



**HALDIA DOCKCOMPLEX,
KOLKATA PORT TRUST
ADMINISTRATION DIVISION**

**TENDER NO.: ADMN/01/2016/FCT-9&10
E-tender No.: KoPT/Haldia Dock Complex/Admn. Div/20/15-16/ET/247**

TENDER DOCUMENT

For

**DESIGN, CONSTRUCTION, SUPPLY, TESTING,
COMMISSIONING AND HANDING OVER OF 2 NOS
MULTIPURPOSE FOAM CRASH TENDER (COMBINED WATER,
FOAM, DCP & CO2 TENDER) INCLUDING PROCUREMENT OF
CHASSIS WITH THE COMPLETE FIRE FIGHTING SYSTEM AND
OTHER ACCESSORIES FITTED IN THE FIRE TENDER**

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**KOLKATA PORT TRUST
HALDIA DOCK COMPLEX**

Office of the Administration Division, Jawahar Tower Annexe,
P.O.: - Haldia Township, Dist.:Purba Midnapore,
PIN : 721607, West Bengal.
Ph. No. 03224 263178, 265161, FAX :03224-263152
E-mail id: jroy.hdc@nic.in, sspandit.hdc@nic.in

NIT

E-Tender under two part system (Part I: Techno-Commercial Bid and Part II: Price Bid) are invited from Bonafied Manufacturer/ Business Houses/ Body Builders etc. for "DESIGN, CONSTRUCTION, SUPPLY, TESTING, COMMISSIONING AND HANDING OVER OF 2 NOS MULTIPURPOSE FOAM CRASH TENDER (COMBINED WATER, FOAM, DCP & CO2 TENDER) INCLUDING PROCUREMENT OF CHASSIS WITH THE COMPLETE FIRE FIGHTING SYSTEM AND OTHER ACCESSORIES FITTED IN THE FIRE TENDER".

Tender Document and Corrigendum/ addendum/ clarifications, if any, has been hosted in the web sites of Kolkata Port Trust, Haldia Dock Complex www.kolkataporttrust.gov.in and MSTC (www.mstcecommerce.com). However, Bid Document Corrigendum/ addendum/ clarifications, if any may be downloaded from MSTC website only. Tenderer should visit the websites frequently.

SCHEDULE OF TENDER (SOT):

a.	TENDER NO.	ADMN/01/2016/FCT-9&10
b.	MODE OF TENDER	e-tender System (Online Part I - Techno-Commercial Bid and Part II - Price Bid through www.mstcecommerce.com of MSTC Ltd. The intending bidders are required to submit their offer electronically through e-tendering portal. No physical tender is acceptable by Haldia Dock Complex.
c.	E-Tender No. (System Generated)	<u>KoPT/Haldia Dock Complex/Admn. Div/20/15-16/ET/247</u>
d.	Date of NIT available to parties to download	24.02.2016
e.	Offline Pre-Bid Meeting date & Time	09.03.2016 at 1200 hrs.
f.	Estimated cost	Rs 96,30,000/- for FCT-9 & Rs 1,32,10,000/- for FCT-10.
g.	i) Earnest Money Deposit	The intending bidders should submit Earnest Money of Rs. 1, 92,600/- (Rupees one lakh ninety two thousand six hundred only) for FCT-9 and Rs 2, 64,200/- (Rupees two lakh sixty four thousand two hundred only) for FCT-10 to Haldia Dock Complex along with their offer otherwise their offer will be summarily rejected. The bidders are advised to deposit Earnest Money through ECS (RTGS/NEFT) in favour of Kolkata Port Trust, Haldia Dock Complex directly into the designated bank account. Details of the bank account is appended hereunder. a) Name of Bank & Branch: United Bank of India, Haldia Dock Complex Branch, b) Account No.: 1604050000310, c) IFS Code: UTBI0HDCF75. Concerned tenderers must ensure that the remitting bank positively enters their name and System Generated E - Tender no. in the 'Sender to Receiver' column at the time of making payment of earnest money by RTGS/NEFT. Tenderers should deposit Earnest Money before filling and submission of bids.

		<p>Details of Earnest money remitted should be entered by the participating Tenderers in the space provided in the e-tender as indicated hereunder :</p> <p>a) Name of remitting Tenderers : b) E- Tender No. : c) Amount remitted : d) Remittance Bank Details: e) U.T.R No. : f) Date:</p>
ii)	Tender/Bid Document Cost	<p>The intending bidders should submit the tender cost of Rs. 2000/- (Rupees Two Thousand only) (non-refundable) as per the payment mode as mentioned above alongwith their offer otherwise their offer will be summarily rejected.</p> <p>Tenderers should deposit bid document fee before filling and submission of bids.</p> <p>Details of Tender Cost remitted should be entered by the participating Tenderers in the space provided in the e-tender as indicated hereunder :</p> <p>a) Name of remitting Tenderers : b) E- Tender No. : c) Amount remitted : d) Remittance Bank Details: e) U.T.R No. : f) Date:</p>
iii)	Transaction Fee	<p>Rs. 13,076/-(Including Service Tax & other charges @14.5% on Service Charge) Payment of Transaction fee by NEFT/RTGS in favour of MSTC LIMITED (refer clause. No. 4 of Annexure -I)</p>
h.	Last date of submission of EMD & Bid Document fee at HDC.	28.03.2016 up to 14:30 hrs.
	Last date of submission of Transaction fee through RTGS/NEFT in favour of MSTC Limited, Kolkata.	Three working days before the last date of closing of online <u>bidding for the e-tender.</u>
i.	Date of Starting of e-Tender for submission of on line Techno-Commercial Bid and price Bid at www.mstcecommerce.com/eprocho me/	18.03.2016 at 11:00 hrs.
j.	Date of closing of online e-tender for submission of Techno-Commercial Bid & Price Bid.	28.03.2016 at 14:45 hrs.
k.	Date & time of opening of Part-I (i.e. Techno-Commercial Bid) Date of opening of Part II i.e. Price Bid shall be informed separately	28.03.2016 after 15:00 hrs.

Important instructions for E-Tender

This is an e-tender event of HALDIA DOCK COMPLEX. The e-tender service provider is MSTC Ltd., 225C, A.J.C. Bose Road, Kolkata-700 020.

You are requested to read the terms & conditions under General Information to the Tenderer and General Instruction to the Tenderer and also Evaluation Criteria of this tender before submitting your online tender. Tenderers who do not comply with the conditions with documentary proof (wherever required) will not qualify in the Tender for opening of price bid.

1.	<p>Process of E-tender :</p> <p>A) Registration: The process involves registration of Tenderer with MSTC e-tender portal which is free of cost. Only after registration, the Tenderer(s) can submit his/their bids electronically. Electronic Bidding for submission of Techno-Commercial Bid as well as Price Bid over the internet will be done. The Tenderer should possess Class III signing type digital certificate. Tenderers are to make their own arrangement for bidding from a P.C. connected with Internet. MSTC is not responsible for making such arrangement. (Bids will not be recorded without Digital Signature).</p> <p>SPECIAL NOTE: THE PRICE BID AND THE TECHNO-COMMERCIAL BID HAS TO BE SUBMITTED ON-LINE AT www.mstcecommerce.com/eprochome/kopt</p> <p>1). Tenderer are required to register themselves online with www.mstcecommerce.com→ e-Procurement →Psu / Govt depts→Register as Tenderer Filling up details and creating own user id and password→ Submit.</p> <p>2). Tenderer will receive a system generated mail confirming their registration in their email which has been provided during filling the registration form.</p> <p>Tenderers are requested to submit bid keeping sufficient time in hand. They should not wait for last minute to avoid any problem.</p> <p>In case of any clarification, please contact HDC/MSTC, (before the scheduled time of the e-tender).</p> <p>Contact person (Haldia Dock Complex):</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>1. Mr. J. Roy Sr. Dy. Manager(Admn) Haldia Dock Complex Ph. No. 03224 263178 Mb. No.94340 63328</p> </td> <td style="width: 50%; vertical-align: top;"> <p>2. Mr. S. S. Pandit, Dy. Manager (Admn) Haldia Dock Complex Ph. No. 03224 265161 Mb. No. 94340 54122</p> </td> </tr> </table> <p>Contact person (MSTC Ltd):</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>1. Mr. Arindam Bhattacharjee Deputy. Manager (E-commerce) Haldia Dock Complex MobileNo:09330102643 Landline:03322901004 Email-arindam@mstcindia.co.in</p> </td> <td style="width: 50%; vertical-align: top;"> <p>2. Mr. Sabyasachi Mukherjee Junior Manager (E-commerce) Mobile- 07278030407 Email: smukherjee@mstcindia.co.in</p> </td> </tr> </table>	<p>1. Mr. J. Roy Sr. Dy. Manager(Admn) Haldia Dock Complex Ph. No. 03224 263178 Mb. No.94340 63328</p>	<p>2. Mr. S. S. Pandit, Dy. Manager (Admn) Haldia Dock Complex Ph. No. 03224 265161 Mb. No. 94340 54122</p>	<p>1. Mr. Arindam Bhattacharjee Deputy. Manager (E-commerce) Haldia Dock Complex MobileNo:09330102643 Landline:03322901004 Email-arindam@mstcindia.co.in</p>	<p>2. Mr. Sabyasachi Mukherjee Junior Manager (E-commerce) Mobile- 07278030407 Email: smukherjee@mstcindia.co.in</p>
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	<p>B) System Requirement:</p> <ul style="list-style-type: none"> i) Windows 98 / XP-SP3 & above/Windows 7 Operating System / Windows 8 ii) IE-7 and above Internet browser. iv) Signing type digital signature v) JRE 7 update 9 and above software to be downloaded and installed in the system. <p>To enable ALL active X controls and disable 'use pop up blocker' under Tools→Internet Options→ custom level</p>
2.	<p>(A) Part I Techno-Commercial Bid will be opened electronically on specified date and time as given in the NIT. Bidder(s) can witness electronic opening of bid.</p> <p>(B) Part II Price Bid: All the Techno-Commercially qualified bidders will be asked to participate in the auction for which date & time will be intimated separately and thereafter Price Bid will be opened electronically for selection of H1 bidder.</p>
3.	<p>All entries in the tender should be entered in online Techno-commercial Bid and Price Bid without any ambiguity.</p>
4.	<p>Special Note towards Transaction fee: PAYMENT OF Transaction fee BY RTGS in favour of MSTC Limited .The Bank details, format etc for sending Transaction fee by RTGS to MSTC is detailed below</p> <p>Bank Details : Axis Bank ,Shakespeare Sarani Branch</p> <p>Account Details : Axis Bank A/c.No.005010200057840</p> <p>IFSC Code No. : UTIB0000005.</p> <p>“The Tenderers shall enter the transaction fee details by using the “Transaction Fee Entry” Link under “My Menu” in the vendor login. The tenderer have to select the particular tender in which they want to participate against the transaction fee by clicking on the tick box at the right and then Clicking on the “Submit” Button at the bottom of the page. Then the page appears where the tenderers are required to fill up the transaction details, namely the UTR No, Date of Transaction, and the Remitting Bank in the given fields and then click on the “Confirm” Button“.</p> <p>NOTE : The bidders should submit the transaction fee well in advance before the last date of submission of tender as they will be activated for bid submission only after receipt of transaction fee by MSTC.</p> <p>Contact Details :</p> <p>Fax No. : 033- 22831002</p> <p>Email ids: sanjibpoddar@mstcindia.co.in, arindam@mstcindia.co.in, rpradhan@mstcindia.co.in, smukherjee@mstcindia.co.in.</p> <p>Bidders may please note that the transaction fee should be deposited by debiting the account of the bidder only; transaction fee deposited from or by debiting any other party’s account will not be accepted. Transaction fee is nonrefundable.</p> <p>In case of failure to access the payment towards Transaction fee for any reason, the vendor, in</p>

	term, will not have the access to online e-tender.
5.	In case of failure to access the payment towards cost of tender document & EMD for any reason, the tenderer, in term, will not have the access to on line e-tender and no correspondence in this respect will be entertained and HDC will not be responsible for any such lapses on this account. Bidder(s) are advised to make remittance of tender fee and EMD through ECS (RTGS/NEFT) well in advance and verify completion of transaction in respect of tender fee and EMD tenderers are instructed to use Upload Documents link in My menu to upload documents in document library. Multiple documents can be uploaded. Maximum size of single document for upload is 5 MB. Once documents are uploaded in the library, tenderers can attach documents through Attach Document link against the particular tender. For further assistance please follow instructions of Vendor Guide.
6	All notices and correspondence to the bidder(s) shall be sent by email only during the process till finalization of tender by HDC. Hence the bidders are required to ensure that their corporate email I.D. provided is valid and updated at the stage of registration of tenderer with MSTC (i.e. Service Provider). Bidders are also requested to ensure validity of their DSC (Digital Signature Certificate).
7	(i) Note that there is no provision to take out the list of parties downloading the tender document from the web site mentioned in NIT. As such, bidders are requested to see the web site once again before the due date of tender opening to ensure that they have not missed any corrigendum uploaded against the said tender after downloading the tender document. The responsibility of downloading the related corrigenda, if any, will be that of the downloading parties.
	(ii) No separate intimation in respect of corrigendum to this NIT (if any) will be sent to tenderer (s) who have downloaded the documents from web site. Please see website www.mstcecommerce.com/eprochome/ of MSTC Ltd.
8	E-tender cannot be accessed after the due date and time mentioned in NIT.
9	Bidding in e-tender:
	a Bidder(s) need to submit necessary EMD, Tender fees (if any) and Transaction fees to be eligible to bid online in the e-tender. Tender fees and Transaction fees are non refundable. No interest will be paid on EMD. EMD of the unsuccessful bidder(s) will be refunded by HDC. Bank details i.e. name of bank and & address, Current a/c no, IFS Code to be mentioned by the tenderer for refund.
	b The process involves Electronic Bidding for submission of Techno Commercial Bid as well as Price Bid.
	c The bidder(s) who have submitted the above fees can only submit their Techno Commercial Bids and Price Bid through internet in MSTC website www.mstcecommerce.com → e-procurement →Psu/Govt depts→ Login →My menu→ Auction Floor Manager→ live event →Selection of the live event→ Techno Commercial Bid.
	d The bidder should allow to run an application namely en Apple by accepting the risk and clicking on run. This exercise has to be done twice immediately after clicking on the Techno-Commercial bid. If this application is not run then the bidder will not be able to save/submit his bid.

	<p>e After filling the Techno-Commercial Bid, bidder should click 'save' for recording their Techno-Commercial bid. Once the same is done, the Price Bid link becomes active and the same has to filled up and then bidder should click on "save" to record their price bid. Then once both the Techno-Commercial bid & price bid has been saved, the bidder can click on the "Submit" button to register their bid</p>
	<p>NOTE: - (a) A bid can be edited any number of times and documents can be uploaded before the final submission of bid (i.e before clicking on Sign & Encrypt). Once the bid has been submitted by clicking on Final Submission, no further editing of bid or uploading of documents is possible.</p> <p>(b) A bid can be submitted upto the scheduled closing time of the event. After the closing time of event has passed, no bid will be accepted by the system. Hence, bidders are advised to make final submission of their bids well in advance.</p> <p>(c) A bid can be withdrawn or deleted prior to the closing time of the event. However in case of withdrawal of bid, no fresh bid can be submitted. On the other hand if a bidder wishes to edit his bid after final submission he may do so by clicking the "Delete Bid" button and re-submit his bid</p>
	<p>a In all cases, bidder should use their own ID and Password along with Digital Signature at the time of submission of their bid.</p>
	<p>b During the entire e-tender process, the bidders will remain completely anonymous to one another and also to everybody else.</p>
	<p>c The e-tender floor shall remain open from the pre-announced date & time and for as much duration as mentioned above.</p>
	<p>d All electronic bids submitted during the e-tender process shall be legally binding on the bidder.</p>
	<p>e It is mandatory that all the bids are submitted with digital signature certificate otherwise the same will not be accepted by the system.</p>
	<p>f HDC/KoPT reserves the right to cancel or reject or accept or withdraw or extend the tender in full or part as the case may be without assigning any reason thereof.</p>
	<p>g No deviation of the terms and conditions of the tender document is acceptable. Submission of bid in the e-tender floor by any bidder confirms his acceptance of terms & conditions for the tender.</p>
	<p>h Unit of Measure (UOM) is indicated in the e-tender Floor. Rate to be quoted should be in Indian Rupee as per UOM indicated in the e-tender floor/tender document.</p>
<p>10</p>	<p>Any order resulting from this open e-tender shall be governed by the terms and conditions mentioned therein.</p>
<p>11.</p>	<p>No deviation to the technical and commercial terms & conditions are allowed.</p>
<p>12.</p>	<p>After submitting online bid, the bidder cannot access the tender, once it has been submitted with digital signature</p>
<p>13.</p>	<p>HDC has the right to cancel this e-tender or extend the due date of receipt of bid(s) without assigning any reason thereof.</p>

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14.	The online tender should be submitted strictly as per the terms and conditions and procedures laid down in the website www.mstcecommerce.com/eprhome/kopt of MSTC Ltd.
15.	The bidders must upload all the documents required as per terms of NIT. Any other document uploaded which is not required as per the terms of the NIT shall not be considered.
16.	The bid will be evaluated based on the filled-in Techno-commercial Bid and Price Bid.
17.	The documents uploaded by bidder(s) will be scrutinized. In case any of the information furnished by the bidder is found to be false during scrutiny, EMD of defaulting bidder(s) will be forfeited. Punitive action including suspension and banning of business can also be taken against defaulting bidders.
18.	Necessary addendum/ corrigendum (if any) of tender would only be hosted in the e-tendering portal of M.S.T.C.

GENERAL INFORMATION & INSTRUCTIONS TO THE TENDERERS

1. Haldia Dock Complex, Kolkata Port Trust invites tender from Bonafied Manufacturer/ Business Houses/ Body Builders for supply of Chassis, Fabrication of Body on the chassis, Delivery, Testing & Commissioning & handling over of 02 Nos. Foam Crash Tender. The Scope of Work and other information are given below in details.
2. **Scope of Work:**
 - a. Design, Construction, Supply, Testing, Commissioning and Handing over of 2 Nos Foam Crash Tender (Combined Water, Foam, DCP & CO₂ Tender) including Procurement of Chassis with the Complete Fire Fighting System and Other Accessories fitted in the Fire Tender.
 - b. Successful tenderer will procure the chassis from the manufacturers / authorised dealers/ distributors [ASHOK LEYLAND/ TATA / MAN/ ROSENBAUER/ VOLVO etc.] (on behalf of Haldia Dock Complex, Kolkata Port Trust) as per specification mentioned in the Schedule –A & Schedule-B. Necessary payment for procurement of chassis will be made to the successful tenderer by Haldia Dock Complex after completion of all formalities in this regard.
 - c. Successful tenderer will have to provide all materials, equipments, accessories etc. for fabrication of the FCTs.
3. **Eligible tenderers:**

A Tenderer shall not have a conflict of interest. All Tenderers found to have conflict of interest shall be disqualified. Tenderers may be considered to have a conflict of interest with one or more parties in this Tendering process, if they:

 - (a) are or have been associated in the past, with a firm or any of its affiliates which have been engaged by the Employer to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under these Tendering Documents ; or
 - (b) submit more than one Tender in this Tendering process. However, this does not limit the participation of subcontractors in more than one Tender;
4. Rates shall include all taxes & other charges etc. if payable, excepting Service Tax, EPF, ESI contribution etc. Rates shall also include incidental and contingent work, not specifically mentioned in the contract but necessary for its efficient and satisfactory implementation. Rates quoted should be both in figures and words. In case, there is any difference between rates quoted in figures and in words, only the lower of the two rates, quoted in figures or in words shall be construed as correct and valid.
5. The tenderer shall quote rate against each item of the 'Schedule of Rates' separately. No alternative mode of offer shall be accepted. Incomplete 'Schedule of Rates' shall liable the tender to be cancelled.

