O&M Contractor.

24. Operation and Maintenance of Communication facility:

24.1. The Contractor shall be responsible for repairs and maintenance of communication facility such as VHF communication system and public address system with talk back in healthy condition during the tenure of the contract. This is very much essential for safe and effective operation and maintenance of the Terminal.

24.2. The Contractor shall be responsible for damage, theft, mishandling of the VHF communication system and talk back system provided at all operational points.

24.3. Cochin Port Authority shall handover the existing VHF sets (handsets, base stations, etc.) to the Contractor for use at the Terminal. At the end of the contract, the Contractor shall return the VHF sets and other communication facility received from Cochin Port Authority in good working condition.

25. Fire Safety: MULT being a Terminal handling LPG and other POL products, fire safety of the Terminal is of paramount importance. Man power deployed to control Fire hazards should be competent enough to handle the Fire hazards of Tanker Terminals. The employees of the Contractor should be aware of the various statutory requirements/regulations of OISD and PESO. The Contractor's Scope of work includes but not limited to the following:

25.1. Contractor shall be responsible to attend Fire hazards and other adverse incidents at the Terminal in compliance with on-site emergency management plan of MULT Terminal.

25.2. The Shift in Charge shall be well trained and competent to handle Fire hazards and other emergencies and shall be made conversant with the fire fighting systems and public address systems installed at the Terminal.

25.3. Shift in Charge should provide support to the Maintenance and Operational team to conduct weekly trials of Fire/Foam pumps and Monitors and all fire fighting systems as per OISD 156 STD requirements.

25.4. Operation of valves in Fire fighting / Foam lines and operation of monitors by remote and locally falls under the Scope of Work of Firemen.

25.5. Periodical maintenance of the fire fighting equipments has to be carried out and records to be maintained.

25.6. Any requirement of re-filling of fire extinguishers and replacement of defective fire extinguishers of urgent nature shall be done by the Contractor at his cost as per the procedure detailed at Clause No. 15 of Appendix-2. In case of planned replacements of items (e.g. Periodical Refilling & pressure testing of Fire Extinguishers as per IS), the Contractor shall plan such requirements well in advance and intimate the Employer so as to arrange the same on Port account.

25.7. Periodical Mock drills shall be conducted as per statutes /as advised by Employer to check the preparedness of facing a disaster in coordination with all sections.

25.8. The Contractor shall responsible for maintaining relevant records of the activities of Fire section as per the direction of Employer.

26. Safety:

26.1. All the work inside the terminal may be carried out in compliance with Dock Workers (Safety, Health and Welfare) Act, 1986 and all other statutory/ safety requirements as applicable.

26.2. The Contractor shall post a Safety Officer who has to ensure that all the operational and maintenance activities are carried out in accordance with laid down SoP and by observing the safety / statutory requirements of the Terminal.

26.3. Safety Officer shall report to the Shift in Charge of operations of the Terminal.

26.4. The Contractor shall be responsible to ensure the safety of the Terminal and all of the Terminal Personnel, other personnel employed by the Contractor for the services and other individuals and invitees who are at any time on the Terminal.

26.5. The contractor shall provide on-going and refresher training on safety for all his employees as per the directions issued by the Employer from time to time.

26.6. The Contractor shall conduct annual calibration of all measuring devices which are fitted in the terminal.

26.7. The Contractor shall conduct periodical testing of lifting equipments/gears used for the purpose of maintenance activities like fabrication / repairs / overhauling/ disassembly / assembly, etc. and also storing of spares and stores.

26.8. In case the Contractor has intention to install / engage any machines / equipment / accessories in connection with the execution of O&M Contract, it shall meet the standards of equipments intended to use inside the Terminals handling Hydrocarbons. The Contractor shall obtain approval of Employer/Statutory authorities for such usage, as applicable before installation/usage of such equipments.

26.9. Adequate precautions shall be taken to prevent accidents from electrical equipment. When workers are employed on electrical installations, which are already energized, insulating mats, working apparels such as gloves, sleeves and boots as may be necessary shall be provided to the workers by the Contractor.

26.10. All the maintenance activities shall be executed after taking shutdown and issuance of work permit from sub-stations or E-house of machines. The Contractor must obtain written clearance whenever required, in a format (maintained in shutdown register) acceptable to Cochin Port Authority, clearly indicating the nature of maintenance intended to be undertaken, the equipment name, expected time of commencement and completion. The Contractor shall also

mention the time that he would require to bring the machine to operational condition in the event of any emergency need.

26.11. Contractor shall take all reasonable precautions to avoid pollution or contamination of the air, land or water arising out of the performance of the work.

26.12. Should there be a discharge or escape of appreciable quantity of pollutants or contaminants during performance of its obligations under this Contract which occurs as a result of activities of Contractor or its Sub-contractor, the Contractor shall immediately take all action necessary to contain, control, recover or disperse the substance and to eliminate the safety and environmental risks and correct the damage resulting there from.

26.13. The Contractor shall provide first-aid equipment for on-site emergency medical treatment and deploy a Safety Officer to enforce and refreshment of safety measures among all the Contractor personnel. The Contractor shall provide on-going and refresher training for all his personnel which will help in increase productivity.

26.14. The Contractor shall maintain all records pertaining to the safety matters of the Terminal.

27. Security of the Terminal:

27.1. The Employer will deploy Security Personnel through a separate Contractor. The O&M Contract shall co-operate with the Contractor engaged by Cochin Port Authority for security.

27.2. The Contractor shall maintain various records and registers pertaining to the security of the Terminal.

28. Civil Works: During the contract period, it is anticipated that only minor civil maintenance works needs to be carried out by the Contractor under O&M Contract. The work may include but not limited to repairs to plastering necessitated due fair wear and tear like peeling of wall plasters and broken concrete pavement in civil structures and buildings, dislodged tiles, false sealing etc. in buildings, leaks to fresh water lines, sanitary blockages, patch work of internal bituminous roads etc. The O&M Contractor is required to carryout such civil maintenance/ repair works including procurement of all materials required, at his cost and risk.

29. Housekeeping / Cleanliness:

29.1. It is the responsibility of the Contractor to maintain the cleanliness in the entire terminal area including offices by deploying adequate number of staff. The requirement of housekeeping include but not limited to the areas viz. Fire Pump Room, Foam Tank Room and Offices, Rest Rooms, Control room (The approximate floor area of offices 500 Sq. meters), Fuel Station, DG Station, Toilets and wash area inside Office buildings and outside (Total 3 Nos.), Pedestal Walkways, LPG Jetty, Barge Jetty premises, Manifold area (both Barge Jetty and LPG Jetty), bi-roads inside the compound.

29.2. The scope of housekeeping work of the Contractor shall cover, but not limited to, the following:

29.2.1. Cleaning of floors (approximate floor area 500 Sq. meters) and removal of cobwebs in the buildings mentioned above.

29.2.2. Sanitation of toilets and wash area (total 3 Nos.)

29.2.3. Clearing of waste materials etc. from approach trestle towards jetty frontage, berth floors and maintain it clean and tidy.

29.2.4. Manifold areas of LPG Jetty and Barge Loading Jetty should be made clean at all times by removing wastes, debris, oil/grease contaminations etc. by applying appropriate cleaning agent.

29.2.5. Cleaning of road side drain to maintain drainage/sewage system. Special attention in this regard shall be given prior to monsoon to avoid water logging.

29.2.6. Periodic clearing of bushes, grasses etc. to prevent growing of vegetation inside the terminal.

29.2.7. De-watering and cleaning of cable pits.

29.2.8. Cleaning of internal roads within the Terminal Compound.

29.2.9. Material shall be stored in locations, which will not block access ways and permit easy cleaning of the area.

29.2.10. Spillage of oil, grease etc. to the floor, from equipments should be avoided to keep the floor clean and tidy.

29.2.11. All hoses, cables, and similar items shall be located, arranged, and grouped so that they will not block any access way and will permit easy cleaning and maintenance.

29.2.12. All trash, debris, scrap and waste materials shall be collected, segregated according to class, stored, and deposited in waste collection areas as designated by the Contractor acceptable to the Cochin Port Authority.

29.2.13. Oil spills/oily waste should not be allowed to throw into sea water.

29.2.14. Waste materials / garbage collected shall be removed from the Terminal and disposed by the Contractor at his cost and risk and adhering the statutory norms.

29.3. All the consumables and various housekeeping equipments required for housekeeping works shall be arranged by the Contractor at his cost. The bidders may consider this aspect while furnishing their financial bid.

29.4. The Contractor shall have the option to carry out the house keeping works through sub-contracts also subject to the approval of the Employer.

29.5. The Employees deployed for housekeeping are required to wear PPE as per the safety requirements of the Terminal and shall follow all safety instructions of the Terminal issued by the Employer from time to time.

29.6. The Contractor shall maintain all the records pertaining to the house keeping of the Terminal.

30. Provision for Multi Utility vehicle: The contractor has to deploy one number suitable type Multi Utility Vehicle during the tenure of contract to facilitate timely transportation of materials and workmen. All costs associated with deployment of above vehicle including cost of fuel, maintenance, driver costs etc. shall be borne by the Contractor. The Contractor may note that the above vehicle shall not be permitted to enter the restricted areas of the Terminal.

31. Water supply: Water supply from Kerala Water Authority is yet to be established at the Terminal. In order to meet the day-to-day requirement of fresh water at the Terminal, the Contractor has to make arrangement to procure fresh water through Tanker Lorries. The Contractor shall also make arrangement to procure and provide potable water in dispensers to be provided at various locations of the Terminal. The expenditure incurred towards procurement of fresh water through the above two modes shall be borne by the contractor. The above arrangement shall be continued until water supply arrangement of KWA is established to the Terminal. Two Nos. tanks of 5000 litres capacity each are provided inside the Terminal.

32. Provision of Hydra Cranes, Forklifts, Sky lift etc.:

32.1. If deployment of any specialised equipments like Hydra Crane, Forklift, Sky-lift etc. from outside agencies is required for performing any work of special nature, essentiality of such requirements shall be communicated and such deployment shall be done with the consent of the Employer.

32.2. Sources of such equipments shall be identified by the Contractor in advance and responsibility of timely engagement of such equipments shall be vest with the contractor. Engagement of such equipments shall be done at the full risk, cost and responsibility of the Contractor.

32.3. Operation of the above vehicles shall in compliance of the Safety norms of the Terminal handling hydrocarbons.

33. Electricity: Electricity required for functioning of the Terminal as per the Scope of Work of the Contract will be provided by Cochin Port Authority on CoPA account.

34. The bidders shall consider all the items from Clause No. 15 to Clause No. 32 above while quoting the rates for line item " Part A: Manning, Operation, Maintenance and Repairs of Common Facilities & Services of the Terminal".

D. Detailed Scope of Work of PartB (Manning, maintenance and up-keeping of POL handling facilities and other ancillary services termed as"Non-LPG cargo handling facilities at MULT Terminal".

35. Operation and Maintenance of Fire Fighting Facilities at Barge Jetty: Fire Fighting Facilities provided under the heading "Inventory of Non-LPG Handling Facilities", Appendix-5 are to be maintained by the O&M Contractor. Scope of work of Fire Fighting Facilities described in PartA above and Maintenance Program is also applicable for Fire Fighting Facilities provided under Non-LPG Cargo Handling Facilities of MULT Terminal.
36. Maintenance of Non-LPG Handling Facilities at MULT Jetty: Non-LPG handling facilities listed under the heading "Inventory of Non-LPG Handling Facilities", Appendix-5 are not expected to be operational during the current tenure of O&M Contract. However, the O&M Contractor is required maintain and up-keep the installed facilities at MULT Jetty for handling Non-LPG cargo, at the minimum level and to carry out periodical trials of equipments/ machineries to keep these equipments in good working order. The above periodical works are to be carried out during general shift. Brief Scope of work of the O&M Contractor under Part B at MULT Jetty area include but not limited to the following:

36.1. Two Nos. each motor driven Slope Pumps and Stripper Pumps are to be tried out once in a week and the defects if any found during the trials are to be rectified by the O&M Contractor.