6. The 'Price Bid' of only Techno-Commercially qualified bidders, will be opened on a schedule date as mentioned SOT.
7. The 'Techno-Commercial Bid' shall contain only the Techno-Commercial Part of this tender document agrees by the Tenderer **without price part**.
8. The 'Price Bid' shall contain 'Schedule of Rates' duly filled by the tenderer. It is to be noted that the 'Price Bid' shall contain price only and no conditions whatsoever. Any condition imposed in 'Price Bid' shall make the bid liable for outright rejection.
9. The tenderer shall be deemed to have carefully examined and fully understood the Instruction to Tenderers, the Special Conditions of the Contract, Trustees' General Conditions of Contract, Scope of Work etc.
10. The tender shall remain valid for a period of **180 days** from the date of opening of the tender.
11. **Eligibility Criteria:**

Work Experience and Financial Capability :-	
a)	<p>The tenderer must possess experience of having successfully executed the similar tender work for fabrication of FCTs viz. Design, Construction, Supply, Testing, Commissioning and Handing over of FCT (Combined Water, Foam, DCP & CO₂ Tender) with the complete fire fighting system and other accessories fitted in the fire tender in a Govt./ Semi Govt./ Private Organisation etc. over a period of last 7 years ending on 31.01.2016 as follows :-</p> <p style="text-align: center;">1) At least 3 Work orders each worth not less than</p> <p style="text-align: center;">Rs 38,52,000/- for FCT-9 Rs 52,84,000/- for FCT-10 Or</p> <p style="text-align: center;">2) At least 2 Work orders each worth not less than</p> <p style="text-align: center;">Rs 48,15,000/- for FCT-9 Rs 66,05,000/- for FCT-10 Or</p> <p style="text-align: center;">3) At least 1 Work order worth not less than</p> <p style="text-align: center;">Rs. 77,04,000/- for FCT-9 Rs 1,05,68,000/- for FCT-10</p>
b)	<p>The tenderer during a period of last 3 years (ending on 31.03.2015) should have Average Annual Financial Turnover of minimum of</p> <p style="text-align: center;">Rs. 28,89,000/-for FCT – 9 Rs. 39,63,000/-(for FCT – 10).</p>

12. Documents to be enclosed along with Techno-Commercial Bid.

a)	<p>Copies of Work Order(s) and Work Execution Certificate of successfully completed works/ contracts in support of their claim of work experience as mentioned at clause 11(a) above.</p> <p>Note: The work execution certificate must contain the following information such as i) Work Order number, ii) Actual Payment made for the supply/ works concerned.</p>
b)	<p>Copies of Audited Balance Sheet and Profit & Loss Account for last three financial year ending 31.03.2015 as mentioned at clause 11(b) above.</p>
c)	<p>Copy of upto date Professional Tax Payment Challan, if applicable.</p>
d)	<p>Copy of Service Tax Registration Certificate and document establishing Service Tax code no. of the tenderer.</p>
e)	<p>Copy of valid Trade Licence with respective number(s).</p>
f)	<p>Certified copy of Partnership Deed (duly attested), in case the tenderer is a partnership firm.</p>
g)	<p>Certified copy of Certificate of Incorporation, Memorandum and Article of Association, in case the tenderer is a company.</p>
h)	<p>The tenderer(s) are required to have Registration Certificate with Central Excise Authority and to enclose copy of Registration Certificate with Central Excise Authority.</p>

13. The cost of tender document is Rs 2000/- (Rupees two thousand only) which is non-refundable & non-adjustable. Tenderer should deposit tender document fee before filling and submission of bids.
14. The tenderer shall furnish the address of his Head Office & Local Office(s) with respective telephone numbers, mobile, fax, e-mail etc., if any.
15. Trustees reserve the right to accept or reject any tender either in part or in full without assigning any reason. Any incomplete tender is liable to be rejected. Trustees also reserve the right to place the order either in full or in part.
16. Before submitting the e-tender, the tenderer is advised to make inspection of the delivery/ commissioning points to get fully acquainted with locations. Once a tender is submitted by a tenderer, he shall be deemed to have fully acquainted himself with the aspects of the tender, scope of work, etc. and he shall not be entitled to raise any claims or deviate from the tender conditions for any reasons whatsoever.

17. **Pre Bid Meeting:**

- a. A pre bid meeting will be held on 09.03.2016 at 1200 hrs. at the office of Sr. Dy. Manager (Admin.); Jawahar Tower; Haldia Township- 721607.
- b. The intending tenderers are advised to formulate their queries relating to the scope of work, terms and conditions of tender etc. as well as other clarifications/ details required by them from KoPT and forward the same by 08.03.2016 at 1400 hrs. to the office of Sr. Dy. Manager(Administration), Haldia Dock Complex, Jawahar Tower Annexe Building, P.O. Haldia Township, Dist. Purba Medinipur, West Bengal- 721607 (Fax No. 03224 - 263152, Email- jroy.hdc@nic.in ; sspandit.hdc@nic.in ; sspandit.haldock@gmail.com so that the same may be discussed / clarified in the pre bid meeting.

18. **For NSIC registered firm:**

- a) NSIC registered firms (under single point registration scheme) are exempted from depositing cost of document, Earnest Money and Security Money. Documentary evidences i.e. copy of valid NSIC Enlistment Certificate along with registration of similar nature of work (scope of work) must be submitted for claim of such exemption as detailed above.
- b) If any NSIC registered firm (not registered for the subject purpose) intends to participate in the tender for the subject scope of work, they will have to deposit cost of tender document, full amount of Earnest Money, SD as per NIT, failing which their offer will be rejected. In case the monetary limit for which the bidder is registered with NSIC falls below the order value, then the successful tenderer shall deposit the deferential SD amount.

19. **Banned Or De-Listed Tenderer:**

Tenderer must give a declaration to the effect that they have not been banned or de-listed by any Government or Quasi-Government Agency or PSU. If a tenderer has been banned/de-listed by any Government or Quasi-Government Agency or a PSU, the details must be clearly stated along with the relevant documents which the tenderer is to enclose together with the Techno-Commercial Bid. Such a declaration shall be given as per format given at **Annexure-VII**.

NOTE: The tenderer shall also submit the following declarations along with the techno-commercial part of the tender: -

- A declaration that the tenderer(s) are fulfilling the eligibility criteria.
- A declaration that the tenderer(s) have not been de-barred / de-listed by any Govt. / Semi-Govt. / PSUs.
- A declaration that no change (in words, specification etc.) have been made in the submitted tender document vis-à-vis the tender document of HDC.

COMMERCIAL TERMS & CONDITIONS:**1. Earnest Money:**

- 1.1 Earnest Money Rs. 1, 92,600/- (Rupees one lakh ninety two thousand six hundred only) for FCT-9 and Rs 2, 64,200/- (Rupees two lakh sixty four thousand two hundred only) for FCT-10 shall be deposited by the tenderer alongwith the tender through RTGS or NEFT as mentioned Scheduled of Tender (SOT)
- 1.2 Earnest Money is liable to forfeiture if the tenderer submits any forged documents or after submitting the tender withdraws from or modifies his offer unilaterally.
- 1.3 Earnest Money deposited by the unsuccessful tenderers shall be refunded without any interest to unsuccessful tenderers after finalization of the tender.

2. Security Deposit:

- 2.1 The successful tenderer shall be required to maintain Security Deposit @ 6.5% of the total order value of tender towards warranty maintenance of fabrication of FCT. The warranty of chassis should be covered by Manufacturer's warranty appropriately. The Security Deposit shall have to be submitted by the successful tenderer in cash or in the form of a Bank Guarantee in the prescribed format at Annexure-XII. The Security Money shall be refunded after the successful completion of the warranty period of fabrication of FCT as per contract provision, subject to recovery of damages and / or losses incurred, if any, by Haldia Dock Complex due to default on the part of the tenderer.
- 2.2 The Security Deposit shall be held by the Sr. Dy. Manager (Administration), HDC as security for the performance of the Contractor's obligation under the contract. The Security Money shall be refunded after successful completion of the contract subject to recovery of damage and / or loss incurred, if any, by HDC due to default on the part of the Contractor.

3. Indemnity Bond:

Submission of Indemnity Bond (Standard format is enclosed at **Annexure-XIII**) on Non-Judicial Stamp Paper of Rs. 50/- , for taking over the chassis from the original suppliers and handing over the fabricated FCTs.

4. Delivery:

Delivery of chassis along with complete fabrication on chassis , testing & successful commissioning of FCTs at Haldia Dock Complex, Haldia within 300 days from the date of placement of order at 1st Oil Jetty Fire Station, Haldia Dock Complex, Kolkata Port Trust, Haldia. All costs including transportation in connection of delivery at Haldia shall be borne by the successful tenderer.

5. Inspection:

HDC/KoPT shall appoint a third Party Inspection Agency (TPI), for stage inspection and certification of entire work. The engagement cost along with inspection fees of Third Party will be borne by successful bidders. Based on the approved Quality Assurance Plan (QAP) detailing Stage Inspections, Make of Bought Out Items with Data Sheet. Inspection checklist and drawings, etc. the TPI will carry out stage-wise inspection and certification of quantum of executed work which includes but not limited to inspection and testing of materials, welding, surface preparation, painting, hydraulic system, electrical system etc. The TPI shall produce the necessary certificates to Sr. Dy. Manager (Admn.) or his authorised representative.

6. Acceptance of FCTs:

The following acceptance tests shall be carried out by the successful tenderer to the complete satisfaction of HDC in presence of TPI for which the cost of material has to be borne by the tenderer. This would be done at the premises of **Fire Office, 1st Oil Jetty**, and the FCT only after satisfactory performance test would be declared as commissioned.

- i) The FCT shall be such that it will not affect the chassis characteristics as specified by the chassis manufacturer such as speed, turning circle, acceleration, etc.
- ii) The FCT shall be such that the centre of gravity will be as low as possible to take care of stability requirements. Successful bidder shall provide their own **stability test** (as per IS: 951) certificate for the same.
- iii) The pump shall run for a continuous period of 4 hrs at the rated capacity.
- iv) The priming device shall be tested with a vertical lift of 7 mtr. measures from water level to the centre of suction eye of the pump at a rate of not less than 30 cm per second.
- v) The monitor and hand lines, separately and in combination shall be tested for delivering foam at their rated capacity and horizontal range.
- vi) Foam making equipment shall be applied to check the induction ratio of foam compound, total foam discharge rate and expansion ratio of foam production using the foam compound available in India.
- vii) Foam Tank and Water Tank shall be tested for leakage and shall be observed after 24 hrs.

7. Documents required during final commissioning:

- i) All Inspection Reports (including Acceptance test in presence of HDC) carried out by TPI during Stage Inspection along with all Test Certificate (s) of OEM's (original Equipment Manufacturer) of the Assemblies/ subassemblies and bought out items.
- ii) Certificate from RTO for road worthiness of foam Crash Tender.
- iii) Warranty/ Guarantee Certificate.
- iv) Valid Calibration Certificates of all the measuring equipments.
- v) The gross vehicle weight (GVW) of the complete Foam Crash Tender along with men & materials which should not exceed GVW of chassis.
- vi) Test certificates for the CO₂ cylinders and valve from Explosives Authority etc. to be produced cylinders and valves shall be conforming to relevant Indian Standards.

8. Taxes and Duties:

- 1) Price to be quoted only in the "Price Schedule" giving full details of all taxes and duties and delivery charges on FOR Haldia basis. The total amount would be quoted in price part only. Tenderer should mention the service tax, excise duty, other taxes if any, as included in the tender quoted rate with breakup.
- 2) Tenderer shall have to submit the Cenvatable document towards service tax and excise duty mentioned in the price bid failing which the said amount will be deducted from their bill.
- 3) Excise Duty and Service Tax mentioned in the Price Bid will be deducted from their quoted price for the purpose of evaluation of the offer.
- 4) Any modification (addition /deletion /alteration including implementation of GST) in taxes or duties in future by the GOI after publication of the tender will be addressed separately at the material time. Therefore the detailed tax break-up considered in the quoted price should also be submitted by the bidders along with their price bid in order to assess the impact of future tax as applicable, if any on the contract price. Any offer without the detailed tax break-up, if becomes the lowest price –bid and is accepted by HDC/ KoPT with or without any negotiation of price, shall not be entitled for reimbursement of any additional amount due to modification of taxes or duties after publication of the tender. But any recovery due on account of any modification in taxes or duties after publication of the tender shall be determined and made by HDC/KoPT from the amount payable under the contract.

9. Payment:

- 9.1 35% of the total quoted amount will be paid after receiving the Chassis at the manufacturer's /supplier's site and on producing the purchase receipt & after inspection of TPI agency along with HDC/KoPT official and on submission of Indemnity Bond as mentioned in clause-3 of Commercial Terms & Conditions of the contract.

Payment will be made within 30 days after submission of all documents as stated above.

- 9.2 The remaining amount of the contract after complete delivery and successful commissioning of FCT-9 and/ or FCT-10 at Haldia Dock Complex on receipt of the completion certificate from Third Party Inspection agency and acceptance by Haldia Dock Complex, Kolkata Port Trust for each Multi purpose Foam Crash Tender and after completion of registration at Tamluk, RTO, District Purba Medinipur.

Payment will be made within 30 days after submission of bill from the date of successfully commissioning of the FCT.

- 9.4 Payment will be effected by way of crediting the amount directly to the Bank Account of the successful tenderer through ECS for which they/ he would have to be submit the following details:-

- a. Name of the Bank and Branch details
- b. Account Number
- c. MICR Number
- d. Type of Account
- e. CST/VAT Number
- f. PAN Number
- g. IFS code

SPECIAL CONDITIONS OF CONTRACT

1. **TAXES, LABOUR LAWS AND OTHER REGULATIONS** : The successful tenderer shall be fully and exclusively liable for the payment of any and all taxes now or hereafter imposed, increased or modified and all taxes now in force and hereafter imposed, increased or modified from time to time in respect of the above job and all contributions and taxes for unemployment compensation, insurance and old age pensions and amenities now or hereafter imposed by any law of the Government /local bodies which are imposed with respect to or covered by the wages , salaries or other compensations paid to the persons employed by the contractor. The Trustees shall have no liability whatsoever concerning the employees of the contractor. The contractor shall keep the trustees indemnified against all losses or damage or liability arising out of or imposed in the course of employing the persons or out of his relation with his employees. The contractor shall make regular and full payment or wages / salaries and other payments due to his employees and furnish necessary proof whenever required by the Trustees. The contractor shall be liable to pay any increase of wages / salaries of his employees during the contractual period.

The successful tenderer shall be responsible for the compliance with all acts, laws and regulations as applicable with regard to the performance of work including the Minimum Wages Act, Contract Labour (Regulation and Abolition) Act, 1970, Industrial Dispute Act, 1947, Shops and Commercial Establishment Act, Factory Act, Workmen's Compensation Act, ESI Act, Payment of Wages Act, Bonus Act, Employees Provident Fund Act etc. and such other applicable Central / State Acts from time to time and take such steps as may be deemed necessary in this regard.

The successful tenderer shall defend, indemnify and hold Trustees harmless from any liability or penalty, which may be imposed by the Central / State Government or local authorities by reason of any regulations or requirements and also from all claims, suits arising out or by reason of the work provided by this contract including any liability that may arise out of any accident whether brought by the employees of the contractor or by the third parties or by the Central or State Government authority or any sub-division thereof.

In case the successful bidder deploys 20 or more workers in a day on the job ordered by HDC, the same should be intimated to KoPT, HDC along with all relevant documents towards fulfilment of all statutory obligations as stated above on part of the contractor.

2. **COMPENSATION(Liquidated Damage)**: In the event of successful tenderer failing to execute the contract within the stipulated time frame i.e. 300 days from the date of placement of work order or such extension thereof as may be allowed by the Sr. Dy. Manager (Admn.) in writing, the contractor shall be required to pay as compensation (Liquidated Damage), and not as penalty, @1/2% of the total value of the order for delay in supply & commissioning of every week or part thereof, provided the entire amount of compensation to be paid under the provisions of this clause shall not exceed 10% of the total order value for fabrication of FCTs.

Haldia Dock Complex may, without prejudice to any other method of recovery, deduct the amount of such damages from any amount which is due or which may become due to the contractor. The payment of deduction of such damages shall not relieve the contractor from the obligation to complete delivery & commissioning of the FCT-9 & 10, (as ordered) or from any other of his obligation or liabilities under the contract.

3. ESCALATION:

No escalation of price on any account during execution this contract would be entertained by HDC.

4. INSPECTION & TESTING:

4.1 Prior to dispatch of vehicle from vendor's shop, stage-wise & final inspection and testing shall be carried out by the vendor to the complete satisfaction of Third Party Inspection (TPI) agency without any extra cost to owner in presence of HDC's representative. Third party inspection and testing shall be carried out by TPI agency. Third party inspection agency shall be engaged by the vendor with approval of HDC/KOPT and charges for same shall be borne by the vendor.

4.2 Welding shall be carried out by qualified welders in both SS & CS. Third party shall check the welder's qualification before start of job. The material used for fabrication shall be sampled and send for testing. After verifying the Material Test Certificate records, the further job can be started.

4.3 All inspections & tests will be carried out at vendor's shop by the vendor to the complete satisfaction of TPI alongwith Owner's representative without any extra cost to owner.

4.4 All consumable (e.g. foam compound, diesel fuel, engine lube oil, water etc.) shall be arranged by vendor at his own cost. Vendor shall arrange all facilities to carry out inspection & testing.

4.5 Owner's representative shall have access at all reasonable times to vendor's works where the appliance or its accessories are being fabricated and tested.

4.6 Drawings & Quality Assurance Plan (QAP) shall be approved by the TPI and vetted by the owner. No supply shall be accepted unless drawings & Quality Assurance Plan (QAP) are finally approved by the TPI and vetted by the owner with no additional comments.

4.7 Third Party Inspection agency shall carryout the Inspection based on approved drawings & approved QAP only.

4.8 The inspection release note of Third Party Inspection agency shall clearly stipulate that material/equipment have been inspected as per approved drawings & approved QAP.

4.9 Final performance tests/Inspection for completed vehicle shall be carried out by third party inspection agency and witnessed by Owner's representative.

4.10 FOR WATER AND FOAM TANKS:

- i) Review of mill test certificates and co-relation of raw materials before start of fabrication. Certificate that only approved material has been used in the fabrication will be issued by TPI.
- ii) DP test of all welds of water and foam tanks. DP test of all nozzles to shell (including reinforcement pads) for water and foam tanks.
- iii) Visual and dimensional check of water and foam tanks before mounting on chassis.
- iv) Hydraulic test of completed water and foam tanks. Hydraulic test shall be carried out at 0.5 KG/ CM² at top of tanks. Pressure shall be held for minimum duration of 30 minutes.

4.11 FOR PIPING:

- i) Review of mill test certificates and co-relation of raw materials (for pipes, fittings, valves etc) before start of fabrication. Certificate that only approved material has been used in the fabrication will be issued by TPI.
- ii) DP test of butt welds root run. DP test of all flanges to pipe welds. 100% DP test of socket welded fittings welded to pipes(on root as well as final run).
- iii) Radiographic examination of 10% butt welds (selected at random).
- iv) Hydraulic test of piping before installation on chassis.
- v) All lines shall be hydraulically tested at 1.5 times of the design pressure and pressure shall be held for two hours. In no case the lines shall be tested below 25 kg/sq. cm.
- vi) Visual and dimensional check.

4.12 FOR WATER PUMP:

- i) Review of mill test certificates for material of casing, impeller and shaft as per pump manufacturer standard.
- ii) Hydraulic testing of casing as per pump manufacturer standard.
- iii) Performance testing of pump to establish the performance curve at rated speed and power absorbed at rated conditions. Parameters at maximum & minimum allowable speeds shall be evaluated to establish performance curves at these speeds.

- iv) Power input at rated conditions.
- v) Four-hour mechanical test run shall also be carried out. Performance test shall be done on test bench with shop driver for four hours run test at rated conditions for verifying performance.
- vi) NPSH test as per pump manufacturer standard.
- vii) Visual and dimensional check.
- viii) Performance test of water ring primer and exhaust ejector primer at rated conditions.

(The above inspections & tests shall be carried out at pump manufacturer's shop prior to dispatch. Third party inspection agency shall review the documents for the tests carried out by the manufacturer)

4.13 FOR FOAM CUM WATER MONITOR :

- i) Inspection as per QAP submitted by the vendor, vetted by third party inspection and approved by Haldia Dock Complex.

4.14 FOR TENDER (DURING FABRICATION AND ASSEMBLY)

- i) Review of mill test certificates and Co-relation of raw materials used for structure & body fabrication before start of fabrication. Certificate that only approved material has been used in the fabrication will be issued by TPI.
- ii) Inspection of framework (for cabin and body) for soundness of welding and fitment of chassis and dimensional check.
- iii) Inspection for proper installation of pumps, tanks, piping with supports and their dimensional checks.
- iv) Visual inspection of raw materials for framework, cladding, flooring etc.
- v) Quality of Painting, DFT for primer, paint etc.

4.15 FOR COMPLETED VEHICLE:

- i) Determination of actual payload on the chassis so as to confirm payload given by vendor in the bid.
- ii) Checking of the load on individual wheels & verify loading of the each axle within the limits specified by the chassis manufacturer. Loads on corresponding wheels on both the sides should not vary abnormally.

- iii) For determining actual payload all tanks shall be full, all removable accessories will be on vehicle with a crew of six.
- iv) Static stability of the fully laden vehicle shall be checked to ensure that no overturning occurs till vehicle attains tilting of 27 degrees from horizontal.
- v) Road test of the fully laden vehicle shall be carried out to ensure the maximum speed, acceleration, turning radius, breaking ability as specified by chassis manufacture.
- vi) Running of water pump at rated conditions while discharging water through various outlets individually and in combination.
- vii) Stability check of vehicle in running condition & during turnings.
- viii) The main water pump shall be run for minimum 4 hours continuously at rated conditions.
- ix) Functional testing of each outlet (hose point / hose reel) individually and in combination.
- x) Functional testing of each proportionating device individually and in combination when delivering foam compound to the connected outlets for discharging foam / water mixture to the outlet.
- xi) Functional testing of all foam making equipment.
- xiii) Vibrations of rotary parts.
- xiv) Dimensional check of completed vehicle. The overall height shall be measured both when vehicle is laden with full payload and unladen.

5. INFORMATION / DOCUMENTS REQUIRED FROM VENDOR:

5.1 DURING SUBMISSION OF OFFER:

The following documents are required to be submitted in one set along with offer.

- I. Schematic flow diagram.
- II. Characteristic curve of main water pump showing duty points.
- III. Drawing showing PTO.
- IV. Elevation & plan of tender.
- V. Power requirement of pumps.

- VI. Catalogue of Foam-cum-water monitor including its performance curves.
- VII. Load Distribution Plan of the Foam Tender
- VIII. Catalogues of all imported items.

5.2 AFTER PLACEMENT OF ORDER:

3 sets of the following documents shall be submitted within One month of placement of the PO to obtain final approval of TPI & owner prior to start of fabrication :

- I. Suitability of respective PTO for Main Water pump and Torque calculation.

- II. Flow diagram showing all piping tanks, pumps, valves etc.

- III. Engg. Drawing showing dimension-wise details of lockers, internal arrangement of lockers & openings in body, Foam and water tanks.

- IV. GA & cross sectional drawings, characteristic curves and other details for main water pump.

- V. Internal Drawing for PTO Unit and other technical details.

- VI. Drawing for PTO system to drive pump from engine.

- VII. Detailed drawing for foam-cum water monitor.

- VIII. Fabrication drawings & data for water and foam tanks on the chassis.

- IX. Drawings & data for round the pump foam proportionating system.

- X. Drawings & data for auxiliary foam induction devices.

- XI. Line diagram for electrical circuits.

- XII. Drawings showing layout of all equipment, lockers, cabin etc.

- XIII. QAP incorporating the stipulated inspection and testing requirements.

- XIV. Suitability of respective PTO for Water pump and Torque calculation in the support.

5.3 AFTER COMPLETION OF ORDER (2 SETS)

- I. As built drawings of tender (1 set reproducible)
- II. As built engineering drawings for tanks.
- III. Flow diagram.
- IV. GA & cross sectional drawings, characteristic curves and other details for main water pump.
- V. As built Drawing for Installation of PTO Unit.
- VI. As built Drawing for foam-cum water monitor as per specification

6. ACCEPTANCE vis-a-vis FINAL COMMISSIONING AT HDC

- 6.1 The following acceptance test shall be carried out by the successful tenderer to the complete satisfaction of HDC in presence of TPI for which the cost of material has to be borne by the tenderer. This would be done at the premises of Fire Office, 1st Oil Jetty and the FCT (s) only after satisfactory trial run of pumps and monitors etc. would be declared as commissioned.
- 6.2 The FCT(s) shall be such that it will not affect the chassis characteristics as specified by the chassis manufacturer such as speed, turning circle, acceleration, etc.
- 6.3 The FCT (s) shall be such that the centre of gravity will be as low as possible to take care of stability requirements. Successful tenderer shall provide their own stability test (as per IS: 951) certificate for the same.
- 6.4 The pump (s) shall run for a continuous period of 4 hours at the rated capacity.
- 6.5 The priming device shall be tested with a vertical lift of 7 mtr. measured from water level to the centre of the suction eye of the pump at a rate of not less than 30 cm per second.
- 6.6 The monitors and hand lines, separately and in combination shall be tested for delivery of foam at their rated capacity in horizontal range.
- 6.7 Foam making equipment shall be applied to check the induction ratio of foam compound, total foam discharge rate and expansion ratio of foam production using the foam compound available in India.
- 6.8 The functioning of DCP and CO2 systems shall be tested.
- 6.9 Foam tanks and water tanks shall be tested for leakage and shall be observed after 24 hours.

7.0 CENVAT CREDIT:

- 7.1 The successful tenderer have to submit invoice strictly in terms of rule-11 of the Central Excise Rules.
- 7.2 All materials equipment etc. purchased should be in the name of Haldia Dock Complex, Kolkata Port Trust. Transporter's copy of the purchased items should be submitted to HDC along with the final bill.

- 7.3 The successful tenderer would undertake that in case CENVAT credit is denied due to defect in the document (invoice) then they would pay the Excise Duty element with interest to HDC on demand and failing which the same may be recovered from any dues balances with HDC.
- 7.4 If the bidder fails to submit relevant cenvatable documents as required by HDC at the time of submission of their bills, payment will be made after deducting EM with appropriate CESS.
8. **TERMINATION OF CONTRACT:** If the successful tenderer fails to carry out the order as per the specification and/ or fails to supply & commission of the complete FCTs, (as ordered) within the stipulated period without any valid reason acceptable to the Sr. Dy. Manager (Admn), Haldia Dock Complex, the Sr. Dy. Manager (Admn), Haldia Dock Complex, may terminate the contract after giving 15 days notice and his decision in the matter shall be final and binding on the contractor.

Upon termination of the contract for the reason indicated above, the Sr. Dy. Manager (Admn) shall be entitled to get the work done at the risk and expense of the tenderer through an independent agency and to recover from the tenderer in addition to any other amount, compensation or damages that the Haldia Dock Complex is entitled to in terms of other relevant clauses in the contract.

9. **FORCE MAJEURE:**

a) In the event of either party being rendered unable by Force Majeure to perform any obligation required to be performed by them under the 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 Force Majeure event lasts. The cost and loss sustained by either party shall be borne by the respective parties. The term "FORCE MAJEURE" as employed herein shall mean exceptionally adverse climatic conditions and natural phenomenon or strikes, lock-outs, civil commotion or other special circumstances of any kind beyond the control of the Contractor.

b) Upon occurrence of such cause and upon its termination, the party alleging that it has been rendered unable as aforesaid, shall notify the other party in writing immediately but not later than 15 (fifteen) days after the alleged beginning and ending thereof, giving full particulars and satisfactory evidence in support of its claim. Based on the evidence, the Sr. Dy. Manager (Admn.) shall either reject or allow the application and his decision shall be binding on the contractor.

10. **WARRANTY:**

- i) The successful tenderer must provide a minimum warranty of 01(one) year of the chassis or as specified by the chassis manufacturer.
- ii) The successful tenderer must provide a comprehensive (including all accessories) warranty for fabrication of FCTs and also warrants that all the goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract **for a period of 03(three) years** from the date of successful commissioning of the FCTs and also for all related accessories supplied by the tenderer.
- iii) The successful tenderer shall make good at his own expenses all defects in the water & foam tanks due to poor workmanship of the FCTs, which may, **during a period of**

05 (five) years from the date of successful delivery & commissioning of the FCTs develop under proper use.

11 EVALUATION CRITERIA: The evaluation of the rates will be made on the basis of the rate quoted against each FCT separately (cost of chassis and fabrication together of individual FCT) at the column –IV of Schedule of Rates having minimum financial impact to the Port. The Excise Duty & Service Tax component indicated at column – IV will be deducted from the total price for evaluation. The successful bidder shall have to submit cenvatable document against the Excise Duty & Service Tax quoted by them failing which the said amount shall be deducted from their bill. Tenderer quoting minimum rate against each of the FCTs will be selected as the successful tenderer for the FCTs.

12. TRAINING: After supply of the vehicles, vendor shall impart minimum 10 days / occasions training on operation & maintenance of fire vehicle(s) to the satisfaction of HDC, KoPT's personnel at owner's site free of cost.

13. Literature Manual and Tool Kits:

13.1 2 sets of operational and maintenance manuals shall be supplied with the appliance. It should include line/flow diagram.

13.2 Spare parts catalogue book/CD including source of supply shall be provided to ensure availability of spares of pump, primer, etc as and when required.

14. General Conditions of Contract:

All other terms & conditions which were not specified in this tender shall also be applicable for this contract as per Trustees' General Conditions of Contract. The tenderers may like to see the same in the websites of www.haldiadock.govt.in or www.kolkataport.gov.in

SCHEDULE 'A'

Sub : Requirement cum Specification of Fire Fighting Facilities in the new FCT-9 (Multipurpose Fire Tender).

1.0 GENERAL REQUIREMENTS

The Foam crash Tender (FCT) including all its accessories & equipment is required for fire-fighting mainly at Oil Terminals, Dock Areas and Jawahar Tower Complex.

It shall be designed & manufactured in compliance with the specifications given below, other relevant Indian / International standards/Industry best practice wherever not specified. Thickness of piping and tank plates as mentioned in the specification are minimum requirements. However, in case, thickness of piping and tank plates works out more as per the relevant Indian/ International Standards, highest thickness shall be used.

The FCT shall be designed to carry Water, Foam, DCP, CO2 equipment and accessories. The vehicle shall have water pumps driven through Power Take-off (PTO) unit, Water-cum Foam-Monitor, foam proportioning system, auxiliary foam induction devices etc. as per the detailed specifications.

All the equipment & accessories will be fixed on the appliance so that each part is easily accessible for immediate use during emergencies & maintenance.

2.0 SCOPE OF SUPPLY

2.1 This specification covers the requirements regarding design, engineering, procurement, fabrication, testing, and supply, commissioning and handing over Foam crash Tenders including procurement of chassis with the complete Fire Fighting System and other accessories fitted in the Foam Crash Tender to be used for fire fighting. The scope of supply shall be inclusive of, but not limited to the following:

- A centrifugal type firewater pump.
- Power take-off unit for driving water pump.
- Foam concentrate tank.
- Water storage tank.
- Round the pump foam proportioning system.
- Water cum Foam Monitor with a flow of 750 gpm (US) at 7 kg/cm² input pressure
- Body Fabrication
- Accessories and spares as per Technical Specifications.
- Piping, necessary controls, equipment & accessories etc. complete.

2.2 CHASSIS:

The chassis shall be with following broad features:

Sl.No.	Feature	Capacity
1	Engine Power	Minimum 210 BHP
2	Gross Vehicle weight	To the tune of 25 Ton
3	Overall length of the Chassis	Approx. 8.5 m.
4	Wheel Base	Approx. 4800 m
5	Chassis type	Rigid 8x4 or 6X4 full forward control
6	Turning Circle	Maximum 23 m.
7	Cabin	Factory fitted cabin for driver +1, the same shall be extended as per HDC, KoPT specification & guidelines of chassis manufacturer.

NOTE: The chassis of the FCT-9 should be of reputed make with suitable dimension and carrying capacity to accommodate the required fire-fighting facilities as per HDC's specification including fire-fighting crew with minimum cost involvement to Haldia Dock Complex, Kolkata Port Trust.

The chassis shall be collected by the vendor from Chassis supplier's Location.

- 2.3 However, to facilitate movement of chassis from chassis supplier's location to vendors' works, necessary temporary registration/permit and insurance shall be arranged by the vendor.
- 2.4 Final Registration of the vehicle will be arranged by owner after the completed vehicle is delivered to the owner. The vendor shall take temp. registration of completed vehicle & submit all relevant documents to the owner for final registration.
- 2.5 The successful tenderer shall submit Indemnity Bond (standard format is enclosed at **Annexure-XIII**) on Non-Judicial Stamp Paper of Rs 50/- for taking over the chassis from the original suppliers and handing over the completely fabricated FCT (s) to HDC, KoPT.
- 2.6 After taking over the chassis by the vendor and till such time the completed equipment is delivered to the owner, it shall be the vendors' responsibility to protect the chassis from damage, accident, pilferage etc. Any damage/shortfall shall be made good by the vendor at no extra cost to HDC, KoPT.
- 2.7 After receiving chassis from the chassis manufacturer and during the period of fabrication of Foam Tender(s), vendor shall arrange to carry out all periodical services as recommended by the Chassis Manufacturer at its fabrication site.
- 2.8 Any modification like Welding, drilling etc. on framework of chassis should be done as per the body building guideline given by the chassis supplier.
- 2.9 The vendor should submit weight distribution chart on axles along with the technical bid. All axels should be loaded within the maximum permissible pay load specified by the chassis manufacturer. Any restriction on performance of chassis, observed during/after execution of order shall have to be rectified by vendor in consultation with HDC, KoPT and chassis manufacturer. Such corrections shall be at no extra cost to HDC, KoPT.
- 2.10 The spare wheel assembly (supplied along with chassis) shall be fitted at a suitable place.
- 2.11 Drag hook or eye hook with adequate strength and design shall be provided at the rear of the chassis.
- 2.12 All wiring shall be properly fixed in position and should be protected against heat, oil and physical damage. Wherever possible wiring should pass through PVC Sleeves.
- 2.13 All important electrical circuits shall have separate fuses suitably indicated and grouped in a common fuse box located in an easily accessible position. Provision should be made for

a minimum 4 Nos. spare fuses in the fuse box. Fuse box should have visual marking to identify individual fuse details.

- 2.14 The vendor shall be responsible for supplying all equipment/accessories and properly fixing them on the chassis as described in this specifications document. Other details and requirements which are not covered under this specifications document, but may be necessary to complete the Multipurpose Foam Crash Tender (Combined water, foam, CO2 & DCP tender) and/or to fulfill the operation/performance requirement shall be provided by the vendor, who shall be responsible for the designing, engineering and construction of the complete appliance to the full satisfaction of the owner. Before finalization of design, the same needs to be approved by TPI followed by HDC, KoPT.

At the end of complete fabrication of Foam Crash Tender, the vehicle with fully laden conditions shall be checked and certified by vendor for correct load distribution on individual axle. The actual individual load on axle shall not exceed the allowable limit specified by chassis manufacturer or regulating authority, whichever is lower. Chassis supplier shall be called at the vendors' works to verify the correct load distribution & fabrication of vehicle as per guidelines of chassis supplier.

3. **Cooling System:** An appropriate open circuit indirect cooling system shall be provided if required, to cool the engine.

4.0 PUMPS:

4.1 MAIN WATER PUMP:

- 4.1.1 The water pump with automatic priming device shall be GODIVA/ Rosenbauer / Magirus /N K FIRE/ FIRE FLY make. There shall be two priming systems. One Primer shall be automatic water ring type primer and the second primer will preferably be exhaust ejector from the same manufacturer as that of pump.
- 4.1.2 The pump shall be dual-pressure single stage, centrifugal type.
- 4.1.3 The main pump shall be driven by Vehicle Engine through Power Take-off Unit (PTO) which shall be supplied by the vendor. The power take off unit shall be of Webster, Hale, Vas or Firefly make only.
- 4.1.4 The pump shall be capable of delivering minimum 4000 LPM @ 8.5 bar as well as 250 LPM @40 bar (for high pressure hose reel) at discharge flanges. Vendor shall match other parameters of operation w.r.t. Engine of the chassis.
- 4.1.5 The pump shall be capable of taking suction from:
- Water tank mounted on chassis. (In normal condition).
 - Underground reservoir through flexible suction hose up to suction lift of 7 m. with the help of automatic water ring type and also with exhaust ejector primer.
- 4.1.6 The pump shall be rear mounted to ensure maximum hydraulic efficiency when working from open water sources. It shall be mounted in such a way that vibrations from the drive line (if any) are not transmitted to the control panel. It shall be accessible and readily removable for repair and maintenance.
- 4.1.7 The pump shall have at least four mounting points to ensure that the complete load of the system is evenly distributed. The mounting shall be done on heavy "C" channels only. The mountings shall be secured to the chassis members by bolting.