36.2. There are total six Nos. Lines laid from the MULT Jetty leading to the backup area of the Jetty as detailed under the heading "Product line" and "Utility line". The Scope of O&M contract includes the routine maintenance of lines, line supports, trestles, valves, gauges, fittings etc. The work also include, chipping, painting, greasing of various items etc. as and when required.

36.3. The items such as Pig Launcher, PRV, Pressure Transmitters, Temperature Transmitters, slope oil lines, slop tanks etc. mentioned in Appendix-5meant for Non-LPG cargo movement at MUTL Jetty frontage are to be maintained by O&M Contractor. The equipments need to be maintained as per OEM's maintenance schedules. The Contractor may kept in mind that these installations are meant for Non-LPG handling which is not expected to be operational during the current O&M contract period and hence bear minimum maintenance is required to keep the Non-LPG cargo handling system in good working order and the same is required to be carried out only periodically.

37. Maintenance of Non-LPG Handling Facilities at Barge Jetty: Barge Jetty constructed adjacent to the MULT Jetty, meant for handling Non-LPG hydro-carbons, is not expected to be operational during the proposed O&M contract period. However, the O&M Contractor is required to maintain the installations provided at Barge Jetty at the minimum level to keep the machineries, equipments and other facilities in good working order. Such periodic maintenance works are to be carried out during general shift. The brief Scope of work of the O&M Contractor for maintaining Non-LPG handling facilities listed under the Heading Barge Jetty" of Appendix-5 (Inventory list) is as follows:

37.1. Two Nos. each, motor driven Slope Pumps and Stripper Pumps are to be tried out once in a week and the defects if any found during the trials are to be rectified by the O&M Contractor.

37.2. Total six Nos. lines are laid from the Barge Jetty leading to Manifold 2 located at the back up area of Barge Jetty and as detailed under the Heading "Product line-barge jetty and the Heading "Utility line Barge Jetty " of Appendix-5. The scope of O&M contract includes routine maintenance of lines, line supports, trestles, valves, gauges, fittings etc. The work also include, chipping, painting, greasing of valves etc. as and when required.

37.3. The facilities such as Pig Launcher, PRV, Pressure Transmitters, Temperature Transmitters, slope oil lines, slop tanks etc. at Barge Jetty frontage meant for Non-LPG cargo movement are to be maintained by O&M Contractor. The machineries and equipments needs to be maintained as per OEM's maintenance schedules.

38. Maintenance requirement of Equipments and Facilities at Manifold No.1: Manifold No.1 located at the back up area of the MULT Jetty consists of 1x 20000 litres underground slop tank for slop receipt from MULT jetty, 2 x slop out pumps, 2 x pig receivers and 1 x compressor for pig movement meant for Non-LPG Cargo movements. The details of equipments, machineries and accessories installed at Manifold No.1 which are required to bemaintained

under the O&M Contract are indicated under the Heading "Manifold No.1" of Appendix-5. The brief Scope of work of the O&M Contract include but not limited to:

38.1. Two Nos. Motor driven Slope Pumps are to be tried out once in a week and the defects if any found during the trials are to be rectified by the O&M Contractor.

38.2. The items mentioned under the heading "Manifold No. 1" of Appendix-5(Inventory list) such as Electric Reciprocating Air compressor and Accessories, Fire Fighting Facilities, 20 KL capacity Slop Tank, Pig Receivers etc. are to be maintained by O&M Contractor. The machinery / equipments needs to be maintained as per OEM's maintenance schedules.

39. Maintenance Requirement of Equipments and Facilities at Manifold No.2: Manifold No.2 located at the back up area of the Barge Jetty consists of 1x 20000 L underground slop tank for slop receipt from Barge Jetty, 2 x slop out pumps, 2 x pig receivers and 1 x compressor for pig movement meant for Non-LPG Cargo movements. The details of equipments, machineries and accessories installed at Manifold No.2 which are required to be maintained under the O&M Contract are indicated under the Heading "Manifold No. 2" of Appendix-5 (Inventory list). The brief Scope of work of the O&M Contract include but not limited to:

39.1. Two Nos. Motor driven Slope Pumps are to be tried out once in a week and the defects if any found during the trials are to be rectified by the O&M Contractor.

39.2. The items under the heading "MANIFOLD 2" of Appendix-5 such as Electric Reciprocating Air compressor and Accessories, Fire Fighting Facilities, 20 KL capacity Slop Tank, Pig Receivers etc. are to be maintained by O&M Contractor. The machinery/equipments need to be maintained as per OEM's maintenance schedules.

40. Operation and Maintenance of Illumination system at Barge Jetty:

40.1. The Contractor shall be responsible for keeping the Illumination System of the Barge Jetty in good working order and to maintain the same properly to ensure the illumination level specified earlier in this document. The Contractor shall maintain a minimum stock of each type LED lights for facilitating immediate replacements as per the requirement.

40.2. Operation of all the out-door illumination are regulated through timers. Hence manual intervention is normally not required. In case of malfunctioning of the system, appropriate electrical staff may be deployed from the Fire Pump Room staff for switching on/ off and attending the complaints to the illumination system.

40.3. The bidders may note that the facilities indicated under " Non-LPG handling Facilities" is not expected to be operational during the current O&M contract period and hence bear minimum maintenance is required to keep the Non-LPG Cargo handling Systems in good working order and the same is required to be carried out only periodically. The Contractor shall carry out the maintenance of Non-LPG handling facilities with the maintenance staff posted in General Shift as per the requirement.

41. The Contractor shall maintain appropriate records pertaining to all the maintenance works specified above from Clause No. 34 to Clause No. 39 above.

42. The bidders shall consider all the items from Clause No. 34 to Clause No. 39 above while quoting the rates for line-item "Part B: Manning, Maintenance and up-keeping of POL Handling Facilities and other Ancillary Services termed as " Non-LPG Cargo Handling Facilities at MULT Terminal". Mode of execution of maintenance works are detailed at Appendix-2, Maintenance Program of the Terminal.

E. Man Power Requirement under O&M Contract:

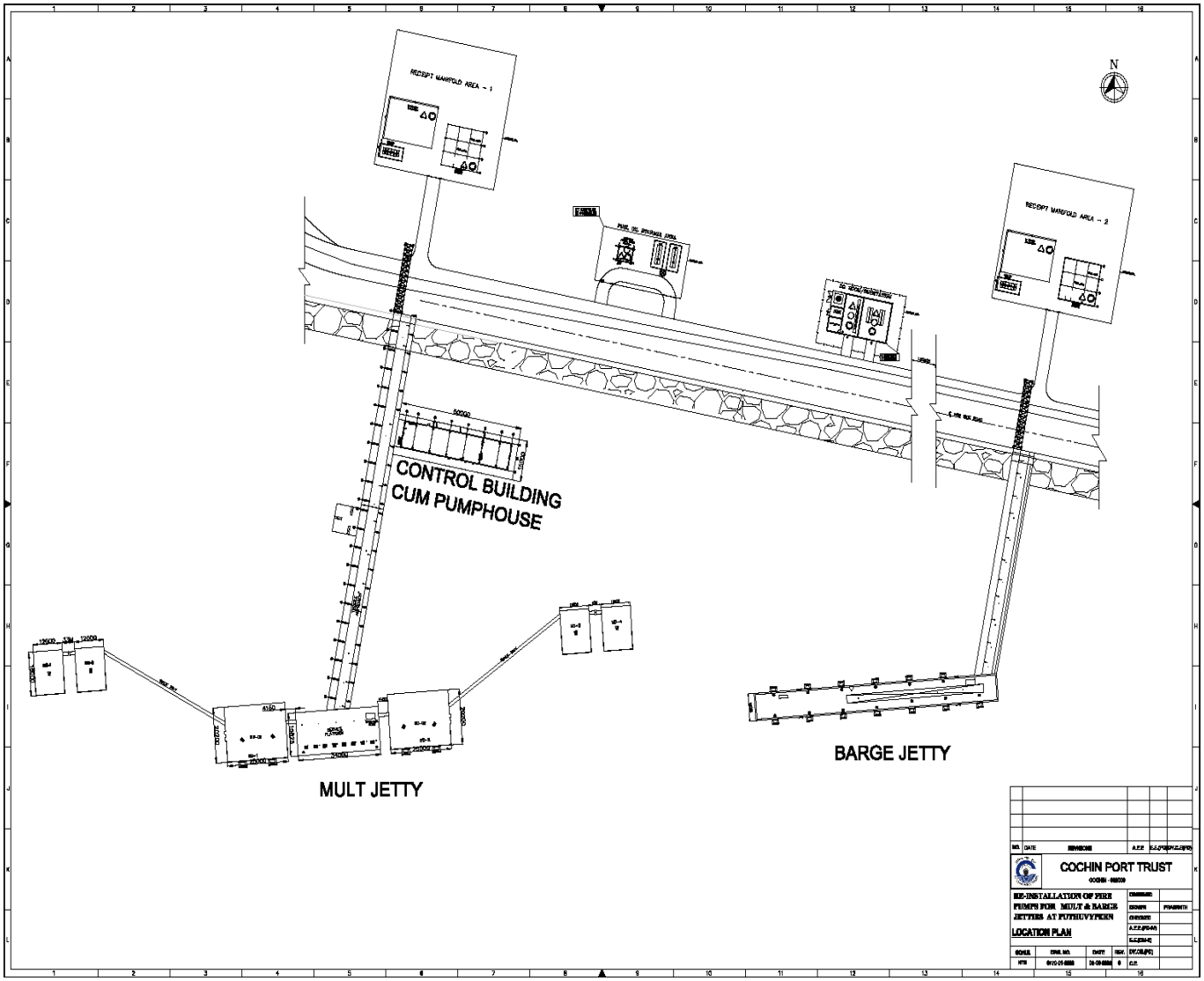
43. The O&M Contractor shall perform various obligations under the Contract by providing the minimum number of Personnel as detailed at Appendix-3. All the personnel deployed shall be adequately qualified and experienced to handle the relevant functions and shall meet the requirements indicated in the tender document.

44. Manpower requirement indicated in the Tender Document is the minimum manpower required to carry out the various works as per the Scope of work of O&M Contract as assessed by CoPA. The Contractor is bound to provide the man-power as per the above minimum requirement of staff in various categories both in shifts and in General shift.

45. It is the responsibility of the bidders to assess the adequacy of above staff strength to perform various contractual obligations as per the Scope of Work in an efficient, timely, reliable manner (which shall at all times be consistent with Good Industry Practice and in accordance with the applicable statutory/safety requirements). During the tenure of O&M contract, even if the staff strength is increased by the Contractor, Employer is not bound to make any additional payment over and above the quoted rates. However, for deployment of such additional man power, Employer's prior consent is required. Job descriptions, educational qualifications and experience requirements of various categories of Personnel are also indicated inAppendix-3.

Appendix-1

MULT LAYOUT



Appendix-2

MAINTENANCE PROGRAM OF THE TERMINAL

1. General:

1.1. The maintenance of the whole systems of the Terminal shall be carried out as per OEMs Manuals, the relevant IS and standard guidelines of NFPA/ OISD guidelines as applicable.

1.2. Maintenance of Terminal primarily aims at keeping the Terminal and equipment under the scope of the Contractor in efficient and reliable operating conditions, minimizing the downtime during operation so as to ensure their maximum availability and productivity.

1.3. The contractor's scope covers deployment of different maintenance teams comprising of Engineers, supervisors, technicians, skilled / semi-skilled workmen for efficient and effective preventive, predictive and corrective maintenance during the term of the contract.

1.4. The maintenance of machine / system / equipment shall be done by the Contractor in accordance with recommendation of Original Equipment Manufacturer and taking into account the current status of system / machinery / equipment by following Sound Engineering practice and Industry Standards. The Contractor shall follow the maintenance practice/activities as given below.