- 4.1.8 The rotating drive coupling flange shall be provided with a cover / guard so that injury is minimized during operation or maintenance of the pump. The guard shall be bolted and easily removable.
- 4.1.9 Pump casing shall be made of gun metal/Stainless Steel. Impeller shall be closed type and shall be made of Gun Metal/Stainless Steel. The impeller and casing wear rings shall be renewable type. The pump shaft shall be made of stainless steel and shall be fitted with antifriction bearings. The pump shall have self-adjusting type mechanical seal which shall be capable of running dry for minimum one minute. Pump shall be self-venting type and shall have facility to drain water/sludge from the casing.
- 4.1.10 The primer shall be capable of lifting water upto at least 7 m depth (Suction lift) at a rate of not less than 30 cm per second in the suction line. The auto primers should work satisfactorily even if it is left dry for a long period.
- 4.1.11 The pump inlet suction lines shall be so sized and oriented to facilitate suction as per 4.1.5.
- 4.1.12 The pump discharge shall be routed to:
- 4 nos. outlets each fitted with Stainless Steel AUDCO/ L&T make ball valves and ending in ISI marked 63MM, Stainless Steel female coupling with double lugs fitted with stainless steel end caps.
 - Minimum 750 GPM (US) (i.e 2850 LPM) capacity Foam-cum-water monitor fitted on top of the vehicle.
- 4.1.13 The pump suction shall have a suitable box type suction strainer made of Stainless steel (SS-316L). The strainer should be easily removable for maintenance periodically.

4.2. Hose Reels:

- 4.2.1 One first-aid high pressure hose reel will be provided and mounted so as to be accessible for use from either side of the appliance. Swivelling guide rollers shall be fitted , where necessary, to prevent tubing from kinking.
- 4.2.2 Hose reel shall hold not less than 60m of 19mm bore tubing hose in convenient lengths, terminating in a high pressure fog gun capable of discharging water mist jet as well as fog pattern. The tubing shall conform to IS: 884:1985 or with its latest amendments.
- 4.2.3 The reel shall be provided with friction break to prevent over run of tubing without affecting easy run of the reel.
- 4.2.4 Plumbing between the pump and the hose reel shall have clear and unobstructed waterway of not less than 25 mm through out without any restriction.
- 4.2.5 The working pressure of the tubing shall not be less than 40 kg/cm² and shall be of 60 m long.
- 4.2.6 Flow to the reels should be controlled by manually operated squeeze Trigger type valve suitably located for ease in operation.

5.0 POWER TAKE OFF (PTO) UNIT for main water pump:

- 5.1.1 PTO unit for driving the main water pump shall be provided by vendor. The PTO shall be able to meet performance requirement of the pump. The power take off unit shall be of Webster, Hale, Vas or Firefly make only. The PTO shall be able to meet performance requirement of the pump. PTO selection criteria to be justified.
- 5.1.2 Switch for engaging the PTO shall be provided in the driver's cabin. Additionally, arrangement shall be made to engage the PTO by a lever near the PTO as a manual over-ride in case PTO fail to operate from remote switch in the cabin.
- 5.1.3 Vendor shall submit a sketch showing the arrangement of PTO unit for taking power from main engine on chassis to water pump.
- 5.1.4 Necessary modifications, to the standard drive system available on the chassis shall be done by the vendor so as to adopt the PTO unit in the system. Necessary supports for PTO unit, propeller shafts coupling, universal joints etc. shall be provided by fabrication vendor. The drive assembly components (shafts, coupling etc.) shall be dynamically balanced and the vibration at any of the rotary parts shall be minimum and in no case vibration shall exceed 76 mm/sec (Peak). Pump shall not be opened for dynamic balancing.

6.0 WATER TANK:

- 6.1 Water tank shall be of 7000 litres net capacity. 2% expansion space shall be made in the tank over & above the water capacity. A calibrated dip tape shall be provided on the tank to measure the tank level.
- 6.2 **Mounting:** The tank shall be mounted on flexible mounting with metacone pads of polybond / trelleborg make or equivalent (depending on the manufacturer's standard mounting procedures) which shall prevent distortion due to chassis flexion. The bottom tank shall be slightly sloped towards the pump suction connection to permit the full contents of tank to flow into the pump. Suitable hooks / lifting eyes shall be provided on top of the tank to enable it to be lifted off the vehicle for maintenance/repairs. The bottom of the hooks shall be suitably reinforced with pads to avoid stress on the tank top plate.
- 6.3 The water tank shall be fabricated out of 5 mm thick SS-316L (A 240 Type SS-316L/IS-6911:2004) plate all around except the top plates. Top shall be of 4 mm SS-316L (A 240 Type SS-316L/IS-6911:2004) plate.
- 6.4 The tank shall be of welded construction and die-pressed plates will be used on all sides to prevent distortion and to ensure torsional rigidity. Due care shall be taken to ensure that butt-weld joints are minimized. Wherever butt joints are unavoidable, they will be radiographically tested. The test films & reports shall be submitted at the time of stage inspection. All other joints shall be DP tested for soundness of welding.
- 6.5 The tanks shall be suitably stiffened with SS 316L angles/ flats (IS 6911:2004) so as to avoid buckling & distortion.
- 6.6 Complete welding shall be done with Argon Gas aided (GTAW) process. SS-316L compatible electrodes filler wires shall be used. The make of the electrodes shall be Advani, Oerlikon, D&H, ESAB or L&T.

- 6.7 Water tank shall have convex shape at bottom for lowest centre of gravity. Top of tanks shall be flat.
- 6.8 **Baffles:** The tank shall have suitable baffles of 4 mm SS-316L (A 240 Type SS-316L/IS-6911:2004) plates, so as to avoid water surging due to movement of vehicle. The baffle plates will be placed at every 900mm (Max.) interval. Baffle plates will be connected to the tank with SS bolts/nut (A193 Gr. B8/A194 Gr. B8). The threads of bolts shall be tack welded beyond the nut to prevent them falling into the tank. The baffles should be so designed that they do not distort / buckle under any circumstances during braking & cornering. Suitable padding shall be provided between baffle plate and tank shell.
- 6.9 An inspection manhole of 500MM size shall be provided on top with boltable cover with suitable gasket. Cover and neck shall be of 5 mm thickness. The manhole shall be fitted with an attached SS name plate (Etched) with marking 'WATER' (letter size 100MM). An anti-vortex device shall be provided in tank nozzle for pump suction. In addition 'WATER' should be written on the manhole with fluorescent strip for night visibility.
- 6.10 Tank shall have water filling orifice of 150 mm dia at the top and with a removable conical strainer of SS- 316L fitted to it. The filling hole shall have a hinged/bolted cover with suitable gasket. Cover and neck shall be of SS- 316L of 5 mm thickness and have an etched SS name plate with marking WATER. The strainer shall be of removable during cleaning without any hot job.
- 6.11 The tank shall also have an easily accessible cleaning hole of 250MM dia and 50MM drain pipe with SS ball valve and 63MM (SS) instantaneous male coupling incorporated in it.
- 6.12 **Overflow:** The tank shall be fitted with overflow pipes of suitable diameter and the discharge end shall be taken below the chassis without reducing the effective ground clearance. The overflow pipe should be 2 nos of minimum 100mm diameter or 01 no pipe of 150 mm diameter. The line shall be adequately supported.
- 6.13 **Level Indicator:** A water level indicator will be provided close to the control panel. The level indicators shall be of the graduated glass tube fitted in an SS sleeve for protection. Arrangement shall be provided to isolate the tube from the tank for maintenance. A three way valve will be provided at the bottom to drain water in the tube. A float which is easily visible at night should be incorporated in the tube to indicate levels in darkness.
- 6.14 The tank shall be filled with suitably sized inlet line from pressurized hydrant mains. 08 nos. 63MM (SS-304) instantaneous male connectors (04 on each side of the foam/water tender) shall be connected to the filling line. All of inlet connections shall be ergonomically designed for easy connection from fire hydrants during emergency and these should be covered to protect them from mud/ dirty water of road. Each inlet shall be provided with SS make ball valve of AUDCO / L&T make.
- 6.15 The inlet line in the tank shall have an adequately strong deflector plate, which will avoid the incoming jet of water from hitting the tank side/roof.
- 6.16 All the outlets and inlets from the tank shall be taken by installing nozzles of suitable length and shall have suitable reinforcement pads of SS-316L (A 240 Type SS-316L / IS-6911:2004). Nozzles shall be of SS-316L and suitable flange of suitable thickness of SS-316L (ASTM A182 F316) drilled to ANSI B 16.5 specification to be provided.

- 6.17 Reinforcement pads at tank supporting shall be of same thickness and material as that of the water tank. Diameter of the Reinforcement pads shall be 1.5 times diameter of nozzles.
- 6.18 A suitable SS strainer shall be provided at the suction of the pump inside the water tank. The location shall be such that it becomes easily removable during maintenance.
- 6.19 All plumbing shall be reasonably accessible for maintenance purposes. Screwed bends, joints shall be avoided as far as possible. All the joints will be flanged type & shall have "O" ring sealing of Teflon (PTFE). Rubber gaskets shall not be used anywhere in the plumbing.
- 6.20 Anti-vortex device shall be provided inside the water tank at the pump suction.
- 7.0 **FOAM TANK:**
- 7.1 The foam compound tank of 2000 litres net capacity shall be fabricated out of 5 mm thick SS-316L(A 240 Type 316L/IS-6911:2004) plates all around except the top plates, which shall be of 4 mm SS-316L (A 240 Type 316L/IS-6911:2004) plate. In addition 2% of expansion space shall be provided in the tank, over and above foam compound capacity.
- 7.2 The tank shall be of welded construction & shall be die-pressed on all sides to prevent distortion & to ensure torsional rigidity. Due care shall be taken to ensure that butt-weld joints are minimized. Wherever butt joints are unavoidable, they shall be radio-graphically tested. The test films & reports shall be submitted at the time of stage inspection. All other joints shall be DP tested for soundness of weld joints.
- 7.3 Complete welding shall be done using only Argon Gas aided (GTAW) process using only SS 316L compatible filler wires. The make of the electrodes shall be of Advani, Oerlikon, D&H, ESAB or L&T.
- 7.4 The tank shall have baffles of 4 mm SS-316L (A 240 Type 316L/IS-6911:2004) plates, so as to avoid surging due to movement of vehicle. Baffle plate shall be connected to the tank with SS nut/bolts (A194 Gr. B8/A193 Gr. B8). The threads of bolts shall be tack welded beyond the nut to prevent them falling in the tank. Suitable padding shall be provided between baffle plate and tank shell. The baffles should be so designed that they do not distort / buckle under any circumstances during braking & cornering.
- 7.5 **Mounting:** The tank shall be mounted on flexible mounting with metacone pads of polybond / trelleborg make or equivalent (depending on the manufacturer's standard mounting procedures) which shall prevent distortion due to chassis flexion. The mounting shall permit the full contents of tank to flow into the pump. The bottom of the tank shall be slightly sloped towards the tank to pump suction connection. Suitable hooks / lifting eyes shall be provided on top of the tank to enable it to be lifted off the vehicle for maintenance/repairs. The bottom of the hooks shall be suitably reinforced with pads to avoid stress on the tank top plate.
- 7.6 The tank shall be fitted with a sludge trap. The tank shall also have a cleaning manhole of 250MM dia and 50MM-drain pipe with S.S. ball valve and 63MM (SS) instantaneous male coupling incorporated in it.

- 7.7 Foam tank shall have convex shape at the bottom for lowest centre of gravity. The top plate shall be flat. The bottom of the tank shall have a slight slope towards the sludge trap.
- 7.8 Tank shall have foam filling opening of 150 mm dia at top and with a removable conical strainer of SS-316L fitted to it. The fill pipe shall extend to the bottom of the tank to avoid foaming while filling the tank. The filling hole shall have a hinged/bolted cover with suitable gasket. Cover and neck shall be of SS-316L (A 240 Type 316L/IS-6911:2004) of 5 mm thickness and have an attached SS name plate with marking FOAM. A calibrated dip tape shall be provided on the tank to measure the tank level. Foam with fluorescent tape shall be written on the manhole.
- 7.9 Inspection manhole of 500 mm dia having hinged /bolted cover with suitable gasket and locking arrangement to be provided. Cover and neck shall be of 5 mm thickness. Manhole cover shall have an SS name plate marked FOAM of letter size 100 mm.
- 7.10 All the outlets from the tank shall be taken by installing nozzles of suitable length and shall have suitable reinforcement pads of SS-316L. Nozzles shall be of SS-316L and suitable flange of suitable thickness of SS-316L (A 182 F-316) drilled to ANSI B 16.5 specification shall be provided. A suitable SS strainer shall be provided at the pump suction inside the foam tank.
- 7.11 All plumbing shall be reasonably accessible for maintenance purposes. Screwed bends, joints shall be avoided as far as possible. All the joints will be flanged type & shall have "O" ring sealing. Rubber gaskets shall not be allowed in the plumbing.
- 7.12 Reinforcement pads at tank supporting structure shall be of same thickness and material of the foam tank. Diameter of the Reinforcement pads shall be 1.5 times diameter of nozzles.
- 7.13 **Level Indicator:** A foam level indicator will be provided close to the control panel. The level indicators shall be of the graduated glass tube provided in an SS sleeve for protection. Means will be provided to isolate the same from the tank for maintenance as well as to extend the life of the tubes. A three way valve will be provided at the bottom to drain the tube. A float which is easily visible at night should be incorporated in the measure tube to indicate levels in darkness.
- 7.14 Foam tank shall be equipped with pressure/ vacuum vent that enables the tank to compensate for changes in pressure or vacuum when filling or withdrawing foam concentrate from the tank.
- 7.15 The pressure/ vacuum valve shall not allow atmospheric air to enter the foam tank except during operation or to compensate for thermal fluctuations.
- The vent shall be protected to prevent foam concentrate from escaping or directly contacting the vent at any time.
 - The vent shall be of sufficient size to prevent tank damage during filling or foam withdrawal.
- 8.0 **ROUND THE PUMP FOAM PROPORTIONATING SYSTEM:**
- 8.1 The foam proportionate system will be round the pump foam proportioning type, which can induct the foam concentrate to the water stream according to the flow of water.

- 8.2 The foam system shall be designed to induce 3% foam for all the deliveries and monitor individually or simultaneously. The metering device shall be calibrated such that it shall be able to induce 3% foam with respect to the number of deliveries and / or monitor operating at that time.
- 8.3 The Proportioner shall be installed in such a way that it will not be liable to mechanical or other failures. The selector valve will have six settings one each for the delivery outlet. Each upward setting will result into an equal increase in the foam concentrate flow rate.
- 8.4 **AUXILIARY FOAM INDUCTION DEVICE.**
- 8.4.1 Induction devices operated through hydrant water are required for directly picking up foam from foam tank. Induction device should induct 3% foam. At the inlet water pressure of 7.00 kg/cm², FB-10X branch shall operate optimally with this foam induction.
- 8.4.2 One induction device shall be provided on either side of the tender. Induction device (2 Nos.) shall have its outlet connected to 1 No. 63MM female instantaneous coupling (SS) for use of foam hand line.
- 8.4.3 One SS-304 (A 351 Gr. CF8) ball valve of suitable size shall be provided on each inductor line between foam line (from the tank) and inductor.
- 9.0 **PIPING:**
- 9.1 Foam piping circuit & fittings on the vehicle will be of SS-ASTM A312 Type 316L material. Water piping & its fittings shall be of SS-ASTM A312 Type 316 material .
- 9.2 All piping shall be sized so as to have minimum pressure drop and achieve the required pressure and flow at various locations.
- 9.3 All piping shall be seamless and designed for 10% over the maximum pressures encountered in the pipe.
- 9.4 The piping shall have flanged joints for ease of maintenance. However, flange joints shall be kept minimum.
- 9.5 Valves of less than 1.5" size shall be forged and valve more than 2" size can be of cast construction.
- 9.6 All lines shall be hydraulically tested at 1.5 times of the design pressure and pressure shall be held for two hours. In no case the lines shall be tested below 25 kg/sq. cm.
- 9.7 All lines shall be suitably supported so as to provide rigidity and avoid vibrations.
- 9.7 All lines less than 1.5" NB size can be socket welded to matching rating fittings. All lines above 2" NB size shall be butt welded with full penetration welds.

9.8 **FOAM PIPING**

- 9.8.1 Total piping in foam circuit shall be of SS-ASTM A312 Type 316L unless otherwise specified.
- 9.8.2 All ball valves in foam circuit shall be of SS-316 (A351 Gr. CF8 body and SS internals) with Teflon seats.
- 9.8.3 All gaskets in foam lines shall be spiral wound (conforming to API-601) with SS-316 rings and asbestos filler. Alternately Viton 'O' rings may also be used.
- 9.8.4 All bolting shall be of SS-316 (A193 Gr. B8 / A 194 Gr. 8).
- 9.8.5 Provision shall be kept for flushing the foam lines with water from on board water pump and from an external source.

9.9 **WATER PIPING**

- 9.9.1 Total piping in water circuit shall be of SS-ASTM A312 Type 316L unless otherwise specified.
- 9.9.2 All gaskets in water lines shall be spiral wounds (conforming to API-601) with SS-316 rings and non asbestos filler. Alternately Viton 'O' rings may also be used.
- 9.9.3 All bolting shall be of SS-316 (A193 Gr. B8 / A 194 Gr. 8).
- 9.10 **Flow Chart:** A flow chart and schematic diagram shall be made and submitted with the technical bid.

10.0 **FOAM CUM WATER MONITOR**

- 10.1: 1 No. Water cum Foam Monitor of AKRON Brass/ ELKHART/ TFT / NEWAGE / SHAH BHOGILAL make with minimum flow of 750 GPM (US) capacity and following details to be mounted at rear side on the top of the Foam Crash Tender :

Control:	Manual operation facility
Output:	750 gpm at 7 kg/cm ² inlet pressure.
Range:	Water straight stream : Horizontal- Minimum 60 m (radial distance) at 35o elevation. Foam straight stream: 50m. (minimum) All at 7 Kg/cm ² inlet pressure.
Horizontal rotation:	340°
Vertical depression:	From -10° to + 70°

- 10.2 Complete Monitor assembly shall be supplied by the above mentioned monitor supplier only.

- 10.3 Suitable arrangement shall be made so that inlet from pressurized hydrant mains can be diverted to foam/water monitor directly.
- 10.4 The vendor shall ensure that the piping for mounting 1 No. of Water cum Foam Monitor shall be of adequate size, so as to ensure performance of this foam/water monitors.
- 10.5 The monitors shall be adequately supported to take care of reaction force generated by the monitor when it discharges water / foam at 10 kg/cm² pressure.

11.0 DRY POWDER EXTINGUISHER SYSTEM:

11.1 DCP CYLINDER:

One DCP Cylinder of 250 Kg. capacity shall be suitably located with proper mounting. DCP vessel shall be fabricated as per the relevant Pressure Vessels Rules and shall be provided with all mandatory fittings. The Dry chemical powder cylinder should conform to ASME code VIII or the latest European norms of unfired pressure vessels and suitable anticorrosion treatment shall be given to the internal surface of the vessels. Chalk powder for testing shall be to the tenderer's scope.

11.2 NITROGEN CYLINDERS:

Nitrogen gas shall be used as an expellant gas. Nitrogen cylinder of capacity not less than 50 litres each having filling pressure of not less than 140 kg / cm² of seamless steel cylinder conforming to IS: 7285/82 shall be provided. Adequate number of cylinders for expelling 250/500 kg DCP shall be provided. A battery of 100% stand by cylinders shall be provided along with main nitrogen cylinders.

11.3 PIPING:

Piping of appropriate size and class shall be provided with pressure reducer and other devices to take care of discharge of DCP as per performance requirement. Arrangement for flushing the hose reel with expellant gas shall be provided.

11.4 DCP HOSE REELS:

One pressure hose reel of 30m length of appropriate size fitted with trigger type gunmetal nozzle. The hose reel discharge rate of powder shall not be less than 5 Kg/sec. each. The throw shall not be less than 10m in still weather condition. DCP Hose reel shall be supplied as per relevant Indian Standard.

- 11.5 Spray Gun Heavy duty spray gun 1 no shall be provided. The hose reel shall be made of fully corrosion proof man made material. For emergency operation a manual crank shall be provided.

11.6 DCP SYSTEM CONTROL PANEL:

Adequately illuminated control panel shall be provided at easily accessible position to operate the Dry Powder System. All controls / items required for operation shall be clearly marked or identified by fixing suitable labels to facilitate easy operation. DCP system controls shall be in manual mode .

There should a facility incorporated to bleed the pressurized system at various stages. The bleed of valve on the DCP vessel should be used only as a last resort. Adequate safety relief measures should be installed on the high pressure system.

11.7 DCP MONITOR:

- One No. Heavy duty DCP Monitor shall be mounted on heavy duty suitable and independent platform just behind the driver's cabin. The DCP monitor shall withstand shocks & vibration while discharging DCP powders shall be provided with heavy duty vibration pads.
- The discharge through the monitor shall be adjustable at 15, 25 and 40 kg/sec. at operating pressure. The throw through the monitor shall not be less than 25m horizontally and 15m vertically in still air.
- Suitable controls shall be provided near the grip of the handle to facilitate the operator to control and regulate the discharge of the powder.
- The monitor shall be provided in a manner so as to enable the operator to move it easily. It shall be capable to work on any angle upto 360o horizontally and 100o (+80o to-20o) vertically.
- The platform shall be adequate strengthened to avoid any vibration while the monitor is in use. There shall be proper and sufficient moving space around the platform for movement of the operator.
- The Monitor shall rest on a clamp properly secure while not in use.
- The monitor upward & downward & Rotation movement shall be fully manual controlled. Suitable locking system to be provided.

12.0 CARBON - DI – OXIDE CYLINDERS:

4 x 22.5 kg CO2 cylinder with 1 no. of hose reel of 50 meter long high pressure rubber hose with discharge horn shall be provided conveniently.

13.0 ACCESSORIES:

Multipurpose Foam Crash Tender ,i.e, Combined water, foam, DCP and CO2 Tender (FCT No-9) shall be provided with the following accessories in addition to those fitted to the chassis. All the accessories shall be suitably fixed in position in lockers or other suitable places on the tender.

Sl No	Item	Quantity
1	A 24 volts DC operated GRAND make blinker light bar (minimum three blinkers on each side) with PA system and siren shall be provided on top of the vehicle with firm support and assembly shall be covered with SS grill. Assembly shall be operable from cabin.	1 No. (fitted on roof, operable from cabin)
2	Fog lamps powered by the battery of the appliance.	2 Nos. (Fitted in front of tender. Switch in cabin).

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3	Reversing lights with Audio Warning Signal	2 Nos. (at rear of chassis tender)
4	Search light with 100 M length of cable with tripod etc. complete powered from main batteries.	1 set (mounted on roof)
5	Adjustable spot light	1 No. (On cabin roof)
6	Electrically operate siren on minimum 1.5 KM range (battery operated)	1 No. (on roof)
7	All tools required for normal / routine maintenance of the appliance, which are not included with the kit of chassis.	2 Sets (In toolbox under rear seat in cabin).
8	CCOE approved removable spark arrestor fitted to the exhaust of the engine	01 No. (If exempted by CCE as per latest norm, certificate of exemption to be submitted along with the supply. Otherwise the same shall be supplied separately.
9	A trickle charger 250V AC supply for self charging of battery along with a red pilot light to indicate the battery being charged. It shall be fitted in the driver's cabin. AC Main sockets at rear. AC line on chassis to run in PVC conduit.	01 No (in cabin)
10	Stainless Steel dividing breeching each having two 63MM female instantaneous type outlets, conforming to IS-905/1980.	2 Nos. (In Locker)
11	Stainless Steel collecting breeching each having two 63MM male instantaneous type inlet with control levers, conforming to IS-905/1980.	2 Nos. (In Locker)
12	Stainless Steel 2 way suction collecting head (one outlet with round female threads and two female instantaneous type inlets of suitable dimension), conforming to IS-905/1983.	2 Nos. (In Locker)
13	An aluminum double extension ladder Trussed type, 35 feet to be provided on the roof of the appliance with gallows. The ladder shall be CE certified, fully complying with EN 1147. Rope shall be nylon.	1 No. (on roof)
14	Suction strainer with foot valve (size to suit suction hose as per IS :907-1984)	01 nos. (In locker)
15	Corrugated PVC suction hose fitted with round thread male-female gun metal couplings with 2.5 m length and dia as per water pump suction.	08 no. in top deck
16	Basket strainer	02 nos. (In locker)
17	Universal Wrench to tighten suction hose	04 nos. (In locker)
18	12 mm nylon rope-15m length	02 Nos. (In locker)
19	Hose bandages rubberized as per IS:5612 (Part-20-1977)	08 Nos. (In locker)
20	Foam branch FB-10X fitted with 63MM G.M. male coupling at the base and spray control at the front of branch [capacity 100GPM(US)], conforming to IS-2097/1983	02 Nos. (In locker)
21	Fog nozzle 63MM, conforming to IS-903/1993.	02 Nos. (In locker)

22	Dual purpose jet and diffuser nozzle with instantaneous connection, 63MM, conforming to IS-903/1993	02 Nos. (In locker)
23	NFPA 1964 compliant & CE/FM approved 1½ inch adjustable gallonage with multiple flow settings & 63 mm BIM inlet hand nozzle. Minimum three detent flow settings upto 200 gpm @ 100 PSI, with pistol grip, made of hard anodized aluminum, with ball valve. The nozzle shall have feature for flushing without being shut down, reduced rotation for fog to straight stream, gasket grabber inlet screen and full fill power fog. Make: Elkart /Akron Brass / TFT/ N.K Fire. CE/FM approval certificate to be supplied alongwith offer & supply.	02 nos. (In locker)
24	Branch pipe (SS) universal 63MM, conforming to IS-903/1993	02 Nos. (In locker)
25	Triple purpose diffuser branch, conforming to IS-903/1993	02 Nos. (In locker)
26	SS Branch pipe with revolving head 63MM, conforming to IS-903/1993	02 Nos. (In locker)
27	Stainless Steel double female adopter. , conforming to IS-903/1993	02 nos. (In locker)
28	Stainless Steel double male adopter , conforming to IS-903/1993	02 nos. (In locker)
29	Stainless Steel Suction Adopter -water pump suction size to 4”	02 nos. (In locker)
30	Fire Hook as per IS 927 (Latest)	02 nos. (In locker)
31	Jumbo Water Curtains with 2 male coupling inlets made of Stainless Steel	02 nos. (In locker)
32	Heavy Duty Lock Cutter	01 no. (In locker)
33	Shovel as per IS: 274 (Part-1 & 2) (latest revision).	02 nos. (In locker)

NOTE 1:- Accessories to be supplied with ISI mark wherever available and not specified otherwise. Otherwise vendor to give certificate that accessories conform to relevant IS-specification. In case where no IS code is applicable, certification of UL/FM/EN/CE will also be considered.

NOTE 2:- HDC can add further maximum 15 items in the above list, subject to a condition that the gross weight of all additional accessories is below 1 (one) Ton.

14.0 CONTROL PANEL:

All the controls like suction inlet, delivery outlet and monitor valve shall be pneumatic with manual over-ride. Pneumatic actuator shall be installed on all the pneumatic controlled valves. Separate air cylinders / pistons connecting handles of the valves shall not be permitted. Master Isolation valve shall be provided after air tanks in the driver cabin for taking pneumatic supply to rear control. The switches for the pneumatic valves shall be provided on the control panel. Adequately illuminated pump operating panel made of SS sheet shall be provided at the rear side of the appliance at such a location that it does not hamper pump operation by operator and these shall include the following:

- A. Auxiliary throttle control for the engine.

- B. Independent glycerine filled pressure gauges calibrated to 25 KG/CM² for pump discharge.
- C. Threaded suction inlet of water pump with blind cap.
- D. Control for using the auxiliary foam compound by pick up tube.
- E. Quick opening valve for lining up water tank to pump.
- F. Level gauge for water & foam tanks.
- G. Priming valve for water pump.
- H. System schematic etched on Stainless Steel plate of A3 size.
- I. Operating instruction plate and flushing out instruction plate (both on boldly etched Stainless steel plates).
- J. RPM for pumps.
- K. Independent glycerine filled compound gauge calibrated to 0 to 30 PSI and 0 to 30" mercury vacuum or metric equivalents.

"Pump Engaged" indicators shall be provided both in the driving compartment and on the pump operator's panel to indicate that the pump shifting has been successfully completed.

In addition to the mentioned above, vendor shall provide any other items that he may find essential. Any of these items which are also required in the driver's cabin shall be provided at suitable locations in the driver's cabin. Each lever, switch, valve, gauges, outlet/inlet etc. shall have identification made on metal plate and duly riveted. The microphone of the PA system shall be fixed inside the driver cabin on a flexible stand at a suitable location.

15.0 **BODY WORK:**

15.1 **FIRE CREW CABIN:**

- i) The crew cabin for 2 persons will be supplied alongwith the chassis. It shall be further extended by the vendor to accommodate one row of 4 crew seats behind the Driver's/ Co-passenger seat. In addition to the two doors provided by the chassis supplier, two additional doors shall be provided by the vendor for the crew in the cabin. The rear doors shall be sized generously with proper arrangement for embarking and disembarking of crew members. The doors shall open outwards and hung forward and shall have levers for unlatching from outside and inside.
- ii) The doors shall be provided with shatterproof safety glasses which can be raised / lowered by winding type mechanism.
- iii) First aid box supplied alongwith the chassis shall be suitably mounted in the cabin at easily accessible location.
- iv) Non slip type steps & grab rails shall be provided in the cabin to assist the crew members to get in & out.
- v) The crew cabin structure shall be so designed so as to avoid any vibration / rattling /deformation in the intended usage of the vehicle.
- vi) Cabin shall have one roof light & two side lights (one on each side) for proper illumination of cabin.

- vii) The entire floor of the crew cabin shall be provided with vinyl matting of minimum 6MM thickness with anti-skid features.
- viii) **Seating:** The driver's & officer's seat will be provided by the chassis OEM. The crew seat shall have individual seating for four crew members and shall be fitted with brackets for placement of BA sets (6 litre water capacity and 300 bar) in an upright position. The seats shall be of the wear & walk away type so that when the crew disembarks from the vehicle the BA sets should easily come off the seats with them.
- ix) The cabin extension shall be done in such a manner that cabin can be tilted easily for maintenance of the engine. All necessary modification for extension of the cabin like shifting of air inlet etc. shall be done by the vendor.

15.2 **STRUCTURE/FRAME WORK :**

- i) The structure/frame work on chassis shall be of welded construction made from SS pressed sections and made from 30 mm X 30 mm X 1.6 mm hollow square section of SS-316 and distance between each horizontal and vertical square shall be maximum 400 mm.
- ii) The extension of the crew cabin shall be done using structure & panelling of same material & thickness as used by the chassis supplier for original cabin.
- iii) Cross supporting members of the panelling shall be made of SS-316 channels of 75 mm X 5 mm thickness.
- iv) The roof should be strong enough for being walked-on and must be sufficiently supported. The intermediate walls and shelves shall be constructed from 16 SWG aluminium sheets .
- v) The outside paneling shall be done from 16 SWG aluminium sheet. Complete looring shall be of 16 SWG and the inside of lockers shall be done from 16 SWG Aluminium Plain Sheet. The vehicle shall be covered from top with 16 SWG chequered plate having rainwater channel at both side. Guide Rails shall support over entire length on both sides.
- vi) Proper draining arrangements shall be provided on the entire roof, crew cabin and inside the lockers.
- vii) The roof of the cabins should be rigid enough to take the weight of two persons without deforming the roof sheeting.
- viii) Proper access ladder with Grab rails and non-skid steps shall be provided to give access to the roof for approaching the extension ladder, manholes for tanks and monitor etc.
- ix) Access handrails shall be provided at each entrance to a driving or crew compartment and at each position where steps or ladder for climbing are located. Access handrails shall be constructed of, or covered with, a slip-resistant, non-corrosive material. Handrails shall be between 1 in. and 1-5/8 in. (25 mm and 41 mm) in diameter and have a minimum clearance between the handrails and any surface of at least 2 in. (51 mm). All

handrails shall be designed and mounted to reduce the possibility of hand slippage and to avoid snagging of hose, equipment, or clothing.

15.3 LOCKERS:

- i) Size and number of locker shall be decided such that all the accessories mentioned in this specs can be accommodated easily. In addition, lockers should also be provided on either side to accommodate 5 nos DCP fire extinguishers of 9 kg capacity, 20 nos. of 22.5 m length fire hose and 10 nos. additional accessories/items which can be easily accommodated in single layer and equipments may be accommodated in maximum three layers. Sufficient numbers of lockers shall be provided to accommodate all the equipment/accessories in an easily accessible manner. (Hoses & extinguisher are not in scope of supply of fabricator)
- ii) All lockers shall be provided with highly corrosion-resistant Roller type shutter doors of MCD (France), Fireco (Italy), Dover (UK), Ziegler (Germany) make. The shutter assembly including the LED lighting, the side, bottom and main profiles as well as the locking system shall be from the shutter manufacturer only.
- iii) Roller shutters shall be of hollow rectangular shaped & made from aluminum interchangeable links connected by means of plastic profiles. Sealing of roller shutter shall be watertight when closed.
- iv) Roller shutters shall be inward rolling type and shall be provided with guide rails over entire length on both sides to make them torsion free.
- v) When shutters are rolled, unobstructed access should be available to the equipment & hoses. Shutters should open in all positions of the vehicle even in rough terrains.
- vi) Roller shutters shall have locking arrangement to prevent accidental opening during movement of the vehicle.
- vii) All the lockers shall be fitted with internal lighting, which shall be capable of being automatically switched, 'ON' and 'OFF' by the opening of shutters. A master switch for isolating the locker lighting circuit shall also be fitted in the driver's cabin.
- viii) Lockers shall have arrangement for self draining of any water entering inside.
- ix) Lockers shall be accessible from ground level by a man of average height (1.67M). These should be designed ergonomically and only one person should be able to open and handle it. Fasteners used in all cases shall be made of SS (A193Gr.B8/A194Gr.8)
- x) All the Lockers shall be provided with, 4MM thick, neoprene rubber mat of reputed make at bottom and up-to 12 inch on three sides.

15.4 **FOR OTHER WORK ON CHASSIS:**

- i) **Ladder Gallows:** Ladder gallows shall be provided for carrying 35 ft. aluminum double extension trussed type ladder (as specified in the accessories). The design shall be such that the ladder can be released from the ground without difficulty & will embody rollers to permit easy withdrawal by one man. Tipping type ladder gallows, with locking arrangement, which will ensure removal of ladder without the person having to climb on the roof top, shall be fitted. The system shall be easy to operate and shall permit a person standing on the ground to bring the ladder down. Means will be provided for locking the ladder when stowed.
- ii) No part of the bodywork shall reduce ground clearance of vehicle to less than 36cm. & not increase the overall width to more than 2.50M. The highest part of the appliance with the ladder and monitor mounted on it shall not exceed 3.60M from the ground level. The construction of super-structure shall not reduce the angles of approach below 27 degree.
- iii) All light fixtures shall be placed in recesses or protected by grill covers to avoid damage by movement of material/personnel.
- iv) Wiring shall be uniquely identified at least every 2 ft (0.6 m) by colour coding or permanent marking.
- v) Circuits shall be provided with properly rated low-voltage over-current protective devices. Such devices shall be readily accessible and protected against heat in excess of the over-current device's design range, mechanical damage and water spray. Circuit protection shall be accomplished by utilizing fuses, circuit breakers, fusible links, or solid state equivalent devices.
- vi) Switches, relays, terminals, and connectors shall have a direct current (DC) rating of 125 percent of maximum current for which the circuit is protected.
- vii) All wiring shall be of standard make like Finolex / KEI / Nicco Corporation / RPG / Universal Cables & ISI marked.
- viii) Arrangement shall be made on Dashboard opposite to the officers' seat to fix a Motorola mobile wireless set of 25W capacity. Power supply shall be provided from vehicle battery. The owner shall fit wireless set later.

16.0 **PAINTING AND MARKING:**

16.1 **Vehicle Exterior Paint:** The complete vehicle (all exterior surfaces) should be painted with one coat of zinc silicate primer of minimum 50 microns DFT by spray painting. Thereafter two coats of high build polyurethane finish paint each coat of 50 microns DFT shall be applied. Further improvement on the paint may be carried out by the manufacturer beyond that mentioned above, to give better protection & surface finish. The colour of exterior body shall be Signal red colour.

16.2 **Surface Preparation** once the panelling is completed, all the outside surfaces should be painted with a good quality paint of Du-Pont /PPG / Standox / Akzonoble / Asian Paints / Berger / ICI / Jenson & Nicholson only. This should be poly-urethane (PU) based paint with a life of

minimum 10 years. Du-Pont hardner shall be applied on paint. The bidder shall guarantee fade resistance of minimum 5 years from supply even if the vehicle is kept in the open.

16.3 The entire structure will be prepared by grinding the welded surfaces, priming the finished material with a zinc rich primer & then finally coated with two packs epoxy based paint.

16.4 All the lockers / cabins shall be provided with Stainless steel Name Plates with letters etched on it boldly indicating the content.

16.5 Water & foam lines should be painted with zinc phosphate epoxy primer each of 50 microns DFT and two coats of polyurethane finished paint each coat of 50 microns DFT. Water lines shall be painted red in colour & foam lines shall be painted yellow in colour.

16.6 Owner's emblem in original colour together with name (in Hindi and English) as below shall be written in golden yellow colour on both sides of the vehicle.

**HALDIA DOCK COMPLEX
KOLKATA PORT TRUST**

16.7 On the front of the vehicle FOAM CRASH TENDER shall be written in English.

16.8 The inside of lockers shall be painted in pale Cream/Grey colour.

16.9 The chassis frame shall be painted black and wheel arch shall be painted white/grey/silver.

16.10 Mud flappers of sufficient length and width shall be provided at wheels.

16.11 Under frame of Chassis shall be painted with chlorinated rubber paint.

16.12 The appliance shall be clearly having the following marks at rear side of vehicle:

- i) Manufacturer's name & trade mark.
- ii) Year of manufacture
- iii) Pump serial numbers and capacities.
- iv) Capacity of water tank and foam compound tank in liters.
- v) Engine and chassis number.

16.13 All instrument control & valves shall be identified with properly etched metallic Name plates.

SCHEDULE 'B'

Sub : Requirement cum Specification of Fire Fighting Facilities in the new FCT-10 (Multipurpose Fire Tender).

This specification covers the general requirements regarding materials, performance and acceptance tests for Multipurpose Foam cum water Tender to be used for fire fighting. The scope of supply shall be inclusive of but not limited to the following. The Multi Purpose Foam cum water Tender shall be built as per relevant Indian Standard : 10460/83 and its latest editions and also as per the Trust's specification.