1.5. It is responsibility of the O&M Contractor to make available all the required tools, equipments and other facilities required for carrying out the maintenance and repair works of various equipments and Systems available at the Terminal. Maintenance/repair works shall not be delayed on account of lack of appropriate tools and tackles.

2. Preventive Maintenance: The Contractor shall carry out the Preventive Maintenance of the equipment/ systems / units attached as Appendix-4 and Appendix-5 as per OEMs maintenance Schedule and shall maintain the records as per the formats approved by Cochin Port Authority.

3. Corrective Maintenance / Breakdown Maintenance: During operation if any abnormalities/ defects/faults are observed and in case of failures of components occurs resulting in breakdown of the equipment, the Contractor shall attend problems then and there so as to restore operation within the bare minimum time by repairing otherwise by replacement.

4. Shutdown Maintenance: For undertaking the major maintenance activities, planning shall have to be done by the Contractor in advance and in consultation with the Engineer of Cochin Port Authority so as to make the best use of the idle period. The Contractor shall properly plan for execution of maintenance activities during non-operational time of systems / equipments.

5. Condition Monitoring:

5.1. Inspection of all equipment shall be carried out by the Contractor before and after operation of the Terminal in accordance with maintenance manual of individual equipment / manufacturer's recommendation. The Contractor shall carry out condition monitoring while the equipment is in service or when the equipment is under shut down maintenance for some other reason and assessment along with visual inspection.

5.2. The Contractor shall prepare a check list in order to ensure correct and proper inspection. Inspection and condition monitoring shall also include use of inspection equipment and testing devices to determine the extent of defect at the cost of the Contractor. Action shall be taken on the observations during inspection and condition monitoring.

6. Periodic Inspection by OEMs:

6.1. The Contractor shall arrange periodic inspection of the following equipments through OEMs.

6.1.1. Fire Pump Engines
6.1.2. Foam Pump Engines
6.1.3. DG Sets
6.1.4. Electricals (PLCs, Relays, Transformers, both LT & HT Breakers, Switch Gear Panels etc.)
6.1.5. Fire Alarm and Detection System
6.1.6. Compressor unit

6.2. Periodic inspection of equipments at Clause No. 6.1. above by the concerned OEMs shall be arranged by the Contractor as and when advised by the Employer to assess the healthiness of

the systems and make suitable recommendations to maintain the equipments/systems in good order. The inspection report of OEMs, to be submitted to the Employer, shall contain present condition, recommendations covering the works to be carried out, spares to be replaced and stock/ inventory to be maintained for smooth operation and maintenance. Payments towards such inspection shall be paid by the Contractor to the OEMs which will be re-imbursed by the Employer on production of supporting documents.

7. Annual Maintenance Contracts: The contractor shall enter into Comprehensive Annual Maintenance Contract with the OEMs/OEM's Authorised service centres for the equipments viz. (i) Fire Pumps and fire engines with auto control panels (ii) Jockey pumps with auto control panels (iii) Foam pump and engine (iv) Trelleborg Marine system and (v) DG sets & associated PLC System (vi) All PLCs and Control Panels/Systems in control room (vii) Fire Monitors during the tenure of Contract, to ensure uninterrupted operation of above critical equipments. AMCs shall be entered by the Contractor with the above OEMs within a period of 60 days from the date of issue of award of O&M Contract by Cochin Port Authority. Payments towards AMC charges along with cost of spares shall be paid by the Contractor to the OEMs which will be re-imbursed by the Employer on production of supporting documents.
8. Safety Interlocks: During the operation of Terminal, all field devices, safety devices and monitoring devices shall be maintained in good working order and set as per the designed parameters. These settings along with Terminal operational limits shall not be tampered/ or modified under any circumstances. All machines/systems shall be operated with the adequate number of man power. Similarly, operation of machine /equipment /system /subsystem shall not be carried out in abnormal condition (s) and by compromising with safety of machines. Normally bypassing of field devices and monitoring devices are not permissible and if such by-passing is done in extreme emergency situations, the relevant details shall be recorded. The Terminal shall be operated consistently with the operational limits, safety and Good Industry Practice.
9. Operational Pre-checks: Before and during operation of Terminal, observance of basic rules of operation, systematic and careful inspection of the individual parts of the system and equipment, pre-checking the functions of all sub-systems and components at appropriate time are essential and to be ensured. The checks have to be made strictly in accordance with the check lists and documented for the concerned machine/equipment.
10. Competency of Personnel operating / maintaining the Facilities: In order to have safe operation/maintenance of the facilities, the concerned personnel should be conversant with the functional requirement and control philosophy of system(s) and equipment and should be capable of recording the events / incidents during operation/maintenance, noting the parameters & maintain the log books at the respective stations as per the scheduled requirement and instructions issued by Cochin Port Authority from time-to-time. The Engineers / Supervisors attached to operation/ maintenance must be conversant with the technology of various systems, equipment and machines. They have to co-ordinate with the operating personnel for smooth operation. They have to be vigilant and should promptly respond to any operational/ maintenance requirements.
11. Lubrication/Greasing: The Contractor shall prepare and implement the lubrication/greasing schedule of all machines and system/units. Proper lubrication/greasing of all the moving parts of the equipment/units/system is the responsibility of the contractor and any breakdown due to above shall be treated as a default on the part of contractor. Records on greasing/lubrication done shall be maintained by the Contractor.
12. Maintenance of Earthing System: The Contractor has to check and maintain the Earthing System of various equipments of the Terminal/ Sub-station on monthly/ quarterly/half yearly basis as applicable as per OEMs requirements.
13. Cable Maintenance: The Contractor shall maintain the cables spread around the Terminal and shall ensure proper dressing of the cables through cable trays and cable trenches.

14. Maintenance of Batteries: All the batteries included in the Inventory List are to be properly maintained by the O&M Contractor. If any of the batteries becomes unserviceable during the tenure of the Contract, the same has to be renewed with batteries having the same rating, at the cost of the O&M Contractor.
15. Procurement of spares, consumables and materials for attending various works as per the Scope of Work of O&M Contract.

15.1. Procedure for carrying out repairs / overhauling of entire items, equipments and facilities covered under the O&M contract: The contractor shall arrange for timely repairs / overhauling of entire items, equipments and facilities covered under the O&M contract for maintaining the various systems under O & M contract, at the sole cost and risk of the contractor.

15.2. Procurement of materials, spares etc. to execute the works: Procurement of all other materials, spares and arrangements required for carrying out the works as per the Scope of Work of O&M Contract shall be arranged by the Contractor at the quoted rate of O&M Contract.

15.3. Procedure for procurement of consumables for routine use / maintenance: Supply of all Consumables required for carrying out the works as per the Scope of Work under the O&M Contract shall be purchased and stored by the Contractor at his cost and risk. Cost of such consumable items required for execution of O&M Contract shall be considered while quoting the rates for execution of O&M Contract. Consumables include but not limited to Engine Oil, Grease, Lubricating Oil, Hydraulic Oil, Cotton Waste, Diesel required for operating Diesel Engines of Fire Pumps, Foam Pumps and DG Sets, Air Filters, Lube Filters of various Engines, Cleaning liquids for housekeeping etc. If the diesel consumed per month is above 1000 litres, the cost of diesel consumed above 1000 litres will be re-imbursed to the Contractor on submission of supporting bills. The Contractor shall keep records on procurement of Consumables and its consumption and such records shall be made available for periodical inspection of Employer. Foam Compound (AFFF) required for the Fire Fighting operations through Tower and Base Monitors are currently available. Any replenishment of the same during the tenure of O&M Contract will be done by Cochin Port Authority on Port Account. Fire extinguishers are currently filled with the consumables viz. Water, Foam and DCP as per requirement. Any subsequent filling of such consumables in the Fire Extinguishers shall be done by the Contractor with the prior approval of Cochin Port Authority and the actual expenditure incurred by O&M Contractor for replenishing of such consumable will be re-imbursed by Cochin Port on production of documentary evidence. All repairs, maintenance, whenever required for the Fire Extinguishers are to be carried out by the O&M Contractor at his cost. The Contractor shall entrust Shift in Charge to monitor receipt of spares, consumables etc. and to maintain proper documentation on inventory and issue of stores as per the requirement of the Employer.

16. Defect Rectification/Chipping / Painting/Greasing etc. (General shift work):

16.1. Daily visual inspection has to be carried out to detect any defects/corrosion in the Steel structures, product lines, fire water lines, foam lines, mechanical and electrical fittings, electrical panels, electrical and communication cables etc. Defects noticed may be rectified within the shortest possible time.

16.2. All the steel structures and pipe lines inside the terminal need proper maintenance painting to guard against corrosion. Staff may be deployed to carry out maintenance painting of the corroded areas as per the painting scheme provided as follows. The surface preparation shall be done with mechanical cleaning/wire brushing. Painting shall be carried out with primer coat of Epoxy mastic high build primer - 1 coat DFT- 135-150 μm and finish coat of Polysiloxane - 1 coat DFT- 100-125 μm with a total thickness of 2 coats- DFT- 235- 275 μm. Contractor shall have to make thorough surface preparation before application of paint. Paints required for work shall be procured by the Contractor.

16.3. Greasing / lubrication / servicing of all gate valves, hydrant valves, deluge valves, Mooring hooks, Monitors and other equipments are also to be carried out in General shift.

16.4. The contractor shall maintain a pool of General shift relievers to attend General shift maintenance activities. Crew posted in shift shall also be utilised for maintenance activities of the Terminal. The Shift in Charge shall be the responsible person for coordinating all the maintenance activities of the Terminal.

17. Defects Reporting: During operation / maintenance, if any abnormality, defect / fault are noticed on any system, the same shall be promptly communicated to the supervisors and remedial steps must be taken under intimation to the Engineer in Charge of Cochin Port Authority. The contractor shall set a suitable mechanism for rectification of problems so that delay in operation can be avoided. Stoppages during operation, any type of abnormalities including adverse operating condition or characteristics, bypass of safety devices shall be recorded and same shall be intimated to Shift in Charge with follow–up action.

Appendix-3

JOB DESCRIPTIONS, EDUCATIONAL QUALIFICATIONS AND EXPERIENCE REQUIREMENTS OF PERSONNEL

1. Shift in Charge: A Competent Person shall be posted as Shift in Charge of Operations at Control Room on round the clock basis who shall be responsible for controlling the Terminal operations during the shift. The responsibilities include but not limited to controlling / monitoring the berthing / un berthing of vessels, remote operation of mooring system, co-ordinating / leading the various operating wings viz. Fire Fighting, Mooring Team, Security etc. through VHF or other communication means, monitoring the Terminal functions with the aid of Trelleborg Marine System during cargo handling etc. Shift in Charge should ensure operational readiness of the Mooring system prior to vessel berthing / unberthing operations. Shift in Charge should have basic knowledge of cargo handling operations from the Ships. The Shift in-charge shall be responsible for communications with Terminal Operators and Port Authority on day to day operations. The qualification of Shift in Charge is that he should possess Degree / Diploma in Mechanical / Electrical and Electronics Engineering with minimum 3 years' experience in Foreshore terminals / Refineries and with additional qualification of Diploma in Fire & Safety. The Shift in Charge shall plan and co-ordinate all the activities including pre-operational checks etc. While performing major repairs / maintenance works, there shall be proper communication with all the stake holders associated with Ship operations and should be done with the consent of Cochin Port Authority and M/s. IOCL as applicable.
2. Safety Officer: The Safety Officer shall possess Degree / Diploma in Mechanical / Electrical and Electronics Engineering with Diploma in Industrial Safety with 3 years' experience in Industry and will be in charge of all safety related matters as per the Scope of Work.
3. Motor Mechanic: The Motor Mechanic shall possess National Trade Certificate with two years' experience in relevant field and will carry out repairs and maintenance of Fire pumps, Engines, Jockey Pumps, Valves, Monitors, Jumbo Curtains, Hydrants, pipelines and all other installations of the terminal as per the Scope of Work. He shall be capable of performing firefighting operations on emergency situations.
4. Electrician: The Electrician shall possess National Trade Certificate with two years' experience in relevant field and will carry out all electrical repairs and maintenance works in the Terminal as per the Scope of Work. He shall be capable of performing firefighting operations on emergency situations.
5. Fireman: The Fireman shall possess Matriculation, Successful completion of certificate course on Basic Firefighting training from a Govt. Organization / Institution approved by Government. Two years' experience in relevant field. He shall be capable of acting as multi-tasking helper for all maintenance repairs and cleaning activities.
6. Housekeeping Staff: They should possess at least 7th Standard pass and will carry out all the housekeeping activities as per the Scope of work.
7. Educational qualification, experience requirements of various categories of employees are furnished as below:

Sl. No.	Designation	Reqmt. per shift	Reqmt. per day	Qualification / Experience
1	Shift in Charge	1 per shift plus 1 reliever in General shift	4	Upper Age limit: 45 years Degree / Diploma in Mechanical or Electrical and Electronics Engineering with minimum 3 years' experience in Foreshore terminals / Refineries and with additional qualification of Diploma in Fire & Safety.

2	Safety Officer	1 in General shift	1	Upper Age limit: 45 years Degree / Diploma in Mechanical / Electrical and Electronics Engineering with Diploma in Industrial Safety with 3 years' experience in Industry.
3	Motor Mechanic	2 per shift plus 1 reliever in General shift	7	Upper Age limit: 40 years National Trade Certificate with two years' experience in relevant field.
4	Electrician	1 per shift plus 1 reliever in General shift	4	Upper Age limit: 40 years National Trade Certificate with two years' experience in relevant field.
5	Fireman	1 per shift plus 1 reliever in General shift	4	Upper Age limit: 30 years Matriculation, Successful completion of certificate course on Basic Firefighting training from a Govt. Organization / Institution approved by Government. Two years' experience in relevant field. Medical Fitness certificate from a registered medical practitioner to be produced.
6	Housekeeping Staff	2 in General shift	2	Upper Age limit: 50 years 7th Standard pass and above.

1. Shift timing: (i) First Shift from 6 AM to 2 PM (ii) Second Shift from 2 PM to 10 PM (iii) Third Shift from 10 PM to 6 AM and (iv) General Shift from 8 AM to 4 PM.
2. In each shift, one Shift in Charge, two Motor Mechanics, one Electrician and one Fireman shall be mandatorily available. During the weekly off of staff in each of the above category, the concerned reliever shall be posted in that shift to maintain the shift strength.
3. The Safety Officer and available relievers in each category and the House keeping staff shall attend General shift duty and shall avail weekly off.

8. Pattern of Uniform and details of PPE for each category:

A. Pattern of Uniform for each category		
Sl. No.	**Category**	**Dress Code**
1	Shift in Charge	Flame proof white boiler suit
2	Safety Officer	Flame proof white boiler suit
3	Motor Mechanic	Flame proof Navy blue boiler suit
4	Electrician	Flame proof Navy blue boiler suit
5	Fireman	Flame proof Khaki Boiler suit
6	House Keeping Staff	As per Standard Practice.
B. Details of Personal Protective Equipments (PPE)		
1	Safety Shoes Black	
2	Safety Helmet with ventilation, ratchet, sweat band, chin strap	
3	Safety Apron and goggles	
4	Reflective Safety Vests (net type) shall be provided to the categories of workmen as per their nature of duty.	
5	Suitable type of Hand Gloves depending of their nature of duties	
6	Raincoat.	
Note: In case of damage to PPE, the contractor shall provide a new PPE to his workforce at his own cost. Contractor shall ensure the same by having spare stock of the PPEs.		

Appendix-4

MULT INVENTORY LIST - COMMON FACILITIES		
Sl. No.	**Common Facilities**	**Qty.**
1.Mult Road		
1	90 W LED Street lights (from SEZ road to MULT)	60
2	90 W Flame proof LED Street lights	11
3	90 W LED Light fitting on MULT cross over	1
4	45 W flame proof LED fitting on MULT cross over	1
5	Boom barrier	4
6	Cabin fan (Luminous)- big security cabin	2
7	Light fittings -big security cabin- 2 inside, 1 outside	3
8	Boom barrier 1 and 2 cabin remote - in big security cabin	2
9	Cabin fan (Bajaj) -small security cabin at MULT and Barge	2
10	Light fittings -small security cabin- 1 inside in each cabin	2
11	Boom barrier 3 and 4 cabin remote -in small security cabin	2
12	Fresh Water tank 5000 l	2
13	Kirloskar Water Pump - 3.7 kw/5 HP, Type: KDS-538+, Sl. No. A17ALW002651, Size:65 x 50, LPS 7.4, Head range- 6 m-38 m, 3 phase, 50 hz, 400V, Induction motor	1
14	FRP hose box (750 mm x 600 mm x 250 mm)	9
15	MCP #12 (at MULT Jn.)	1
2. Fuel Station Compound		
1	Fuel transfer pump with motor and gear box – ROTOPUMPS – Sl. No.GHI181431, GH181432, 5 cub m/hr., 4.4 bar, rpm 447, 1.29 kw, 44 M head / Motor- Crompton greaves, M/C No:BEC2F4DJ, 3 phase induction, Ex"d", IP55, 415 V, 3.26 A, rpm 1415, , 1.5 kw(2 hp), 40 kg,Temp class 4 / Gear box - Radicon , Sl. No. M221457, M221458, 1.5 kw, oil grade 460, O/P rpm 447, Ratio 3.2	2
2	Fuel tank 20 m^3 with fittings	2
3	PRV for fuel line (set @5 kg/cm^2)-FAINGER LESER	1
4	Flame sensor #10	1
5	Gas detector #6	1
6	FRP hose box (750 mm x 600 mm x 250 mm)	2
7	Horn Loudspeaker 15W	1
8	Compound wall 90 W Flame proof LED light fittings	2
9	45 watt flame proof LED fitting	4
10	Earth clamp box with earth clamp	1
11	MCP #14	1
12	Fire water Pipe line 300 NB	38 m
	Civil items kept at Fuel Station Compound	
1	Chain link fencing(50x50x4mm)	50
2	Vertical post of ISA 75x75x8 mm&ISA 50 x 50 x 6 mm	197
3	Concertenacoil 600 mm diabundle	134
4	RBT barbed wire	33
5	40 x8 mm thick FI strip	197
6	Geotextile mat 3100 (200 m roll)	3
7	Geotextile mat 3100 (100 m roll)	2
8	Geotextile mat 3100 (120 m roll)	1
9	Geotextile mat PR24 (200 m roll)	6

10	Geotextile mat PR24 (20 m roll)	1
11	Geotextile mat 3400 (60 m roll)	1
12	Concrete weight for buoy	2
3. Fuel Station Control Room		
1	Talk back field station	1
2	Display enclosure	1
3	45 W Flame proof LED Light fittings	4
4	Industrial emergency light	1 set
	Store items kept at Fuel Station Control Room	
1	Bollards-30T - MULT Jetty	2
2	Bollard Bolts- dia. 32 mm	10
4. DG Station Compound		
1	Transformer -UNIPOWER OIL COOLED TRANSFORMER-CLASS A, SL. NO: UTPL/5640, 1250 KVA, HV 11000V,LV-433, HV-65.61 A, LV 1666.8 A, 50 HZ	1
2	FRP hose box (750 mm x 600 mm x 250 mm)	2
3	Compound wall LED light fittings 25 W	3
4	30 W LED fitting	4
5	36 W LED lights at Transformer area	2
6	MCP #15	1
7	Fire buckets (transformer area)	3
5. VCB Panel Room		
1	VCB panel 11 KVA- Larsen & Toubro	1
2	LBS	1
3	UPS	1
4	RTCC panel	1
5	Earth Rod	1
6	HT Gloves	1 pair
7	Industrial emergency light	1 set
8	LED tube light 20 W	4
6. DG Station Building		
1	MV Panel	1
2	SYN Panel	1
3	APFC Panel	1
4	Power Panel 1	1
5	Main Lighting Panel	1
6	LDB3	1
7	LDB 4	1
8	PDB 1	1
9	Distribution panel Hitek	1
10	63 A 5 PIN Metal socket	1
11	Air circulator 180 W- HAVELLS	5
12	Horn loudspeaker 15 W	1
13	Talk back field station	1
14	DG set- Engine-CUMMINS INDIA, Engine Sl.No. 25430163(#1)/ 25430399(#2), QSN-14-G2, 6 cylinder inline,4S, radiator cooled, 486 HP(363 KW), 1500 RPM, Diesel sump capacity 500 lit., Date of mfg : 23-09-2017(#1) /01-10-2017(#2)	2
15	DG set - AC Generator - STAMFORD-, Type-HCI444F1, Sl.	2

	No.N17J437761/N17J437762, Salient pole self-excited, 380 KVA, 1500 rpm,415 V, 3 PH, 528.7 A, IP 23 Isolator panel-POWERICA 380 KVA, Sl. No. 01/PSM1/710250, 01/PSM1/710251, Type SPL	
16	Battery PULSE ULTRA lite- 12 volt 65 AH -2 Nos. / Exide xp1000-2 Nos.	4
17	Overhead Diesel tank - Capacity- 500 lit. (D 75 cm x L 125 cm)	1
18	LED Tube Lights- 20 W	22
19	Industrial emergency light-in rest room, Lighting panel room and DG room	3 set
20	Fire buckets	3
21	First Aid Kit box- in Lighting panel room and DG room	2
22	9 Kg Dry chemical powder extinguisher - M4/22, M8/22	2
7. Toilet-Gents		
1	Shower with angle cock	1
2	Long body tap	1
3	Wash basin, fill up tap with angle cock	1
4	European closet with flush tank and angle cock	1
5	Health faucet with angle cock	1
6	Urinal with angle cock	2
7	LED Tube light -20 W	2
8	Sintex tank- 1000 lit.	1
8. Toilet-Ladies		
1	Shower with angle cock	1
2	Long body tap	1
3	Wash basin, fill up tap with angle cock	1
4	European closet with flush tank and angle cock	1
5	Health faucet with angle cock	1
6	LED Tube light -20 W	1
9. MULT Approach Trestle		
1	Lamp posts M1 to M10 with Flame proof LED light fitting- 90 W	10
2	Control Building side wall LED light fittings 25 W-left and right	8
3	FRP hose box (750 mm x 600 mm x 250 mm)	5
4	PRV -Foam line-FAINGER LESER	1
5	MCP #5,#6,#7,#8,#11	5
6	Diesel tank 88 lit. with fittings	1
7	Diesel tank 480 lit. with fittings	3
8	Diesel tank 750 lit. with fittings	3
10. Fire Pump Room (Ground Floor)		
1	MCC panel (enclosing PLC- Allen Bradley)	1
2	Power distribution panel	1
3	Battery charging panel	1
4	UPS 2 KV (Supra)	1
5	Battery for UPS-Cummins Pulse ultra 2 X 12 v x 65 AH / Exide Powersafe plus 2 x 12 V x 42 AH	4
6	Exhaust fan	2
7	LED Tube Light fittings	20 sets
8	Horn loud speaker 15 W	1
9	Talk back field station	1
10	GSM dialler	1
11	Jockey pump- Kirloskar Brothers Ltd.-, 2017 April, Vertical turbine, RPM2900, Head 130.6 m, 144 m^3/hr, 2017 make, VT275HL-4 stage	2