1. TECHNICAL REQUIREMENT:

- a) Chassis capacity should be to the tune of 25 ton with suitable wheelbase, compliant to EURO IV (Bharat stage IV). However, the chassis of the FCT - 10 should be of reputed make with suitable dimension and carrying capacity to accommodate the required fire-fighting facilities as per HDC's specification including fire-fighting crew with minimum cost involvement to Haldia Dock Complex, Kolkata Port Trust.
- i) Engine Power – Minimum 280 BHP
 - ii) Gross Vehicle weight – to the tune of 25 Ton.
 - iii) Over all length of the chassis – approx 9 meter.
 - iv) Wheel base – 5300 mm
 - v) Chassis type – Rigid 8 x 4 or 6 x 4 Full forward control.
 - vi) Turning circle – maximum 23 m
 - vii) Cabin – Factory fitted cabin for drive +1, the same shall be extended as per HDC, KoPT specification & guidelines of chassis manufacture.

Note : The chassis of FCT – 10 should be of reputed make with suitable dimension and carrying capacity to accommodate the required fire-fighting facilities as per HDC's specification including fire-fighting crew with minimum cost involvement to Haldia Dock Complex, Kolkata Port trust.

- b) Aqueous Film Forming Foam (AFFF) compound tank of 3000 litres capacity made of Stainless Steel 316 L make and foam compound shall be 3% concentrate AFFF, UL listed.
- c) One water tank capacity shall be not less than 5000 litres capacity made of Stainless Steel 316 L quality.
- d) 2 x 250 kg Dry Chemical Powder vessel.
- e) Adequate number of filled N₂ Cylinders to expel minimum 90% of the Dry Chemical Powder and 100% standby N₂ Cylinders to be provided.
- f) One Water cum Foam monitor make AKRON/POK/ROSENBAUER or UL listed and discharge capacity of not less than 4000 LPM and of not less than 70 metre throw for water.
- g) Dry Chemical Powder hose reels 2Nos.each of 30mtrs. Length and eachend crimped.
- h) First Aid high pressure hose reel drum for water of 50mtrs. Length and each end crimped.
- i) FB (Foam making branch pipe)- 5X - 2 Nos. & 10X - 2 Nos.
- j) 4 x 22.5 kg. CO₂ filled cylinders with two nos. hose reels of 50 mtrs. Length.
- k) One no. GODIVA/ROSENBAUER/N K Fire or Firefly make CE Marked orUL Listed multi pressure water pump of capacity 4500 LPM at 8.5 kg/cm² & 250 lpm at 40 Kg /cm² suitable with foam proportionator.

- l) Suction Hose: For taking suction from Harbour water at berth, PVC type of length 10 mtrs. of suitable dia and arranged with 4 nos. 2.5 mtrs. PVC Pipe & Male-Female GM Coupling as mentioned in Acc. List No. 9 - 2 sets
- m) Proportioner: Around the Pump type
- n) Initial fill of the following should be :
 - a. DCP Mono Ammonium Phosphate - IS Marked
 - b. UL listed Aqueous Film Forming Foam (AFFF) 3% Foam Compound
- o) Piping and necessary controls and other accessories.

2. DRAWING APPROVAL

The successful bidder shall obtain the approval of general arrangement drawing with structural design & load calculation including suitability of respective PTO for main water pump and torque calculation from the 3rd party inspection agency (TPI) before commencement of fabrication with due intimation to HDC.

3. CHASSIS

The Multipurpose foam tender appliance shall be built/fabricated on full forward chassis of capacity to the tune of 25 Ton with suitable wheelbase and shall be purchased by the Tenderer from Reputed chassis manufacturers (**TATA / ASHOK LEYLAND / MAN / ROSENBAUER / VOLVO only**). The Tenderer shall confirm with proof that selected chassis is capable of taking the pay load as per the Trust's specification and meets the vehicle performance specified by the chassis manufacturer with power steering.

- a). The full forward chassis compliant to EURO IV (Bharat stage- IV) which is latest and mandatory for registration at Haldia shall be procured by the Tenderer at his own cost .
- b). The Temporary registration of the fully built vehicle by concerned RTO, Tamluk, Purba Medinipur shall be done by the Tenderer at his own cost.
- c). The Tenderer shall provide WEBSTER / HALE/ VAS / FIREFLY make Power Take Off (PTO) matching with pump drive requirements. The PTO shall be engine dependant with a suitable ratio capable of transmitting the maximum power of the engine. PTO engaging Indicator to be provided at the driver's cabin.
- d). The Tenderer may suggest any improvement in design to make Optimum use of engine power and chassis capacity.
- e). The Tenderer shall select suitable chassis and confirm that engine power with transmission losses is adequate to satisfy pumps power requirement.
- f). A heavy duty towing hook shall be fixed on the rear end of the chassis near the foot board. Towing assembly shall be eyelet type with draw bolt / bar so that any type of appliance can be towed without any difficulty. Welding and drilling of framework of chassis is not allowed.

4. 3rd Party Inspection Agency (TPI)

3rd party inspection agency shall be responsible for the design approval, drawing approval, appraisal of load & torque calculation and inspection during construction & testing and commissioning and shall issue the various inspection report at various stages of work for each foam

tender confirming to Indian Standard Code of practice. Pressure testing of tanks shall be carried out in the presence of third party inspection and KoPT shall be informed.

5. FOUNDATIONS:

Cross bars of suitable thickness shall be laid across the subframe where necessary. Any two cross bars, so arranged, shall not be more than 500 mm apart. This subframe will be made from Anti-Corrosive Treated MS 4" section and will be bolted with the chassis using the high tensile bolts. 'U' Bolts shall not be used for mounting. . The tanks will be mounted on two / three cross bearers to counteract stresses caused by chassis flexing.

6. POWER TAKE OFF:

A heavy duty full torque Power take off unit of WEBSTER/ HALE / VAS or FIREFLY make shall drive the pump. The power for the pump shall be taken from the gear box of the vehicle through power take off with suitable ratio so that the pump is capable of pumping 4500 lpm of water at 8.5 Kg/cm² and capable of lifting water from a depth of 7meter.The Power Take Off shall be so designed that it transmits the full requirements of Power for driving the pump. The Power transmission shall be uninterrupted even though the transmission gear may be shifted (or) the clutch released during its speed ranges. Provision shall be made in the design of the drive system (or) prevent damages to the drive on lurching of the vehicle when the transmission is shifted from neutral to either forward (or) reverse speed range while simultaneously pumping. A single control lever, for engaging and disengaging the power shall be provided in the cabin, nearer to the driver seat. The original **manufacturer's certificate** indicating the serial number, batch number, date of manufacturing etc. shall be furnished at the time of delivery.

A LED Indicator shall activate when the Top gear is engaged (This should not be activated with other lower gears). The indicator shall be in the cabin as well as in the pump panel.

7. COOLING SYSTEM:

In addition to the cooling system provided by the chassis manufacturer, indirect cooling system of open circuit type with heat exchanger shall be provided for the continuous operation of the engine, which is for drive as well as for the operation of the pump. The heat exchanger of adequate capacity shall be suitably placed under the chassis for easy removal and maintenance. A non- return valve of suitable capacity shall be provided in the inter connection line of the two cooling system to de-link the heat exchanger from the radiator while the vehicle is on the move.

8. WATER PUMP:

The pump shall be of dual-pressure single stage Centrifugal type multi pressure pump make **GODIVA / ROSENBAUER / N K Fire / Firefly with CE Mark OR any other make of UL Listed company** with a normal capacity of min 4,500 LPM at 8.5 Kg/ cm² and a water ring type primer should be provided at the rear. The pump should also be capable of working at maximum 8.5 Kg/cm² work in the low pressure and 250 lpm at 40 Kg/cm² in the high pressure range. One second Exhaust primer to be included as mentioned in Priming System.

a. The pump casing shall be made of gunmetal / SS and suitable drain plug shall be provided at the bottom. The centrifugal type dual pressure fire pump should have one Phosphor Bronze / SS impeller for normal pressure and one high pressure regenerative type impeller for high pressure, dynamically balanced, mounted on same shaft made of stainless steel. The High Pressure delivery outlet should be available through a flange connection and provided at the top rear side of the pump.

b. The pump shall be capable of operating under normal pressure and high pressure mode individually through a single lever operation for High and Low pressure modes.

- c. The pump shall be designed for continuous rating not less than 6 hrs per shift.
- d. The pump shall have inbuilt pressure release valve to limit the pumping pressure up to 45 Kg/cm².
- e. The pump shall be of modular design and shall not have any gaskets/packing.
- f. The construction of the pump must be such that while carrying out pump maintenance work none of the discharge piping is necessary to be removed and the pump impellers and the carbon seal can be retained/ removed without removing the pump volute/ body.
- g. The pump shall have deep groove heavy duty ball bearings immersed in oil bath.
- h. The sealing arrangement shall be mechanical carbon seal with carbon to mar chrome interface, self-adjusting type.
- i. Suction inlet shall be 140 mm dia round threaded and shall be provided with blank cap and removable strainer.
- j. Four delivery outlets of 63 mm dia female instantaneous type, as per with screwed down type along with blank cap shall be provided and shall have no gland.
- k. The pump casing impeller wearing rings shall be made up of gun metal / S Sand of renewable type.
- l. All studs/ bolts in contact with water shall be of stainless steel.
- m. Heavy duty vibration pads shall be provided at the base of the water pump with load evenly distributed. Mounting shall be done on heavy "C" Channels only and secured to the chassis by bolting.
- n. The pump shaft shall be made of stainless steel fitted with antifriction bearings.
- o. Pump and primers must have minimum 3 year replacement warranty against any manufacturing defects.

9. PRIMING SYSTEM:

The pump shall be fitted with two independent priming systems. The pump shall have fully automatic water ring primer and shall be capable of lifting water from a depth of at least 7 m within 24 sec. In case of a failure of main priming system during critical operations, the vehicle shall be fitted with an exhaust ejector primer. The engagement and disengagements of the primer should fully be automatic. The materials selected shall be made with a view that no major part is required to be replaced in course of service. Non-return valves should be provided to prevent air flowing back through the primers. A filter arrangement shall be provided to prevent dust or any other particles during priming.

10. WATER TANK:

The water tank capacity shall not be less than 5000 litres of water to be provided. Water tank shall be constructed out of 5 mm thickness stainless steel 316L grade pressed sheet. It should be mounted on the chassis in a manner to counteract stresses caused by chassis flexing and shall be so secured that the removing/fixing of the tank is easily possible. **The tank shall be warranted for 5 years against corrosion and for damages.**

The tank shall be mounted on flexible mounting with Metacone Pads of Polybond / Trelleborg or equivalent which shall prevent distortion due to chassis flexion and prevent surge when vehicle is braking, cornering or accelerating. Centre of gravity of the appliance as low as possible and mounting shall be slightly sloped to permit full rated contents of the tank to flow into the pump. The water tank should be suitably baffled with not less than 3mm SS316L sheets. The baffles should be so designed that they do not distort / buckle under any circumstances. The baffles shall be arranged in such a manner to facilitate the passage for a man to go throughout the tank area for cleaning purpose. The baffle plates will be placed at every 900mm (Max.) interval.

The water tank should have a man – hole of 450 mm diameter and should be provided with a lid having one side hinge and other side with wing type nut (Butterfly). A cleaning hole of 250 mm diameter at the bottom with a bolted lid should be provided.

The water tank shall be provided with Two number Heavy duty lifting eyes to enable the tank to be lifted off for repairs.

One number of 63 mm instantaneous type hydrant male coupling with a strainer should be provided close to the pump control panel for filling the water tank, through a 50 mm inner dia pipe which shall be routed outside the tank and fitted to the top of the tank.

The water tank should be fitted with a 50 mm inner diameter over flow pipe and the end of the pipe should be taken down to a point well below the chassis without affecting the ground clearance. The over flow pipe shall be fitted from outside on to the side of the tank with a vent.

A 100mm inner dia pipe line should be taken from the water tank to the suction in-let of the pump incorporating a butterfly valve of **Audco / L&T** make as approved by inspection authority. The top face of the tanks shall be covered with 16 SWG, aluminium chequered sheet. Drain plugs/ cocks should be provided wherever necessary.

The water tank with its fitments shall withstand hydrostatic pressure of 0.5 Kg/Cm² and it should be carried out in the presence of inspection officials and certificate should be furnished.

The tank shall be connected of the pump and hose reel and control valve shall be provided in such a way that any of the following operations are possible:

- Hydrant to tank
- Hydrant to monitor
- Tank-pump-monitor
- Tank-Pump-Hose reel
- Pump to tank.

2% expansion space shall be made in the tank over & above the water capacity. **FOAM SYSTEM FOAM:** The Foam compound shall be 3% concentrate AFFF, UL listed to offer separately.

10. ROUND THE PUMP FOAM PROPORTIONATING SYSTEM :

The foam proportionate system will be round the pump foam proportioning type, which can induct the foam concentrate to the water stream according to the flow of water.

The foam system shall be designed to induce 3% foam for all the deliveries and monitor individually or simultaneously. The metering device shall be calibrated such that it shall be able to induce 3% foam with respect to the number of deliveries and / or monitor operating at that time.

The Proportioner shall be installed in such a way that it will not be liable to mechanical or other failures. The selector valve will have six settings one each for the delivery outlet. Each upward setting will result into an equal increase in the foam concentrate flow rate.

11. AUXILIARY FOAM INDUCTION DEVICE :

Induction devices operated through hydrant water are required for directly picking up foam from foam tank. Induction device should induct 3% foam. At the inlet water pressure of 7.00 kg/cm², FB-10X & 5X branches shall operate optimally with this foam induction. One induction device shall be provided on either side of the tender. Induction device (2 Nos.) shall have its outlet connected to 1 No. 63MM female instantaneous coupling (SS) for use of foam hand line.

One SS-304 (A 351 Gr. CF8) ball valve of suitable size shall be provided on each inductor line between foam line (from the tank) and inductor.

12. CONTROL PANEL:

All the controls like suction inlet, delivery outlet and monitor valve shall be pneumatic with manual over-ride. Pneumatic actuator shall be installed on all the pneumatic controlled valves. Separate air cylinders / pistons connecting handles of the valves shall not be permitted. Master Isolation valve shall be provided after air tanks in the driver cabin for taking pneumatic supply to rear control. The switches for the pneumatic valves shall be provided on the control panel. Adequately

illuminated pump operating panel made of SS sheet shall be provided at the rear side of the appliance at such a location that it does not hamper pump operation by operator and these shall include the following:-

- A. Auxiliary throttle control for the engine.
- B. Independent glycerine filled pressure gauges calibrated to 25 KG/CM² for pump discharge.
- C. Threaded suction inlet of water pump with blind cap.
- D. Control for using the auxiliary foam compound by pick up tube.
- E. Quick opening valve for lining up water tank to pump.
- F. Level gauge for water & foam tanks.
- G. Priming valve for water pump.
- H. System schematic etched on Stainless Steel plate of A3 size.
- I. Operating instruction plate and flushing out instruction plate (both on boldly etched Stainless steel plates).
- J. RPM for pumps.
- K. Independent glycerine filled compound gauge calibrated to 0 to 30 PSI and 0 to 30" mercury vacuum or metric equivalents.

"Pump Engaged" indicators shall be provided both in the driving compartment and on the pump operator's panel to indicate that the pump shifting has been successfully completed.

In addition to the mentioned above, vendor shall provide any other items that he may find essential. Any of these items which are also required in the driver's cabin shall be provided at suitable locations in the driver's cabin. Each lever, switch, valve, gauges, outlet/inlet etc. shall have identification made on metal plate and duly riveted. The microphone of the PA system shall be fixed inside the driver cabin on a flexible stand at a suitable location.

13. ELECTRICAL SYSTEM:

The electrical system shall consists of minimum 2 Nos. batteries of 100 Ampere Hr. Alternator of enough capacity to charge the above batteries in the shortest possible time and allied regulating equipment shall be provided. A suitable type battery charger shall be provided separately. All important electrical circuits shall have separate fuses suitably indicated and shall be grouped into a common fuse-box located in an accessible position in the driver's cabin and fitted with means for carrying spare fuses. The wiring shall be single pole and shall not be exposed to the atmosphere. Conduits shall be used wherever necessary.

14. WATER/FOAM MONITOR:

Make: The monitor shall be the same make as the water pump manufacturer or any other make of UL Listed company.
 Type: Combine for water and foam, with O-stream nozzle.
 Design: It shall come with foam barrel Location: It shall be mounted on the working deck of the vehicle.
 Location: It shall be mounted on the working deck of the vehicle.
 Control: Direct manual control
 Control panel: With throttle for engine speed and remote control switch for water/foam supply of the monitor.
 Output:
 Operation ranges: not less than 4000 lpm at 10 Kg/cm²

- Water straight stream throw: not less than 70 m
- Water Fog by using the O-stream nozzle
- Foam dispersed pattern not less than 10m wide
- Water dispersed pattern not less than 10m wide (dispersed pattern by using the deflector)

Deflector: For producing a dispersed pattern. Direct manual control on the monitor.
 Rotation : 360 degrees
 Elevation : 0 – 80 degrees
 Depression : From zero to maximum minus 15 degrees.

15. PIPING:

Foam piping circuit & fittings on the vehicle will be of SS-ASTM A312 Type 316L material. Water piping & its fittings shall be of SS-ASTM A312 Type 316 material. All piping shall be sized so as to have minimum pressure drop and achieve the required pressure and flow at various locations. All piping shall be seamless and designed for 10% over the maximum pressures encountered in the pipe. The piping shall have flanged joints for ease of maintenance. However, flange joints shall be kept minimum. Valves of less than 1.5” size shall be forged and valve more than 2” size can be of cast construction. All lines shall be hydraulically tested at 1.5 times of the design pressure and pressure shall be held for two hours. In no case the lines shall be tested below 25 kg/sq. cm. All lines shall be suitably supported so as to provide rigidity and avoid vibrations. All lines less than 1.5” NB size can be socket welded to matching rating fittings. All lines above 2” NB size shall be butt welded with full penetration welds. All labels and plates shall be in English language where pictographs or ISO - symbols do not serve the purpose. The complete layout drawings with colour coding for water and foam systems shall be provided and a ramed copy fitted on the vehicle.

WATER PIPING:

Water piping shall be made of stainless steel, SS 316L unless otherwise specified. All gaskets in water lines shall be spiral wounds (conforming to API-601) with SS-316 rings and non asbestos filler. Alternately Viton ‘O’ rings may also be used. All bolting shall be of SS-316 (A193 Gr. B8 / A 194 Gr. 80). A flow chart and schematic diagram shall be made and submitted with the technical bid.

FOAM PIPING:

Total piping in foam circuit shall be of SS-ASTM A312 Type 316L unless otherwise specified. All ball valves in foam circuit shall be of SS-316 (A351 Gr. CF8 body and SS internals) with Teflon seats. All gaskets in foam lines shall be spiral wound (conforming to API-601) with SS-316 rings and asbestos filler. Alternately Viton ‘O’ rings may also be used. All bolting shall be of SS-316 (A193 Gr. B8 / A 194 Gr. 8).Provision shall be kept for flushing the foam lines with water from on board water pump and from an external source.