12	Jockey Motor- Kirloskar Electric Co., M/c No: SL 16637-01 /16637-02, 90 KW, RPM 2960, 3 Phase induction, 415v, 50 Hz, AC	2
13	Foam transfer pump-Tushaco, Model: T1SH 1450.2 , Single screw bare pump, 250 RPM, 750 lpm@17bar, Sl. No. 1600537/1912,1913	2
14	Motor for foam transfer pump-Kirloskar, M/c No: SP 16665-01, 37 KW, 1474 RPM, 3PH, 415V, 50 Hz, AC	1
15	Gear box for Electrically driven foam pump-ELECON Input 1500 rpm, output 250 rpm, Sl. No. H57979	1
16	Diesel Engine for foam pump- Greaves cotton Ltd, 3G11T, 3 cyl, 4S, Turbocharged, 72 HP(52 KW) at 2200 RPM, Sl. No. 1208031701125, Mfg. 24/01/2017	1
17	Gear box for Engine driven foam pump -ELECON, Input 2200 rpm, output 250 rpm, Sl. No. H57703	1
18	Foam filling pump-KOEL domestic self-priming pump, 0.5 hp, 25x25mm, Sl. No. DD1840046649, Model No:MM1.2525.05.1.12	1
19	Pressure switch for Fire Pump and Jockey pump	10
20	Fire pump Engine-Cummins India, 480 hp at 1800 rpm, 6 cylinder vertical turbo charged, NTA855-F , Engine serial no: 25402749 - mfg. Feb 2017- #1) , 25423690 - mfg. Jan 2017 -#2) , 25423689 -mfg. Jan 2017 -#3)	3
21	Fire pump - Kirloskar Brothers Ltd., vertical turbine, 245.438 kw, 91m head, 750m^3/hr. @91 m head, Impeller dia. 425 mm, BHR42-22.5 DEG 2 stage , Sl. No: 153B917001-(#1-mfg. may 2017), Sl. No: 153B917002-(#2-mfg. may 2017), Sl. No: 153B917003-(#3-mfg. may 2017),	3
22	Gear box for 480 Engine- ELECON KAV225 , Speed ratio 1.2:1, Horizontal shaft speed 1800 rpm, Vertical shaft speed 1500 rpm, Oil grade- VG 220- 35-40 L, Sl No: WHG H58547 UP-CW,WHG H58546 UP-CW,WHG H58545 UP-CW	3
23	Fire pump Engine- Cummins India, 680 hp at 1800 rpm, 6 cyl vertical turbo charged,KTA-19-F, Engine serial no: 25423911 -mfg. march 2017- (#4) , 25423913 -mfg. march 2017-(#5) , 25423912 -mfg. march 2017- (#6) with Lubrication pump- 0.75 kw, 1400 rpm, IP55	3
24	Fire pump - Kirloskar Brothers Ltd., vertical turbine, 385.365 kw, 141 m head, 760m^3/hr. @141m head, Impeller dia. - 430 mm BHR42-22.5 DEG 3 stage, Sl. No: 153B917004 -(#4- mfg. may 2017), Sl. No: 153B917005 -(#5- mfg. may 2017), Sl. No: 153B917006 -(#6- mfg. may 2017)	3
25	Gear box for 680 Engine - ELECON KAV250,Speed ratio 1.2:1, Horizontal shaft speed 1800 rpm, Vertical shaft speed 1500 rpm, Oil Grade- VG 220- 45 Litres, Sl.No. WGH H58550 UP-CW,WGH H58548 UP-CW,WGH H58549 UP-CW	3
26	HOT crane 5 ton capacity Single Girder, Make: Indef Hercules hoists ltd-2017, Sl. No. P1718000005, Size: span 7.85 mx height of lift 5.817 mx travel length 50 m	1
27	Battery 12 volt, 180 AH, EXIDE XP1800 - 7 Nos. / EXIDE GOLD 180 R- 1 No. /Cummins Pulse ultra plus with SMPS charger - 24V x 32 AH Sl. NO. 1J01100274, 1I01100236 E214- 2 Nos. for FIRE PUMP ENGINES	10
28	Battery 12 volt, 88 AH, EXIDE XP880 for FOAM PUMP ENGINE	2
29	Battery charger for Foam pump Engine -OUTPUT 12 VDC, 10 A, INPUT 230 VAC with BOOST, FLOAT and BATT REV indication, Model-BCW-1210, Mfg.Yr. 09/2019, Shavison Electronics Pvt. Ltd.	1
30	Battery charger for Fire pump Engine -INPUT 230 VAC, 4.5 A, 50/60 Hz, Output 24 VDC, 20 A with BOOST, FLOAT and BATT REV indication,	6

	Model-BCD-2420, Mfg.Yr. 08/2020, Shavison Electronics Pvt. Ltd. Sl. Nos. 200800016,200800022, 200800023, 200800029,200800033 and 200800034.	
31	Fire bucket	3
32	First Aid Kit box	1
33	9 Kg Dry chemical powder extinguisher- M9/22, M19/22	2
11. First Floor-Foam Tank Room and Office		
1	SS Foam tank 20520 lit. with fittings- SS316L	2
2	Foam concentrate in Tank 1 and Tank 2 (3100 litres in each tank)	2
3	Chain pulley block- 3.2 ton	1
4	Horn loudspeaker 15 W	1
5	Air circulator- 180 W-Havells - in dining room	2
6	Multi sensor detector-white	6
7	Electronic sounder-red	1
8	MCP #9	1
9	Fire Escape hydrant with hose reel	1
10	FRP hose box (750 mmx 600 mmx 250 mm)	1
11	LED Tube Light fittings at Foam tank area	8 sets
12	Aluminium 2 step ladder- 10 ft.	1
13	Aluminium Movable platform-6 ft.	1
14	UPS 6 KV (Supra)	1
15	SMF-VRLA Battery for UPS- AMARON Quanta 12 V 65 AH Model-12AL065	10
16	False Ceiling Lights (big)	13
17	False ceiling lights (small)	10
12. First Floor- Common Toilet		
1	Shower with angle cock	1
2	Long body tap	1
3	Wash basin, fill up tap with angle cock	1
4	European closet with flush tank and angle cock	1
5	Health faucet with angle cock	1
6	Urinal with angle cock	2
7	Exhaust fan	1
8	LED tube lights	3
13. First Floor-Locker Room-		
1	IFSC (International shore connection)1 No.to be fitted in line by M/s Hitek	2
2	Composite hose 80 NB x 6 m	1
3	Ball valve 100 NB , #300	4
4	Collar 300 NB	4
5	Pyro-protect brand Fire hose 63 mmx 15 m - To be placed in Hose box by M/s Hitek	4
6	Hydrant valve Single headed outlet Size:75 mm inlet x 63 mm outlet, IS 5290 Type A (Gun metal)-To fitted in line by M/s Hitek	75
7	Gun metal branch with nozzle-To be fitted in line by M/s Hitek	2
8	Talk back field station	1
9	Horn loud speaker flameproof 15W	1
10	Multi sensor detector-white	3
11	Fire alarm panel sounder-red	1
12	Pr. gauge (range 0-30 kg/cm^2)-FWL-To be fitted in line by M/s Hitek	24

13	Pr. gauge (range 0-25 kg/cm^2) -To be fitted in line by M/s Hitek	14
14	Pr. gauge (range 0-21 kg/cm^2) -To be fitted in line by M/s Hitek	26
15	Pr. gauge (range 0-14 kg/cm^2) -To be fitted in line by M/s Hitek	4
16	Tool box	2
16.1	Double end spanner 6x7	2
16.2	Double end spanner 8 x 9	2
16.3	Double end spanner 10x11	1
16.4	Double end spanner 12x13	2
16.5	Double end spanner 14x15	2
16.6	Double end spanner 16x17	2
16.7	Double end spanner 17x19	2
16.8	Double end spanner 18x19	2
16.9	Double end spanner 20x22	2
16.10	Double end spanner 21x23	1
16.11	Double end spanner 22x24	2
16.12	Double end spanner 25x28	2
16.13	Double end spanner 30x32	2
16.14	Hammer	2
16.15	Adjustable spanner	2
16.16	Pipe Wrench	2
16.17	Screw Driver	2
17	Diesel Engine spares	1 lot
18	F lever	6
19	LED tube lights- 20 W	2
14. Second Floor-Control Room		
1	MCP #10	1
2	Air conditioner- Voltas Inverter AC- 183V DZU, Model-4502368/2018 with remote	1
3	Public address system panel with Panasonic phone(KX-DT543)	1
4	Main Fire Alarm panel	1
5	Mimic panel	1
6	Siren accept panel	1
7	Remote Tower Monitor control panel	1
8	Hook release Interface with server- Trelleborg Marine Systems	1
9	Hook release control station-Trelleborg Marine Systems	1
10	Weather Station	1
11	Current & Wave Sensor, Tide Sensor, Laser Sensor, Display Unit.	1
12	Monitor DELL- SVC Tag- BCHZ692 Express service code: 24700394342 -S/N:CN-04TFPN-72872-634-AAKB-A02	1
13	Wireless keyboard and mouse	1
14	Micro PC Desktop- DELL OptiPlex 3040	1
15	Printer - Canon Laser Multi-function printer- Image class MF241d-print,scan,copy,duplex	1
16	Table and chair	1
17	VHF Base station -Motorola , Model : AZM28JNN9RA2AN , Equip type: XiR M8668i VHF, Sl. No. 511TTP2178	1
18	Power supply for Base station - AXIOM, BM 100B, 13.5 V, 10 A	1
19	Walkie talkie with charging unit- MOTOROLA- Model No: AZH56JDN9RA1AN, Sl. Nos. 871TUVD725, 871TUVD819, 871TUPZ403, Equipment type: XIR P8668I VHF, 7.4 V rechargeable lithium ion battery,	3

	2900 mAh, Sl. Nos. 5000024163DB, 5000024276F4, 5000024389E0	
20	VHF Base station Antenna-Kenstel, Model KF 150-6, Freq. 145-155 MHz, Gain 6 dB, Jan 2018	1
21	Multi sensor detector-white	1
22	Siren 3 km range	1
23	Weather station-Trelleborg Marine Systems	1
24	Solar Aviation lamp	1
25	Water tank 1000 l	2
26	LED tube lights- 20 W	3
27	LED light 25 W Crompton	2
28	Stair case LED Tube lights- 20 W	9
15.MULT Jetty		
1	Talk back field station-1 berth+1 operator room	2
2	Horn loud speaker 15 W	2
3	Gas detector #1,#2,#3	3
4	Flame sensor #3,#4,#5	3
5	Flame proof LED Flood light on cross over -150 W	4
6	Lamp posts M11,M12,M17 with Flame proof LED light fittings-90W	3
7	Flameproof LED light fittings in operator room-45 W	3
8	Emergency Eye and face wash fountain and safety shower	1
9	Jumbo curtain nozzle- 6000 LPM, 150 NB, 7.8 kg/cm^2, 2017 make	2
10	MCP #2,#3	2
11	Water tank 200 lit.	1
12	Ground water monitor 3000 LPM(AIR FOAM MONITOR)-AAAGFM750	2
13	FRP hose box (750 mm x 600 mm x 250mm)	2
14	MVWS spray nozzle (k64) for Under deck dia. 15	72
16. BD(1/2)		
1	FRP hose box (750 mm x 600 mm x 250mm)	1
2	Horn loud speaker 15 W	1
3	MCP #1	1
4	Laser sensor Enclosure	1
5	Jumbo curtain nozzle-6000 LPM	1
6	Flame sensor #1,#2	2
7	Tower curtain nozzles 15 NB	3
8	Local control panel	1
9	Tower Monitor 6000 lpm-Water Foam Monitor(S	1
10	Tower Monitor 6000 lpm-Water Monitor	1
11	QRMH 3,4- Trelleborg Marine Systems, SWL 100 TON X 3	2
12	Lamp posts M13,M14 with Flame proof LED light fittings	2
13	Flame proof 90 W LED fitting	1
17. Walkway BD(1/2) to MD2		
1	Lamp posts with LED light fittings-25 W	5
18. MD2		
1	FRP hose box (750 mm x 600 mm x 250mm)	1
2	Display Board-Trelleborg Marine Systems	1
3	QRMH 2 -Trelleborg Marine Systems,SWL 100 Tonx 3	2
4	Lamp post M15 with Flame proof LED light fitting-90 W	1
19. Walkway MD2 to MD1		
1	Lamp posts with LED light fittings-25 W	3