16. FOAM TANK: A 3000 Ltrs. capacity SS 316L tank with suitable 3% UL listed foam shall be provided. The tank shall be provided with pick up tube and foam branch pipe. In addition 2% of expansion space shall be provided in the tank, over and above foam compound capacity.

A foam tank of 3000 Ltrs. Capacity shall be mounted on the chassis near water tank. It shall be fabricated out of 5mm bottom & other sides, top & baffles out of 3mm thick SS304 sheets. The tank shall be provided with suitable baffles, cleaning manhole with removable cap filling orifice of 150mm dia with removable strainer, venting arrangements & draw off tube will be connected to the foam proportioner & pump with selector valve / strainer. The adequate provision for draining, flushing or cleaning the foam piping shall be made. All foam line shall be Stainless Steel with control valves and flanges will be standard sizes. The tank shall be warranted for 10 years against corrosion and for damages. The tank shall be mounted on flexible mounting with metacone pads of polybond / trelleborg make or equivalent which shall prevent distortion due to chassis flexion. The mounting shall permit the full contents of tank to flow into the pump. The bottom of the tank shall be slightly sloped towards the tank to pump suction connection. Suitable hooks / lifting eyes shall be provided on top of the tank to enable it to be lifted off the vehicle for maintenance/repairs. The bottom of the hooks shall be suitably reinforced with pads to avoid stress on the tank top plate.

The foam tank shall have its top dished / funnelling arrangement provided to enable easy filling from 20 litres drums. Suitable sharp edged punch truing device should be provided at the foam tank filling orifice for puncturing. The draw off tube shall be fitted with a gauge strainer of suitable material, mesh size and adequate staining area.

Means shall be provided for automatic venting of the foam tank when the foam is being produced or the tank is being filled. This shall be incorporated with the cap. The device employed shall be as simple as possible & shall not get clogged easily during normal use of the appliance. The draw-off tube shall be connected to the foam proportioner / Inductor & pump, as necessary & a flow control valve shall be incorporated in it so as to maintain a constant induction rate of not more than 7% with varying foam output. The plumbing for this purpose will have clear & unobstructed passage of not less than 50mm throughout. The Foam tank shall be provided with adequate number heavy duty lifting eyes to enable the tank to be lifted off for repairs. **The tank shall be warranted for 5 years against corrosion and for damages. The Water & Foam Tank** shall be of welded construction & shall be die-pressed on all sides to prevent distortion & to ensure torsional rigidity. Due care shall be taken to ensure that butt-weld joints are minimized. Wherever butt joints are unavoidable, they shall be radio-graphically tested. The test films & reports shall be submitted at the time of stage inspection. All other joints shall be DP tested for soundness of weld joints. The tanks shall be suitably stiffened with SS 316L angles/ flats (IS 6911:2004) so as to avoid buckling & distortion. Complete welding shall be done using only Argon Gas aided (GTAW) process using only SS 316L compatible filler wires. The make of the electrodes shall be of Advani Oerlikon, D&H, ESAB, or L&T. Reinforcement pads at tank supporting structure shall be of same thickness and material of the foam tank. Diameter of the Reinforcement pads shall be 1.5 times diameter of nozzles.

17. Level Indicators: Electronic LED Water and Foam Level Indicators indicating the tank levels as EMPTY, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ and FULL shall be provided on the pump control panel. These levels shall be indicated by number of glowing LED lights (no LED Lights means empty tank, All LED Lights means full tank). The indicators shall sense the fluid level in the tank with help of a pressure sensing probe. The indicators shall be located on the rear pump control panel in such a manner that the Operator / Firemen can easily view the tank levels while being away from the vehicle. Repeater Secondary Level Indicators shall be provided in the driver's cab to help the crew members to check the fluid level from the cab while travelling.

18. HAND LINES:

Six hand lines with Butterfly valve control three on either side of appliances at the rear shall be provided in suitable lockers and kept in flaked condition. These small terminate in foam making

branch pipe fitted with spray/ jet attachments, with hand control. **Each foam making branch pipe** shall be capable of delivering not less than 450 LPM of water foam solution at a pressure of 7 Kg/cm² with an expansion ratio of not less than 8 times and minimum effective throw of 20m when all are used simultaneously.

The hoses for the hand lines shall have an internal diameter of 63 mm. These shall be reinforced rubber lining type and be in length of 30m each and ISI Marked IS-636 Type B. (Not under the scope of supplier)

19. HOSE REEL:

One high pressure hose reel shall be provided at the rear of the appliance. It shall be provided with 50m x 19 mm (ID) single piece hose tubing terminating in a fog gun hand controlled. The hose shall be capable to withstand high pressure required at not less than 40 kg/ Cm² Should be mounted such that it shall be easily accessible from either side of the appliance.

The hose reel shall be provided with suitable arrangement to prevent over run to tubing without affecting easy run of the reel. Swivelling guide rollers shall be fitted, where necessary, to prevent tubing from kinking.

An attachment may be provided with the hose reel at high-pressure discharge end to enable foam compound induction & apply foam spray.

The hose reels shall be made of fully corrosion resistant. The fog control valve, nozzles, drum, foam attachment shall be of SS-316. Flow to the reels should be controlled by manually operated squeeze Trigger type valve suitably located for ease in operation. For emergency operation a manual crank shall be provided. The tubing shall conform to IS: 884:1985 or with its latest amendments. The reel shall be provided with friction break to prevent over run of tubing without affecting easy run of the reel. Plumbing between the pump and the hose reel shall have clear and unobstructed waterway of not less than 25 mm through out without any restriction.

20. HIGH PRESSURE GUN:

The high pressure hose reel shall be fitted with a gun at the terminal end and it should have trigger type control. The gun shall be of constant flow type and shall have a discharge capacity of 150 LPM approximately. Provision shall be made in the gun controls to achieve combat mode of straight jet or a fog shield in split second. The gun shall have an ability to work on pressure from 40 Kg/cm² without affecting the discharge pattern.

21. COLOR CODING:

All piping should have colour coding as follows :

Foam Concentration. Green

Water line Blue

Foam Solution Red

22. DRY POWDER EXTINGUISHER SYSTEM:**a). DCP CYLINDER:**

One DCP Cylinder of 500 Kg. capacity shall be suitably located with proper mounting. DCP vessel shall be fabricated as per the relevant Pressure Vessels Rules and shall be provided with all mandatory fittings. The Dry chemical powder cylinder should conform to ASME code VIII or the latest European norms of unfired pressure vessels and suitable anticorrosion treatment shall be given to the internal surface of the vessels. Chalk powder for testing shall be to the tenderer's scope.

b). NITROGEN CYLINDERS:

Nitrogen gas shall be used as an expellant gas. Nitrogen cylinder of capacity not less than 50 litres each having filling pressure of not less than 140 kg / cm² of seamless steel cylinder conforming to IS: 7285/82 shall be provided. Adequate number of cylinders for expelling 500kg DCP shall be provided . A battery of 100% stand by cylinders shall be provided along with main nitrogen cylinders.

c). PIPING:

Piping of appropriate size and class shall be provided with pressure reducer and other devices to take care of discharge of DCP as per performance requirement. Arrangement for flushing the hose reel with expellant gas shall be provided.

d). DCP HOSE REELS:

Two pressure hose reels of 30m length each of appropriate size fitted with trigger type gunmetal nozzle. The hose reel discharge rate of powder shall not be less than 5 Kg/sec. each. The throw shall not be less than 10m in still weather condition. DCP Hose reels shall be supplied as per relevant Indian Standard.

e). SPRAY GUN Heavy duty spray gun 2 nos shall be provide. The hose reels shall be made of fully corrosion proof man made material and it shall come with electrical rewind mechanism. For emergency operation a manual crank shall be provided.

f). DCP SYSTEM CONTROL PANEL:

Adequately illuminated control panel shall be provided at easily accessible position to operate the Dry Powder System. All controls / items required for operation shall be clearly marked or identified by fixing suitable labels to facilitate easy.

g) DCP MONITOR:

- One No. Heavy duty DCP Monitor shall be mounted on heavy duty suitable and independent platform just behind the driver's cabin. The DCP monitor shall withstand shocks & vibration while discharging DCP powders shall provided with heavy duty vibration pads.

- The discharge through the monitor shall be adjustable at 15, 25 and 40kg/sec. at operating pressure. The throw through the monitor shall not be less than 25m horizontally and 15m vertically in still air.

- Suitable controls shall be provided near the grip of the handle to facilitate the operator to control and regulate the discharge of the powder. System to be provided to regulate the output and throw.

- The monitor shall be provide in a manner so, as to enable the operator to move it easily. It shall be capable to work on any angle upto 360⁰ horizontally and 100⁰(+80⁰ to-20⁰) vertically.

- The platform shall be adequate strengthened to avoid any vibration while the monitor is in use. There shall be proper and sufficient moving space around the platform for movement of the operator.
- The Monitor shall rest on a clamp properly secure while not in use.
- The monitor upward & downward & Rotation movement shall be fully manual controlled. Suitable locking system to be provided.

23. CARBON - DI – OXIDE CYLINDERS:

4 x 22.5 kg CO₂ cylinder with 2 nos. of hose reel of 50 meters long high pressure rubber hose with discharge horn on each side shall be provided conveniently.

BODY WORK:

FIRE CREW CABIN: The crew cabin for 2 persons will be supplied alongwith the chassis. It shall be further extended by the vendor to accommodate one row of 4 crew seats behind the Driver's/ Co-passenger seat. In case Chassis OEM does not allow extension, a separate cabin to made for crews. Two additional doors shall be provided by the vendor for the crew in the cabin. The rear doors shall be sized generously with proper arrangement for embarking and disembarking of crew members. The doors shall open outwards and hung forward and shall have levers for unlatching from outside and inside. The doors shall be provided with shatterproof safety glasses which can be raised / lowered by winding type mechanism. First aid box supplied alongwith the chassis shall be suitably mounted in the cabin at easily accessible location. Non slip type steps & grab rails shall be provided in the cabin to assist the crew members to get in & out. The crew cabin structure shall be so designed so as to avoid any vibration / rattling /deformation in the intended usage of the vehicle.

DCP system controls shall be electrically operated with facility to operate system in manual mode also.

There should a facility incorporated to bleed the pressurized system at various stages. The bleed of valve on the DCP vessel should be used only as a last resort. Adequate safety relief measures should be installed on the high pressure system.

Cabin shall have one roof light & minm. two side lights (one on each side) for proper illumination of cabin.

The entire floor of the crew cabin shall be provided with vinyl matting of minimum 6MM thickness with anti-skid features.

24. Seating: The driver's & officer's seat will be provided by the chassis OEM. The crew seat shall have individual seating for four crew members and shall be fitted with brackets for placement of BA sets (6 litre water capacity and 300 bar) in an upright position. The seats shall be of the wear & walk away type so that when the crew disembarks from the vehicle the BA sets should easily come off the seats with them.

The cabin extension shall be done in such a manner that cabin can be tilted easily for maintenance of the engine. All necessary modification for extension of the cabin like shifting of air inlet etc. shall be done by the vendor.

25. STRUCTURE/FRAME WORK: The structure/frame work on chassis shall be of welded construction made from SS pressed sections and made from 30 mm X 30 mm X 1.6 mm hollow square section of SS-316 and distance between each horizontal and vertical square shall be maximum 400 mm.

The extension of the crew cabin shall be done using structure & panelling of same material & thickness as used by the chassis supplier for original cabin.

Cross supporting members of the panelling shall be made of SS -316 channels of 75 mm X 5 mm thickness.

The roof should be strong enough for being walked-on and must be sufficiently supported. The intermediate walls and shelves shall be constructed from 16 SWG aluminium sheets.

The outside panelling shall be done from 16 SWG aluminium sheet. Complete flooring shall be of 16 SWG and the inside of lockers shall be done from 16 SWG Aluminium Plain Sheet. The vehicle shall be covered from top with 16 SWG chequered plate having rainwater channel at both side. Guide Rails shall support over entire length on both sides.

Proper draining arrangements shall be provided on the entire roof, crew cabin and inside the lockers.

The roof of the cabins should be rigid enough to take the weight of two persons without deforming the roof sheeting.

Proper access ladder with Grab rails and non-skid steps shall be provided to give access to the roof for approaching the extension ladder, manholes for tanks and monitor etc.

Access handrails shall be provided at each entrance to a driving or crew compartment and at each position where steps or ladder for climbing are located. Access handrails shall be constructed of, or covered with, a slip-resistant, non-corrosive material. Handrails shall be between 1 in. and 1-5/8 in. (25 mm and 41 mm) in diameter and have a minimum clearance between the handrails and any surface of at least 2 in. (51 mm). All handrails shall be designed and mounted to reduce the possibility of hand slippage and to avoid snagging of hose, equipment, or clothing.

26. LOCKERS: Size and number of locker shall be decided such that all the accessories mentioned in this specs can be accommodated easily. In addition, lockers should also be provided on either side to accommodate 5 nos DCP fire extinguishers of 9 kg capacity, 15 nos. of 22.5m length fire hose and 10 nos. additional accessories / items and under roof. The half round beadings and channels for draining away the rain water shall be provided over weld mesh windows and cabin doors which can be easily accommodated in single layer and equipments may be accommodated in maximum three layers. Sufficient numbers of lockers shall be provided to accommodate all the equipment/accessories in an easily accessible manner. (Hoses & extinguisher are not in scope of supply of fabricator).

All lockers shall be provided with highly corrosion-resistant Roller type shutter doors of MCD (France), Fireco (Italy), Dover (UK), Ziegler (Germany) make. The shutter assembly including the LED lighting, the side, bottom and main profiles as well as the locking system shall be from the shutter manufacturer only.

Roller shutters shall be of hollow rectangular shaped & made from aluminium inter-changeable links connected by means of plastic profiles. Sealing of roller shutter shall be watertight when closed.

Roller shutters shall be inward rolling type and shall be provided with guide rails over entire length on both sides to make them torsion free.

When shutters are rolled, unobstructed access should be available to the equipment & hoses. Shutters should open in all positions of the vehicle even in rough terrains.

Roller shutters shall have locking arrangement to prevent accidental opening during movement of the vehicle.

All the lockers shall be fitted with internal lighting, which shall be capable of being automatically switched, 'ON' and 'OFF' by the opening of shutters. A master switch for isolating the locker lighting circuit shall also be fitted in the driver's cabin.

Lockers shall have arrangement for self draining of any water entering inside.

Lockers shall be accessible from ground level by a man of average height (1.67M). These should be designed ergonomically and only one person should be able to open and handle it. Fasteners used in all cases shall be made of SS (A193Gr.B8/A194Gr.8)

All the Lockers shall be provided with, 4MM thick, neoprene rubber mat of reputed make at bottom and up-to 12 inch on three sides.

27. FOR OTHER WORK ON CHASSIS:

a) Ladder Gallows:

i) Ladder gallows shall be provided for carrying 35 ft. aluminium double extension trussed type ladder(as specified in the accessories). The design shall be such that the ladder can be released from the ground without difficulty & will embody rollers to permit easy withdrawal by one man. Tipping type ladder gallows, with locking arrangement, which will ensure removal of ladder without the person having to climb on the roof top, shall be fitted. The system shall be easy to operate and shall permit a person standing on the ground to bring the ladder down. Means will be provided for locking the ladder when stowed.

ii) No part of the bodywork shall reduce ground clearance of vehicle to less than 36cm. & not increase the overall width to more than 2.50M. The highest part of the appliance with the ladder and monitor mounted on it shall not exceed 3.60M from the ground level. The construction of super-structure shall not reduce the angles of approach below 27 degree.

iii) All light fixtures shall be placed in recesses or protected by grill covers to avoid damage by movement of material/personnel.

iv) Wiring shall be uniquely identified at least every 2 ft (0.6 m) by colour coding or permanent marking.

v) Circuits shall be provided with properly rated low-voltage over-current protective devices. Such devices shall be readily accessible and protected against heat in excess of the over-current device's design range, mechanical damage and water spray. Circuit protection shall be accomplished by utilizing fuses, circuit breakers, fusible links, or solid state equivalent devices.

vi) Switches, relays, terminals, and connectors shall have a direct current (DC) rating of 125 percent of maximum current for which the circuit is protected.

vii) All wiring shall be of standard make like Finolex / KEI / Nicco Corporation / RPG /Universal Cables & ISI marked.

viii) Arrangement shall be made on Dashboard opposite to the officers' seat to fix a Motorola mobile wireless set of 25W capacity. Power supply shall be provided from vehicle battery. The owner shall fit wireless set later.

b) BATTERY/TOOLS LOCKER : The battery box and tools box shall be located at a suitable place under the long seat by providing suitable compartments. The battery compartment shall have rubber lined bottom, side walls and drain holes with easy accessibility.

c) HELMET HOOKS: Six number of steel hooks shall be provided at a convenient place above the long seat to hang the helmets.

28. TOOLS:

The following tools shall be supplied along with the multi purpose foam tender and the cost shall be included in the total contract price. (Refer Acc. List No. 2)

- a.Spanner double end complete 6mm- 36mm- 1 full set.
- b.Ring Spanner Complete double end 6mm-36mm- 1 set
- c.Adjustable wrench 200 mm- 1 No.
- d.Cutting plier 200 mm- 1 No.
- e.Nose plier 150 mm- 1 No.
- f.Screw Driver 250 mm- 1 No.
- g.Screw Driver 150 mm- 1 No.
- h.File rough 300 mm- 1 No.
- i.File smooth half round 300 mm- 1 No.
- j.Ball Pee hammer ½ Kg.- 1 No.
- k.Hydraulic Jack 15 Ton Capacity- 1 No.

29. PAINTING& Marking:

29.1 **Vehicle Exterior Paint:** The complete vehicle (all exterior surfaces) should be painted with one coat of zinc silicate primer of minimum 50 microns DFT by spray painting. Thereafter two coats of high build polyurethane finish paint each coat of 50 microns DFT shall be applied. Further improvement on the paint may be carried out by the manufacturer beyond that mentioned above, to give better protection & surface finish. The colour of exterior body shall be Signal red colour.

29.2 **Surface Preparation** once the panelling is completed, all the outside surfaces should be painted with a good quality paint of Du-Pont /PPG / Standox / Akzonoble / Asian Paints / Berger / ICI / Jenson & Nicholson only. This should be poly-urethane (PU) based paint with a life of minimum 10 years. Du-Pont hardner shall be applied on paint. The bidder shall guarantee fade resistance of minimum 5 years from supply even if the vehicle is kept in the open.

29.3 The entire structure will be prepared by grinding the welded surfaces, priming the finished material with a zinc rich primer & then finally coated with two packs epoxy based paint.

29.4 All the lockers / cabins shall be provided with Stainless steel Name Plates with letters etched on it boldly indicating the content.

29.5 Water & foam lines should be painted with zinc phosphate epoxy primer each of 50 microns DFT and two coats of polyurethane finished paint each coat of 50 microns DFT. Water lines shall be painted red in colour & foam lines shall be painted yellow in colour.

29.6 Owner's emblem in original colour together with name (in Hindi and English) as below shall be written in golden yellow colour on both sides of the vehicle.

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KOLKATA PORT TRUST**

The appliance should clearly have the following identification at suitable location in driver's cabin:

- a) Manufacturer's name or trade mark.
- b) Year of Manufacture.