20. MD1		
1	QRMH 1 -Trelleborg Marine Systems,SWL 100 Tonx 3	1
2	Lamp post M16 with Flame proof LED light fitting- 90 W	1
21. BD(3/4)		
1	FRP hose box (750 mm x 600 mm x 250mm)	1
2	Horn loud speaker 15 W	1
3	MCP #4	1
4	Laser sensor Enclosure	1
5	Jumbo curtain nozzle-6000 LPM	1
6	Flame sensor #6,#7	2
7	Tower curtain nozzles 15 NB	3
8	Local control panel	1
9	Tower Monitor 6000 lpm,11bar 6"ANSI 300FF-Water Foam Monitor(SILVANI)	1
10	Tower Monitor 6000 lpm,11bar 6"ANSI 300FFlpm-Water Monitor(SILVANI)	1
11	QRMH 5,6-Trelleborg Marine Systems, SWL 100 Tonx 3	2
12	Lamp posts M18,M19 with Flame proof LED light fittings- 90 W	2
13	Flame proof 90 W LED fitting	1
22. Walkway BD(3/4) to MD3		
1	Lamp posts with LED light fittings-25 W	5
23. MD3		
1	FRP hose box (750 mm x 600 mm x 250 mm)	1
2	QRMH 7 -Trelleborg Marine Systems ,SWL 100 Tonx 3	2
3	Lamp post M20 with Flame proof LED light fitting-90 W	1
24. Walkway MD3 to MD4		
1	Lamp posts with LED light fittings-25 W	3
25. MD4		
1	Current and wave sensor- Trelleborg Marine Systems	1
2	Tide sensor -Trelleborg Marine Systems	1
3	QRMH8- Trelleborg Marine Systems, SWL 100 Tonx 3	2
4	Lamp post M21 with Flame proof LED light fitting-90 W	1
26. Items to be shifted to MULT Store Room		
1	75 kg wheeled dry chemical powder extinguisher	12
2	50 Kg wheeled dry chemical powder extinguisher	2
3	9 Kg Dry chemical powder extinguisher (ABC type)	18
4	4.5 Kg CO_2 type fire extinguisher	9
5	Foam type extinguisher (9 lit.)	5
6	Foam type extinguisher (50 lit.)	2
7	Pyroprotect brand Fire hose 63 mmx 15 m	70
8	Pyroprotect brand Fire hose 63 mmx 7.5 m	2
9	Gun metal branches with nozzles	36
27. Fire Water Lines - Cemented (8 mm thick) , wall thickness 6.35 mm		Approx. Length in M
1	450 mm Tower and Hydrant line header with valves	318
2	350 mm line from pumps to header with Gate valves and NRVs, Barge Jetty/Booster area hydrant line through FP room, Tower monitor line from service platform start to BDs.	103

3	300 mm hydrant line from MULT trestle to DG station with valves (including line to booster area)	292
4	Underground 300 mm hydrant line to DG station (at Fuel storage area, DG station and Manifold 1)	74
5	250 mm tower line from BD's to tower monitor's, hydrant line for MULT Jumbo Curtain and U/DECK with Gate valves and DVs	163
6	200 mm drain line from 450 mm header line, U/D line with Gate valves, DVs and double hydrant post	10
7	150 mm Jockey line to header, MULT hydrant posts, hydrant line from BDs to MDs, fuel station and DG station with valves and double hydrant posts	323
8	100 mm hydrant line to FEH and IFSC with Gate valves and DVs	17
9	80 mm SS engine cooling lines and FEH line with valves with valves and DVs	59
10	50 mm SS engine cooling lines, tower curtain line and drain line at BD(1/2) with valves	51
11	25 mm SS engine cooling lines	36
12	SS Under deck berth protection lines (network)	-
28. Foam line-SS		Approx. Length in M
1	100 mm Foam line from Foam tank to Foam pump and from Foam pump to MULT approach trestle with Gate valves and NRVs	38
2	80 mm Foam line from MULT approach trestle to Service platform	101
3	50 mm Foam return line and inline balance proportionator line at BD1/2, BD3/4	109
4	25 mm Foam filling line with tank fittings,Foam line to Ground water /foam monitors at MULT	77.5
29. Utility Line-MULT		Approx. Length in M
1	150 mm Potable water line valves (galvanized carbon steel A 53 GR-B #150)	250
2	80 mm Potable water line with IFSC	7
30. Fuel Oil Line		Approx. Length in M
1	80 mm Fuel oil line from Filling point to UG tanks with valves and fittings(CS #150 API 5L GR-B)	17
2	40 mm Fuel oil line from UG tank to DG set tanks and FP tanks with valves and fittings (CS #150 API 5L GR-B)	322
3	Underground 40 mm Fuel oil line infront of Fuel storage area and DG station	52
4	25 mm Fuel oil return line to UG tanks and Fuel oil distribution line to FP Diesel sub tanks and Engines with valves and fittings (CS #150 API 5L Gr. B)	130

31. List of Valves, NRVs etc. in Fuel Oil Line- Common Facilities			
Sl. No.	**Description**	**Qty.**	**Location**
1	80 mm #150 Ball valve	3	Fuel tank inlet-3
2	80 mm #150 Y type strainer	1	Fuel station-1
3	40 mm #150 Ball valve	12	Fuel station – 2

			Outside left/ right-2 DG sub tank -1 FP Diesel sub tank inlet-7
4	40 mm #150 NRV	2	Fuel station-2
5	25mm #150 Ball valve	3	PRV line to tank-3
6	15 mm #150 Gate valve	21	FP Diesel sub tank drain-7 FP sub tank level gauge -7 Diesel engine inlet-7
7	15 mm # 150 Ball valve	2	Fuel station pressure gauge point-2
8	PRV dia. 25 mm set@ 5 kg/cm^2	1	Fuel station-1

31. List of Valves, NRVs, DVs in Fire Water / Foam Line - Common Facilities

Sl. No.	Description	Qty.	Location
1	450 mm dia., #150	3	Hydrant to Tower Inter Connection -1 MULT Trestle -2
2	350 mm dia., #150	6	FP1,FP2,FP3,FP4,FP5,FP6
3	300 mm dia., #150	6	FP Room to MULT Jn. -1 MULT Jn.toManifold1-1 Manifold1 toBooster Area-1 MULT Jn.toFuel Station -1 DG RoomtoManifold2 -2
4	250 mm dia., #150	8	JC1,JC2,JC3,JC4, BD1,BD2- Behind DV forWater Foam and Water Monitors (4)
5	200 mm dia., #150	3	Underdeck Line -1 FP Room Side Drain -2
6	150 mm dia., #150	27	MULT Approach Trestle -4 Jockey-2 FP Side Path -1 Service Platform Ground Monitor-2 SP Hydrant-2 HydrantsforBD(1/2),BD(3/4),MD2,MD3 - 4 MULT Jn.toManifold1-1 Manifold1-4 Fuel Storage Area-2 MULT Jn.toFuel Storage-2 Fuel Storage to DG Room -1 DG Room -2
7	100 mm dia., #150	8	MULT IFSC- 1 FEH-1 Foam Pump Intake Line -2 Foam Pump Delivery -2 Foam Tank Delivery -2
8	80 mm dia., #150	13	Engine Cooling Line -12 Foam Line to MULT Turning -1
9	50 mm dia., #150	6	Drain Line at BD1-1 Foam Recirculation Line -1 Foam Tank Inlet - 2 Foam Tank Drain -2
10	40 mm dia., #150	1	Foam Line Isolation Valve to Barge Jetty

11	25 mm dia.	6	To Ground Water Foam Monitors of Service Platform -2 Foam Tank Bottom for Level Gauge -4
12	15 mm dia.	2	Foam Tank Level Gauge Drain Point -2
13	NRV 350 mm , #150	6	FP1,FP2,FP3,FP4,FP5,FP6
14	NRV 150 mm , #150	4	Jockey Line -4
15	NRV 100 mm , #150	2	Foam Pump Delivery -2
16	DELUGE VALVE 200 MM, #150	9	Tower Monitor Line -4 JC - 4 Underdeck –1
17	Solenoid operated valve – MULT(Flow control valve-Rotex)	11	MULT-Tower Monitor Line -4 JC – 4 Underdeck -1 Foam line-2
18	Y Type strainers 100 mm, #150	2	Foam pump line-2
19	Y Type strainers 80 mm, #150	6	Fire pump -6
20	Inline balance proportionator	2	BD(1/2)-1 BD(3/4)-1

32. List of Valves in Fresh water line- Common Facilities			
Sl. No.	**Description**	**Qty.**	**Location**
1	150 mm #150 Gate valve	1	MULT bridge Junction.
2	80 mm #150 Gate valve for IFSC	1	Service platform.
3	25 mm #150 Gate valve	2	Rest room side and shower

Appendix-5

MULT NON-LPG INVENTORY LIST		
Sl. No.	**Non- LPG Cargo handling facilities**	**Qty.**
1.MULT Road		
1	90 W Flame proof LED Street lights	12
2	90 W LED Light fitting on Barge cross over	1
3	45 W flame proof LED fitting on Barge cross over	1
4	MCP #16 (at Barge Jn.)	1
2. Manifold 1		
1	Electric Reciprocating Air compressor - Kirloskar Pneumatic Co. Ltd,Sl. No. REC003884,Single stage, 2 cylinder, dia. 250mm, Reciprocating, Balanced, Opposed piston type, Horizontal, Non-lubricated, water cooled, Model:1HA2T-730 rpm, Output pressure-3kg/cm^2, Free Air Delivery-625 CFM(17.69m^3/min), Motor-75 KW, 415 V, 50 HZ, 1500 RPM.	1
2	Compressor after cooler-Kirloskar Pneumatic Co. Ltd. (Sl.No. 788, Design pressure 5.5 kg/cm^2 shell)with safety valve	1
3	Air Receiver tank -Kirloskar Pneumatic Co. Ltd., 1000 lit., Sl. No. R18061120 with safety valve(max. working pressure 7 Kg/cm^2,Sl. No. 1805052) and Pr. Gauge(0-17.5 kg/cm^2Fiebig)	1
4	Air Dryer, Kirloskar Pneumatic Company, Model No: KRD1000, Sl. No. 0033,Capacity-27.9 m^3/min, 415 V, Working Pr. 16 bar-Refrigerated type, Pressure dew point- 3-7 ^{0}C.	1
5	Starter cum Control panel, Sl. No. CEPL/16/2018-19	1
6	Sintex tank 500 lit.	1
7	Water pump- Crompton -MINI SAPPHIRE 2, 0.5 hp, 25x25 mm.	1
8	Gas detector #4,#5	2
9	Flame sensor #8,#9	2
10	Horn loudspeaker 15 W	1
11	Talk back field station	1
12	Display enclosure	1
13	Remote PLC panel	1
14	Nitrogen cylinder 80 lit.	3
15	Pressure regulator for Nitrogen cylinder (set@1.6 kg/cm^2)	1
16	Compound wall LED light fittings- 90 W	6
17	Flame proof LED light fittings -45 W	12
18	Pig receiver	2
19	PRV -Pig receiver fitting (set@ 2.5 kg/cm^2)-FAINGER LESER	2
20	Pr.Transmitter on Pig receiver and product line (0-16 kg/cm^2)	4
21	Pig signaller-Flag type,Setting 1450 psi	2
22	Temperature transmitter on BO line	1
23	TRV- product line (set@ 18 kg/cm^2)-FAINGER LESER	2
24	FRP hose box (750 mm x 600 mm x 250 mm)	4
25	Slop tank 20 KL (CS to IS 2062 GR B with external FRP coating) with fittings	1
26	Slop pump with motor and gear box-ROTO PUMPS Sl. Nos. GH181381 and GH181383 20 m^3/hr, 2.5 bar,25MH, rpm 405, 4.69kw / Motor - Crompton	2

	Greaves,3 phase induction, IP55,Ex"d", 5.5 kw (7.5 hp), 415V, 10.6 A, M/C No: BEG7-5F4DJ, 110 kg,Temp class 4 Gear box-Radicon, Sl. Nos. M221450 and M221452 5.5 KW, Oil grade 460, O/P rpm 405, ratio 3.58	
3. Manifold 2		
1	Electric Reciprocating Air compressor - Kirloskar Pneumatic Co. Ltd, Sl. No. REC003885, Single stage, 2 cylinder, dia. 250mm, Reciprocating,Balanced, Opposed piston type,Horizontal,Non-lubricated,water cooled, Model:1HA2T- 450 rpm,output pressure - 3kg/cm^2, Free Air Delivery-385 CFM(10.9 m^3/min). Motor- 45KW, 415 V, 50 HZ, 1500 RPM.	1
2	Compressor After cooler-Kirloskar Pneumatic Co. Ltd. (Sl.No. 787, Design pressure 5.5 kg/cm^2 shell)with safety valve.	1
3	Air Receiver tank -Kirloskar Pneumatic Co. Ltd, 1000 lit., Sl. No. R18061119 with safety valve(max. working pressure 5 kg/cm^2, Sl. No. 1712101) and Pressure Gauge(0-17.5 kg/cm^2Fiebig).	1
4	Air Dryer,Kirloskar Pneumatic Company,Model No: KRD 600, Sl. No. 0033,Capacity-27.9 m^3/min, 415 V, Working pressure 16 bar-Refrigerated type, Pressure dew point- 3-7 ^{0}C	1
5	Starter cum Control panel	1
6	Sintex tank 500 L	1
7	Water pump – Crompton-MINI SAPPHIRE 2, 0.5 hp, 25x25 mm	1
8	Gas detector #7,#8	2
9	Flame sensor #11,#12	2
10	Horn loudspeaker 15 W	1
11	Talk back field station	1
12	Display enclosure	1
13	Remote PLC panel	1
14	Nitrogen cylinder 80 lit.	3
15	Pressure regulator for Nitrogen cylinder (set@1.6 kg/cm^2)	1
16	Compound wall LED light fittings-90 W	6
17	Flame proof LED light fittings- 45 W	12
18	Pig receiver	2
19	PRV- Pig receiver fitting (set@ 2.5 kg/cm^2)-FAINGER LESER	2
20	Pr.Transmitter on Pig receiver and product line (0-16 kg/cm^2)	4
21	Pig signaller-Flag type,Setting 1450 psi	2
22	Temperature transmitter on BO line	1
23	TRV- product line (set @ 18 kg/cm^2)-FAINGER LESER	2
24	FRP hose box (750 mm x 600 mm x 250 mm)	4
25	Slop tank 20 KL (CS to IS 2062 GR B with external FRP coating) with fittings	1
26	Slop pump with motor and gear box - ROTO PUMPS Sl. Nos. GH181380 and GH181382 20 m3/hr, 25MH, 4.69 KW, 2.5 bar, 405 rpm / Motor-Crompton Greaves, 3 phase induction Ex"d", 5.5 kw(7.5 hp), 1450 rpm, 10.6 A, IP 55, 110 kg, M/C No: BEG7.5F4DJ,Temp class 4 Gear box - Radicon, Sl. Nos. M221449, M221451 5.5 kw, O/P rpm -405, ratio 3.52, Oil grade 460	2
27	Hose pipe 300 NB X 5 m -for both manifolds (2 Nos. per line)	8
28	Hose pipe 250 NB X 6 m - for service platform (3 Nos. per line)	6

29	Hose pipe 200 NB X 6 m -for Barge Jetty (3 Nos. per line)	6
4.Barge Approach Trestle		
1	Lamp posts B1 to B6 with Flameproof LED light fittings-90 W	6
2	FRP hose box (750 mm x 600 mm x 250 mm)	3
3	Flow meter-Model UFM, Sl.Nos. 18803339 and18803343 Range- 0-1200 m^3 /hr (external clamp type non- protruding)	2
4	MCP #17,#18,#19	3
5. Barge Jetty		
1	Emergency Eye and face wash fountain and safety shower	1
2	Water tank- 200 lit.	1
3	LED Light fitting in operator room-45 W	3
4	Gas detector #9,#10	2
5	Flame sensor #13,#14,#15,#16	4
6	FRP hose box (750 mm x 600 mm x 250 mm)	2
7	Ground water foam monitor 3000 LPM (Air Foam Monitor)-AAAGFM750	2
8	MCP #20,#21,#22,#23	4
9	Horn loud speaker 15 W	2
10	Talk back field station-1 on jetty/1 inside operator room	2
11	Jumbo curtain nozzle 1000 LPM, 80 NB, 5.5 kg/cm^2, 2017 make	2
12	Stripper pump with motor and gear box -ROTO PUMPS- 5 m^3/hr, 3 BAR, 30 MH, 1.13 kw, 447 RPM, Sl. Nos. GH181466 and GH181469 Gear box - 1.5 kw, ratio3.21, O/P rpm 447, oil grade 460, Sl. No. M221459 and M221462/ Motor-Crompton Greaves, 3 PH Induction motor, Ex "d", 1.5 KW, rpm 1415, A 3.26, IP 55, 40 KG, M/C No. BEC2F4DJ.	2
13	Pressure transmitter in stripper line- 1 IN/1 OUT (0-16 kg/cm^2)	2
14	Slop oil line sight flow glass (SFG)	1
15	Slop tank 2 KL (CS to IS 2062 GR B with external FRP coating) with fittings	1
16	Slop pump with motor and gear box - ROTO PUMPS – Sl. Nos. GH181433 and GH181434, 5m^3/hr, 38MH,1.41 KW, 3.8 bar, 367 rpm Motor-Crompton Greaves,3 phase induction Ex"d",2.2kw(3 hp), 1430 rpm, 4.55 A, IP 55, 54 kg, M/C No: BED3F4CJ,Temp class 4 Gear box - Radicon, Sl. Nos. M221455 and M221456,2.2 kw, O/P rpm -367, ratio 3.95, oil grade 460	2
17	TRV-product line (set @ 18 kg/cm^2)-FAINGER LESER	2
18	Pig launcher	2
19	PRV- Pig launcher fitting (set@ 2.5 kg/cm^2)-FAINGER LESER	2
20	Pressure transmitter on Pig launcher and product line (0-16 kg/cm^2)	4
21	Temp transmitter in BO line	1
22	Lamp posts B7 to B13 with Flame proof LED light fittings-90 W	7
6. MULT Approach Trestle		
1	Flow meter- Model UFM, Sl.Nos. 18803340 and 18803337 Range -0-1200 m^3/hr. (external clamp type non- protruding)	2
7. First Floor-Locker Room		
1	IFSC (International shore connection)2 Nos.to be fitted in line by M/s Hitek	3

2	Flexible hose 25 NB x 6 m	4
3	Flexible hose 80 NB x 6 m	2
4	Flexible hose 100 NB x 6 m	2
5	Pipe cleaning Pig	2
6	PIG stopper rod	2
8.MULT Jetty		
1	Pig launcher	2
2	PRV- Pig launcher fitting (set@ 2.5 kg/cm^2)-FAINGER LESER	2
3	Pressure transmitter on Pig launcher and product line (0-16 kg/cm^2)	4
4	Temp transmitter on BO line	1
5	Pressure transmitter in stripper line- 1 in/1 out (0-16 kg/cm^2)	2
6	Slop oil line sight flow glass (SFG)	1
7	Slop tank 4 KL (CS to IS 2062 GR B with external FRP coating) with fittings	1
8	Slop pump with motor and gear box - ROTO PUMPS, Sl. Nos. GH181343 and GH181344, 10 m^3/hr, 3.26 KW, 60MH, 6 bar, 367 rpm Motor-Crompton Greaves, 3 phase induction Ex"d", 3.7 kw (5 hp), 1450 rpm, 7.47 A, IP 55, 73 kg, M/C No: BEE5F4CJ, Temp class 4 Gear box- Radicon, Sl. Nos. M221453 and M221454, 3.7 kw, O/P rpm -367, ratio 3.95, oil grade 460	2
9	Stripper pump with motor and gear box -ROTO PUMPS – Sl. Nos. GH181467 and GH181468, 5 m^3/hr, 30 MH, 3 bar, 1.13 KW,RPM 447 Motor-Crompton Greaves, 3 phase induction Ex"d", 1.5kw (2 hp), 1415 rpm, 3.26 A, IP 55, 40 kg, M/C No: BEC2F4DJ,Temp class 4 Gear box Sl. Nos. M221460 and M221461, 1.5 kw, oil grade 460, O/P rpm 447, gear ratio 3.21	2
10	TRV - Product line (set@ 18 kg/cm^2)-FAINGER LESER	2
9. Product Line-MULT Jetty		Approx. Length in M
1	ND 300 mm WO line with valves and fittings (CS #300 API 5L Gr. B, Wall thickness 9.53 mm,OD 323.9 mm, ID 304.8 mm)	257
2	ND 300 mm BO line insulated with valves and fittings (CS #300 API 5L Gr. B, Wall thickness 9.53 mm,OD 323.9 mm, ID 304.8 mm)	253
3	100 mm rain water/spillage line to slope tank with valves	1
4	80 mm drain line to stripper pump with valves and fittings	14
5	50 mm Pig launcher drain to stripper pump with valves and NRVs, TRV line, Stripper pump delivery line to slop tank with valves and fittings and Slop return line with valves and NRVS to Manifold1	286
10. Product Line - Manifold 1		Approx. Length in M
1	100 mm Pig receiver drain line to slope tank with valves and NRVs	44
2	80 mm drain line to slop tank line and slop transfer line to outside with valves	33
3	50 mm TRV overflow to slop tank line with valves and fittings	5
11. Product Line-Barge Jetty		Approx. Length in M
1	ND 300 mm WO line with valves and fittings(CS #300 API 5L Gr. B, Wall thickness 9.53 mm,OD 323.9 mm, ID 304.8 mm)	229
2	ND 300 mm BO line INSULATED with valves and fittings(CS #300	223

	API 5L Gr. B, Wall thickness 9.53 mm, OD 323.9 mm, ID 304.8 mm)	
3	100 mm rain water/spillage line to slope tank with valves	14
4	80 mm drain line to stripper pump with valves and fittings	13
5	50 mm Pig launcher drain to stripper pump with valves and NRVs, TRV line, Stripper pump delivery line to slop tank with valves and fittings and Slop return line with valves and NRVs to Manifold 2.	318
12. Product Line-Manifold 2		Approx. Length in M
1	100 mm Pig receiver drain line to slope tank with valves and NRVs	31
2	80 mm drain line to slop tank and Slop transfer line to outside with valves	31
3	50 mm TRV overflow to slop tank line with valves and fittings	5
13. Utility Line-MULT		Approx. Length in M
1	150 mm Compressed air line with valves (Galvanized carbon steel A 53 Gr. B #150)	250
2	80 mm Compressed air line	7
3	25 mm Nitrogen line with valves and fittings (carbon steel ERW A 106 Gr. B #150)	302
4	Underground 25 mm Nitrogen line inside Manifold 1	11
14. UTILITY LINE- BARGE		Approx. Length in M
1	150 mm Potable water line with valves (galvanized carbon steel A 53 Gr. B #150)	146
2	100 mm Compressor line with valves (galvanized carbon steel A 53 Gr. B #150)	246
3	80 mm Potable water line with IFSC and Compressed air line	4
4	25 mm Nitrogen line with valves and fittings (carbon steel ERW A 106 Gr. B #150)	253
5	Underground 25 mm Nitrogen line inside Manifold 2	11
15. Fire Water Lines - cemented (8 mm thick), wall thickness 6.35 mm		Approx. Length in M
1	300 mm hydrant line from DG station to Barge jetty with valves	324
2	250 mm line in Barge Jetty with Gate valves	119
3	200 mm hydrant line to Manifold 2 with Gate Valves and Double hydrant posts	50
4	150 mm line in Manifolds and Barge jetty with valves and double hydrant posts	180
5	80mm barge jumbo curtain line with valves and DVs	10
16. Foam line SS		Approx. Length in M
1	40 mm Foam line to Barge Jetty	629
2	40 mm Underground Foam line to Barge Jetty infront of Fuel storage area and DG station	52
3	25 mm Foam line at Barge Jetty	6.5

17. List of Valves,DVs etc. in Fire Water / Foam Line - Non LPG

Sl. No.	Description	Qty.	Location
1	250 mm dia., #150	1	Barge Jetty Entrance -1
2	200 mm dia., #150	1	Barge Jn. to Manifold2 -1

3	150 mm dia., #150	16	DG Room to Barge Jn. -4 Barge Jn. to Manifold2 -1 Manifold2- 4 Barge Approach Trestle -3 Barge Jetty -4
4	100 mm dia., #150	2	Barge IFSC- 2
5	80 mm dia., #150	2	Barge JC3,JC4-2
6	50 mm dia., #150	1	Barge Jetty End Lee Side as Drain Point -1
7	25 mm dia.	2	Barge Jetty -2
8	Deluge Valve 80 mm, #150	2	JC5,JC6-2
9	Solenoid operated valve-Barge (Flow control valve-Rotex)	4	JC5,JC6-2 Foam line-2

18. List Of Valves, NRVs and Fittings in Product Line -Non LPG

Sl.No.	Description	Manifold 1		Manifold 2		Service Platform		Barge Jetty		Total
		BO	WO	BO	WO	BO	WO	BO	WO	
Product Line										
1	300 mm, #300 Gate valve API 600	2	2	2	2	1	1	1	1	12
2	300mm, #300 Full Bore Gate Valve API6D	1	1	1	1	1	1	1	1	8
3	250 mm, #300 Gate valve to product hose API 600					1	1			2
4	250mm,#300 NRV to product hose					1	1			2
5	200mm, #300 Gate valve to product hose							1	1	2
6	200mm NRV,#300 to product hose							1	1	2
7	25 mm Gate valve - Air vent valve	1	1	1	1					4
8	15mm, #300 Ball valve for Pressure transmitter	1	1	1	1	1	1	1	1	8
9	Flow meter					1	1	1	1	4
10	Pressure transmitter	1	1	1	1	1	1	1	1	8
11	Temperature transmitter	1		1		1		1		4
		Pig Receiver				**Pig Launcher**				
1	100 mm, #300 Globe valve - on pig receiver/launcher top for compressed air	1	1			1	1			4
2	80 mm, #300 Globe valve - on pig receiver/ launcher			1	1			1	1	4

	top for compressed air									
3	25mm Gate valve on pig receiver/launcher top for PRV and Nitrogen line connection	3	3	3	3	3	3	3	3	24
4	15mm, #300 Ball valve for Pressure transmitter and Pressure gauge	2	2	2	2	2	2	2	2	16
5	PRV dia. 25 mm set@2.5 kg/cm^2 , #300	1	1	1	1	1	1	1	1	8
6	Pressure transmitter (0-16 kg/cm^2),#300	1	1	1	1	1	1	1	1	8
7	Pig signaller #300 Flag type	1	1	1	1					4
		Pig Receiver Drain				**Pig Launcher Drain**				
1	100 mm #150 Gate valve	1	1	1	1					4
2	100 mm NRV #150	1	1	1	1					4
3	50 mm #300 Gate valve					1	1	1	1	4
4	50 mm NRV #300					1	1	1	1	4
	Product Line Drain Line									
1	80 mm #300 Ball valve					1	1	1	1	4
2	80 mm #150 Ball valve	1	1	1	1					4
3	15 mm Ball valve for product hose drain					1	1	1	1	4
	TRV Over Flow Line									
1	TRV dia. 15 mm x 20 mm, #300 set@18 kg/cm^2	1	1	1	1	1	1	1	1	8
2	50 mm #300 Ball valve	1	1	1	1	1	1	1	1	8
3	50 mm #150 Ball valve	1	1	1	1	1	1	1	1	8
	Slop Tank									
1	100 mm #300 Ball valve	1 -drain line- slop tank inlet		1 -drain line- slop tank inlet		2 - drain water/ spillage		2 - drain water/ spillage		6
2	80 mm #150 Ball valve	3 slop pump outlet		3 slop pump outlet						6
3	80 mm NRV #150	2		2						4
4	50 mm #300 Gate valve					1 before SFG- slop		1 after SFG- slop tank		2

				tank inlet line	inlet line	
5	50 mm #300 Ball valve				2-slop pump outlet to manifold	2
6	50 mm NRV #150			2 -slop pump outlet line	2- slop pump outlet line	4
7	50 mm #150 Ball valve	1-slop return line - tank inlet	1-slop return line - tank inlet	2-slop pump outlet to manifold		4
8	15 mm Ball valve for Pressure gauge	1	1	1	1	4
9	Sight flow glass			1	1	2
	Stripper Line					
1	80 mm #300 Ball valve			2 IN	2 IN	4
2	80 mm Y type strainer #300			2 IN	2 IN	4
3	50 mm #300 Ball valve			2 OUT	2 OUT	4
4	50 mm NRV #300			2 OUT	2 OUT	4
5	15 mm Ball valve to Pressure transmitter			2 -(in/out)	2 -(in/out)	4
6	Pressure transmitter (0-16 kg/cm^2),#300			2 -(in/out)	2 -(in/out)	4
	Compressor Line					
1	150mm #150 Globe valve	2		1		3
2	100 mm #150 Globe valve		2		1	3
	Fresh Water Line					
1	150 mm #150 Gate valve		1(Barge bridge Jn.)			1
2	80 mm #150 Gate valve for IFSC				1 at barge jetty	1
3	25 mm #150 Gate valve				2 (rest room side and shower)	2
	Nitrogen Line					
1	25 mm #150 Globe valve	3 (1 to booster area)	2	1	1	7
2	Pressure regulator set@1.6 kg/cm^2	1	1			2

Annexure-1

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

To

The Chief Mechanical Engineer,
Cochin Port Authority.

Sir,

Sub: Tender for "Manning, operation, maintenance and repairs of Facilities and Services provided at the MULT Terminal and Barge Jetty at Cochin Port for a period of One year extendable to further one year as per the discretion of 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. EMD in the form of ----------
2. Tender Document along with Amendment, Addendum, Replies to Pre-bid queries.
3. Power of Attorney as per Annexure-2.
4. Experience details for Minimum Eligibility Criteria as per Annexure-3 and supporting documents.
5. Annual Financial Turnover for the last three financial years and supporting documents.
6. Declaration as per Annexure-4.
7. Bank details as per Annexure-5.
8. Copies of PAN, GST Registration, EPF (if applicable) and ESI registration (if applicable).
9. Partnership deed or Memorandum and Articles of Association of the company and Registration certificate of the company as the case may be.
10. "A" Class Electrical Contractor's license.

(Signature of Authorized Signatory)

Annexure-2

PROFORMA OF POWER OF ATTORNEY / LETTER OF AUTHORITY

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

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 "Manning, operation, maintenance and repairs of Facilities and Services provided at the MULT Terminal and Barge Jetty at Cochin Port for a period of 2 years extendable by further one year as per the discretion of 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 similar works completed by the tenderer during the last seven years ending 30.06.2024

Sl. No.	Details of Work order No. / Agreement No. and date of Work order &Completion certificate	Total Value of Contract in INR	Duration of Contract			Owner's Complete address with Tele Fax / Phone / e-mail address of contact person
			Actual date of commen-cement	Actual date of completion	Total years completed	
1						
2						
3						

Note: Bidder shall enclose the following:

(i) Notarized copies of each Work Order / Agreement issued by the Client.
(ii) Notarized copies of each completion certificate issued by the Client.

Signature of tenderer

Annexure-4

DECLARATION

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

1. No conditions are incorporated in the financial bid. In case any conditions are specified in the financial bid, the tender will be rejected summarily without making any further reference to the bidder.
2. 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.
3. 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.
4. We do hereby confirm that no changes have been made in the tender document downloaded and submitted by us for the above bid. Cochin Port's 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.
5. 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)

Annexure-5

FORMAT FOR FURNISHING BANK INFORMATION FOR E-PAYMENT

1	Name and full address of the beneficiary	
2	Credit Account No.(Should be full 14 digit)	
3	Account Type(SB or CA or OD)	
4	Name of the Bank	
5	Branch(Full address with telephone No.)	
6	MICR code(Should be 9 digit)	
7	Telephone/Mobile/Fax No. of the beneficiary	Telephone:
		Mobile :
		Fax :
8	Cancelled Cheque	

Signature of the bidder with seal

Annexure-6

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 Trustees of the Port of Cochin, incorporated by the Major Port Authority 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 Trustees of the Cochin Port Authority, its successors and assigns) having agreed to exempt (Name of the Contractor/s) (hereinafter called the "Contractor")'from the demand under the terms and conditions of the Contract, vide Chief Mechanical Engineer's letter 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 forebear 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

Annexure-7

FORM OF AGREEMENT
Agreement No. … of ……

Agreement for the work of "Manning, operation, maintenance and repairs of Facilities and Services provided at the MULT Terminal and Barge Jetty at Cochin Port for a period of 1 year extendable to further one year as per the discretion of Cochin Port Authority".

This agreement is made on this day ----- of ------ between the Board of Trustees of Cochin Port Authority commonly known as Cochin Port Authority, a body corporate under the Major Port Authority 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 subject 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 Work order 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 has 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 fail 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) Bill of Quantities (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.

M E M O R A N D U M

a)	General description of work	:	Manning, operation, maintenance and repairs of Facilities and Services provided at the MULT Terminal and Barge Jetty at Cochin Port for a period of One year extendable to further one year as per the discretion of Cochin Port Authority.
b)	Estimated cost for one year	:	Rs. 97,50,000/- including GST.
c)	Contract value	:	(Not to be filled here)
d)	Earnest Money Deposit	:	Rs. 1,95,000/-
e)	Security Deposit	:	10% of the total contract price.
f)	Time for commencement of service	:	30 days from the date of issue of LoA.
g)	Contract period	:	One year extendable to further one year as per the discretion of Cochin Port Authority.
h)	Schedule, specifications, conditions, drawings etc.	:	As per the 'Contents' sheet attached.

IN WITNESS WHEREOF THE CONTRACTOR hereunto set his hand and seal on behalf of M/s ---------- and on behalf of the Board of Trustees of COCHIN PORT AUTHORITY, the CHIEF MECHANICAL ENGINEER has set his hand and seal and common seal of Trustees 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 Trustees of
Cochin Port Authority

EMPLOYER

Signed and affixed the common seal of Board of Trustees
of the Cochin Port Authority in the presence of

1.

2.

Annexure-8

Bill of Quantities

Sl. No.	Description of work	Monthly rate in Rs. including GST
1	Cost of all materials including spares and consumables for carrying out operation, maintenance and repairs of Facilities and Services provided at the MULT Terminal at Cochin Port as per Scope of Work and other conditions of contract.	
2	Cost of supply of 3 Nos. Shift in Charge as per Appendix-3.	
3	Cost of supply of 1 No. Safety Officer as per Appendix-3.	
4	Cost of supply of 7 Nos. Motor Mechanics as per Appendix-3.	
5	Cost of supply of 4 Nos. Electricians as per Appendix-3.	
6	Cost of supply of 4 Nos. Firemen as per Appendix-3.	
7	Cost of supply of 2 Nos. Housekeeping Staff as per Appendix-3.	
	Total cost	