- c) Pumps number and capacity of the pumps.
- d) Capacity of water tank in litres.
- e) DCP vessel details.
- f) Engine and chassis number.

Suitable nameplates and arrow markings on the lines shall also identify all valves and hoses inlet and outlet. All instrument controls shall be identified with nameplates.

30. ACCESSORIES:-

30.1 **Accessories -1:** The following accessories shall be supplied:-

- a. Air Horn- 1 No.
- b. Fog lamp (Best Quality) - 2 Nos.
- c. - Suitably situated to assist reversing.
Reversing light and Reversing horn
- d. Amber Blinker Lights - 2 Nos.
- e. Trafficators - 2 Nos.
- f. Heavy Wind screen wipers - 2 Nos.
- g. Rear View mirrors- 2 Nos.
- h. Siren Federal/Grand /Solphin make) – 1 No.
- i. Spot light- Adjustable, mounted in a convenient position on the rear side of the driving compartment.
- j. Inspection lamp with lead - Protected type on wand plug. A socket shall be provided on the control panel in the driver's cabin for plugging in the lamp.
- k. Tail Lamp provided on the control panel in the drivers cabin for plugging in the lamp. - Two of combined stop and tail
- l. Search Light: (luminous)

In the cabin there shall be one Officer's searchlight. It shall be possible to remove the searchlight from the cabin and connect it outside on the vehicle.

- m. Revolving Beacon Light: (luminous)

Two revolving beacon light shall be of blue colour, capable of throwing beams of blue light around 360° with beams inclined upwards. It shall be mounted on the cabin roof and shall be operated from the batteries of the appliance. Flashing blue light shall be provided all over the body of the water tender apart from the other lights.

Two blue flash lights shall be mounted in the radiators grill. Two rotating beacons (blue color) shall be mounted in the rear of the vehicle. Battery operated public address system with amplifier and microphone in the cabin shall be provided.

The Emergency Light Bar with PA / Siren system of “ Federal Signals” / "Grand" or " Solphin " make. All light fittings at the rear shall be suitably protected by expanded metal to prevent damage due to movement of the crew. Specially fitted recessed tray for the normal kit of tools carried on the appliance shall be provided.

30.2 Accessories -2:

Multipurpose Foam Crash Tender ,i.e. Combined water, foam, DCP and CO2 Tender(FCT No 10) shall be provided with the following accessories in addition to those fitted to the chassis. All the accessories shall be suitably fixed in position in lockers or other suitable places on the tender.

SI No	Item	Quantity
1	A 24 volts DC operated GRAND make blinker light bar (minimum three blinkers on each side) with PA system and siren shall be provided on top of the vehicle with firm support and assembly shall be covered with SS grill. Assembly shall be operable from cabin.	1 No. (fitted on roof, operable from cabin)
2	Fog lamps powered by the battery of the appliance.	2 Nos. (Fitted in front of tender. Switch in cabin).
3	Reversing lights with Audio Warning Signal	2 Nos. (at rear of chassis tender)
4	Search light with 100 M length of cable with tripod etc. complete powered from main batteries.	1 set (mounted on roof)
5	Adjustable spot light	1 No. (On cabin roof)
6	Electrically operate siren on minimum 1.5 KM range (battery operated)	1 No. (on roof)
7	All tools required for normal / routine maintenance of the appliance, which are not included with the kit of chassis.	2 Sets (In toolbox under rear seat in cabin).
8	CCOE approved removable spark arrestor fitted to the exhaust of the engine	01 No. (If exempted by CCE as per latest norm, certificate of exemption to be submitted along with the supply. Otherwise the same shall be supplied separately.
9	A trickle charger 250V AC supply for self charging of battery along with a red pilot light to indicate the battery being charged. It shall be fitted in the driver's cabin. AC Main sockets at rear. AC line on chassis to run in PVC conduit.	01 No (in cabin)
10	Stainless Steel dividing breeching each having two 63MM female instantaneous type outlets, conforming to IS-905/1980.	2 Nos. (In Locker)
11	Stainless Steel collecting breeching each having two 63MM male instantaneous type inlet with control levers, conforming to IS-905/1980.	2 Nos. (In Locker)
12	Stainless Steel 2 way suction collecting head (one outlet with round female threads and two female instantaneous type inlets of suitable	2 Nos. (In Locker)

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	dimension), conforming to IS-905/1983.	
13	An aluminum double extension ladder Trussed type, 35 feet to be provided on the roof of the appliance with gallows. The ladder shall be CE certified, fully complying with EN 1147. Rope shall be nylon.	1 No. (on roof)
14	Suction strainer with foot valve (size to suit suction hose as per IS :907-1984)	01 nos. (In locker)
15	Corrugated PVC suction hose fitted with round thread male-female gun metal couplings with 2.5 m length and dia as per water pump suction.	08 no. in top deck
16	Basket strainer	02 nos. (In locker)
17	Universal Wrench to tighten suction hose	04 nos. (In locker)
18	12 mm nylon rope-15m length	02 Nos. (In locker)
19	Hose bandages rubberized as per IS:5612 (Part-20-1977)	08 Nos. (In locker)
20	Foam branch FB-10X fitted with 63MM G.M. male coupling at the base and spray control at the front of branch [capacity 100GPM(US)], conforming to IS-2097/1983	02 Nos. (In locker)
21	Fog nozzle 63MM, conforming to IS-903/1993.	02 Nos. (In locker)
22	Dual purpose jet and diffuser nozzle with instantaneous connection, 63MM, conforming to IS-903/1993	02 Nos. (In locker)
23	NFPA 1964 compliant & CE/FM approved 1½ inch adjustable gallonage with multiple flow settings & 63 mm BIM inlet hand nozzle. Minimum three detent flow settings upto 200 gpm @ 100 PSI, with pistol grip, made of hard anodized aluminum, with ball valve. The nozzle shall have feature for flushing without being shut down, reduced rotation for fog to straight stream, gasket grabber inlet screen and full fill power fog. Make: Elkart /Akron Brass / TFT/ N.K Fire. CE/FM approval certificate to be supplied alongwith offer & supply.	02 nos. (In locker)
24	Branch pipe (SS) universal 63MM, conforming to IS-903/1993	02 Nos. (In locker)
25	Triple purpose diffuser branch, conforming to IS-903/1993	02 Nos. (In locker)
26	SS Branch pipe with revolving head 63MM, conforming to IS-903/1993	02 Nos. (In locker)
27	Stainless Steel double female adopter. , conforming to IS-903/1993	02 nos. (In locker)

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28	Stainless Steel double male adopter , conforming to IS-903/1993	02 nos. (In locker)
29	Stainless Steel Suction Adopter -water pump suction size to 4''	02 nos. (In locker)
30	Fireman's axe with belt and pouches of good quality	02 nos. (In locker)
31	Fire Hook as per IS 927 (Latest)	02 nos. (In locker)
32	Jumbo Water Curtains with 2 male coupling inlets made of Stainless Steel	02 nos. (In locker)
33	Heavy Duty Lock Cutter	01 no. (In locker)
34	Shovel as per IS: 274 (Part-1 & 2) (latest revision).	02 nos. (In locker)

NOTE 1:- Accessories to be supplied with ISI mark wherever available and not specified otherwise. Otherwise vendor to give certificate that accessories confirm to relevant IS-specification. In case where no IS code is applicable, certification of UL/FM/EN/CE will also be considered.

NOTE 2:- HDC can add further maximum 15 items in the above list, subject to a condition that the gross weight of all additional accessories is below 1 (one) Ton.

Tender No. Admn/01/2016/FCT-9 & 10

(To be downloaded, filled up, signed, scanned and uploaded)

DECLARATION BY THE TENDERER

1. I / We have carefully examined and fully understood the General Information & Instruction to Tenderers, the Special Conditions of the Contract, Trustees' General Conditions of Contract, Scope of Work, Compensation, Period of Contract etc. and all other related documents and clauses in connection with this tender.
2. I/ We accept all the terms & conditions of the contract as mentioned in the Techno-Commercial Part of the tender.
3. I / We have agreed to the Techno-Commercial part of this tender document and have accepted the same with the Techno-Commercial part of my/our offer.
4. I / We have signed all the pages of the Price part of this tender document and have submitted the Price part separately following all necessary guidelines given in this tender document.
5. I / We have submitted copies of the required documents as mentioned at Clause 11 & 12 of the "General information & Instructions to Tenderers".
6. I/We have submitted copy of valid Service Tax Registration Certificate. My/Our service tax Code number is _____.
7. I/We declare that I/We have not been debarred or de-listed by any Govt. or quasi – Govt. agencies or PSUs in India.
8. My local office and Kolkata office addresses and contact nos. are

Address	Telephone	Fax

Date :

Signature of the tenderer
with office seal.

Witness :-

	Name	Address	Signature
1			

Tender No. Admn/01/2016/FCT-9 & 10

Covering Letter

To,
Sr. Dy. Manager (Admn.)
Haldia Dock Complex,
Kolkata Port Trust,
Jawahar Tower Complex,
P.O. Haldia Township,
Dist. Purba Medinipur,
Pin-721607,
West Bengal.

Dear Sir,

1. We, _____ (Name of tenderer) having examined the Tender Document and understood its contents, hereby submit the Tender for Design, Construction, Supply, Testing, Commissioning and Handing over of 2 Nos Multipurpose Foam cum Water Tender including Procurement of Chassis with the complete fire fighting system and other accessories fitted in the fire tender under Haldia Dock Complex, Kolkata Port Trust.
2. We shall make available to Kolkata Port Trust (hereinafter referred to as KoPT) any additional information it may find necessary or require to supplement or authenticate the Tender.
3. We acknowledge the right to KoPT to reject our tender without assigning any reasons or otherwise and hereby waive our right to challenge the same on any account whatsoever.
4. We also certify the following:-

We/any of the consortium members have not been debarred by the Central/ State Govt. or any entity controlled by them or any other legal authority for participating in any tender/ contract/ agreement of whatever kind.
5. We declare that:-
 - a. We have examined and have no reservations to the Tender Document issued by KoPT thereon.
 - b. We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any corrupt, fraudulent or coercive practices to influence the evaluation process of the tender.

6. We understand that KoPT reserves the right to accept or reject any tender and to annual the tendering process and reject all tenders at anytime without any liability or any obligation for such acceptance, rejection or annulment without assigning any reason thereof.

7. _____ (Name of Tenderer) hereby undertakes that we will abide by the decision of KoPT in the matter of examination, evaluation and selection of successful tenderer and shall refrain from challenging or questioning any decision taken by KoPT in this regard.

Thanking you,

Yours faithfully,

Signature of Power of Attorney

Holder(s).....

Name:

Designation:

Date:

Seal

Tender No. Admn/01/2016/FCT-9 & 10**(To be downloaded, filled up, signed, scanned and uploaded)****Documents to be enclosed along with Techno-Commercial Bid.**

I hereby submit the following documents along with the Techno-Commercial offer:-

Sl No	List of Documents	Submitted (Put Tick mark)
a)	Copies of Work Order(s) and Work Execution Certificate of successfully completed works/ contracts in support of their claim of work experience as mentioned at clause 11(a) of GENERAL INFORMATION & INSTRUCTIONS TO THE TENDERERS	
b)	Copies of Audited Balance Sheet and Profit & Loss Account for last three financial year ending 31.03.2015 as mentioned at clause 11(b) GENERAL INFORMATION & INSTRUCTIONS TO THE TENDERERS.	
c)	Copy of upto date Professional Tax Payment Challan, if applicable.	
d)	Copy of Service Tax Registration Certificate and document establishing Service Tax code no. of the tenderer.	
e)	Copy of valid Trade Licence with respective number(s).	
f)	Certified copy of Partnership Deed (duly attested), in case the tenderer is a partnership firm.	
g)	Certified copy of Certificate of Incorporation, Memorandum and Article of Association, in case the tenderer is a company.	
h)	The tenderer(s) are required to have Registration Certificate with Central Excise Authority and to enclose copy of Registration Certificate with Central Excise Authority.	
i)	Declaration by the tenderer AnnexureVII	
j)	Covering letter AnnexureVIII	
k)	Schematic flow diagram	
l)	Characteristic curve of main water pump showing duty points.	

m)	Drawing showing PTO.	
n)	Elevation & plan of tender.	
o)	Power requirement of pumps.	
p)	Catalogue of Foam-cum-water monitor including its performance curves	
q)	Load Distribution Plan of the Foam Tender	
r)	Catalogues of all imported items.	
s)	Details specification of chassis fulfilling the requirement specified in the technical details of Multipurpose Foam Crash Tenders.	

BILL OF QUANTITIES**SCHEDULE OF REQUIREMENT 'A'****COST SCHEDULE**

TENDER FOR THE DESIGN, CONSTRUCTION, SUPPLY, TESTING COMMISSIONING AND HANDING OVER OF 1 NO. MULTIPURPOSE FOAM CUM WATER TENDER INCLUDING CHASSIS WITH COMPLETE FIRE FIGHTING SYSTEM AND ALL ACCESSORIES FITTED IN THE FIRE TENDER INCLUDING CHASSIS.

FOR FCT - 9

Sl. No:	DESCRIPTION OF ITEM	QTY	Total Amount Rs. In lakhs
1.	<p>a) Cost of Chassis and the Cost for the design, construction, supply, testing commissioning and handing over of Multi Purpose Foam Tender with complete fire fighting system & all accessories fitted in the fire tender of HALDIA DOCK COMPLEX, KOLKATA PORT TRUST as per specification mentioned in Schedule – “A” inclusive all taxes, duties and delivery charges.</p> <p>b) Amount of Excise duty and/or Service Tax against which cenvatable document shall be submitted by the bidder.</p>	1	

(Rupees -----only)

Contractor Signature

Seal with Date

Note: (1) The price quoted should be firm and inclusive of all taxes and duties. Excise Duty and/or Service Tax mentioned above shall be deducted from the payable amount if the successful bidder fails to submit cenvatable document against the same.

(2) Evaluation will be made after deduction of amount quoted against 1(b) from 1(a) above.

BILL OF QUANTITIES

SCHEDULE OF REQUIREMENTS ‘B’

COST SCHEDULE

TENDER FOR THE DESIGN, CONSTRUCTION, SUPPLY, TESTING COMMISSIONING AND HANDING OVER OF 1 NO. MULTIPURPOSE FOAM CUM WATER TENDER INCLUDING CHASSIS WITH COMPLETE FIRE FIGHTING SYSTEM AND ALL ACCESSORIES FITTED IN THE FIRE TENDER INCLUDING CHASSIS.

FOR FCT - 10

Sl. No:	DESCRIPTION OF ITEM	QTY	Total Amount Rs. In lakhs
1	<p>a) cost of Chassis and the Cost for the design, construction, supply, testing commissioning and handing over of Multi Purpose Foam Tender with complete fire fighting system & all accessories fitted in the fire tender of HALDIA DOCK COMPLEX, KOLKATA PORT TRUST as per specification mentioned in Schedule – “B” inclusive all taxes, duties and delivery charges.</p> <p>b) Amount of Excise duty and/or Service Tax against which cenvatable document shall be submitted by the bidder..</p>	1	
2	Grand Total (1. a&b above)		

(Rupees -----only)

Contractor Signature

Seal with Date

Note: (1) The price quoted should be firm and inclusive of all taxes and duties. Excise Duty and/or Service Tax mentioned above shall be deducted from the payable amount if the successful bidder fails to submit cenvatable document against the same.

(2) Evaluation will be made after deduction of amount quoted against 1(b) from 1(a) above.

LIST OF SPARES

S.No	Name of the Spares	Brand/ make

Contractor Signature

Seal with Date

**SPECIMEN BANK GURANTEE PERFORMANCE
GUARANTEE/ SECURITY DEPOSIT**

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

BANK GUARANTEE FOR SECURITY DEPOSIT

(To be submitted on Non-Judicial Stamp Paper of worth not less than Rs.50.00)

TENDER NO.Admn/01/2016/FCT-9 &10

Name of Work:

To,

The Board of Trustees,

Port of Kolkata,

15, Strand Road,

Kolkata – 700 001.

BANK GUARANTEE NO.....DATE.....

Name of issuing Bank.....

Name of Branch.....

Address.....

WHEREAS

The Board of Trustees for the Port of Kolkata, a body corporate – duly constituted under the Major Port Trust Act, 1963 (Act 38 of 1963), (hereinafter referred to as “The Trustees”) have invited Tender No.

AND WHEREAS

Shri / Messrs..... a Proprietary / Partnership / Limited / Registered Company, having its Registered Office at..... (hereinafter referred to as “The Bidder” which expression shall mean and include their successors and assigns) have submitted their offer against the Bid.

AND WHEREAS

One of the terms of the Bid being that the successful Bidder should submit Security deposit in the form of an irrevocable and unconditional Bank Guarantee as a security against the event of the Bidder withdrawing their offer on any ground whatsoever during the period of validity of the offer and/or the Bidder fails to enter into Contract despite the Trustees select the Bidder as the successful Tenderer against the Bid.

We, Branch, Kolkata/Haldia, do hereby issue our irrevocable and unconditional Guarantee in favour of The Trustees for a sum of Rs..... only.

We, Branch, Kolkata...../Haldia, do on the advice of the Bidder, hereby undertake to indemnify and keep indemnified the Trustees to the extent of the said sum of Rs.....

We, Branch, Kolkata...../Haldia, further agree that if a written demand is made by the Trustees through any of its officials for honouring the Bank Guarantee constituted by these presents, we..... Branch, Kolkata...../Haldia, shall have no right to decline to cash the same for any reason whatsoever and shall cash the same and pay the sum so demanded to the Trustees within a week from the date of such demand by an A/c Payee Banker's Cheque drawn in favour of "Kolkata Port Trust", without any demur. Even if there be any dispute between the Bidder and the Trustees, this would be no ground for us,(Name of Bank), Branch, Kolkata/Haldia, to decline to honour the Bank Guarantee in the manner aforesaid. The very fact that we, Branch, Kolkata...../Haldia, decline or fail or neglect to honour the Bank Guarantee in the manner aforesaid, shall constitute sufficient reason for the Trustees to enforce the Bank Guarantee unconditionally without any reference, whatsoever, to the Bidder.

2. We, Branch, Kolkata...../Haldia, further agree that a mere demand by the Trustees at anytime and in the manner aforesaid, is sufficient for us,Branch, Kolkata..... / Haldia, to pay the amount covered by this Bank Guarantee in full and in the manner aforesaid and within the time aforesaid without reference to the Bidder and no protest by the Bidder, made wither directly or indirectly or through Court, can be valid ground for us, Branch, Kolkata/ Haldia, to decline or fail or neglect to make payment to the Trustees in the manner and within the time aforesaid.

3. We Branch, Kolkata...../Haldia, further agree that the Bank Guarantee herein contained shall remain in full force and effect, during the entire validity period of the Bid including and extension thereof until the Bidder furnishes the requisite Performance Guarantee for the amount specified in the Tender in the prescribed Form in the event of the Bidder becoming the successful Tenderer and that it shall continue to be enforceable in the Trustees' claim have been satisfied and/or discharged in full and/or till the Trustees certify that the terms and conditions of the said Bid have been fully and properly observed / fulfilled by the Bidder and accordingly, the Trustees have discharged the Bank Guarantee, subject however, that this guarantee shall remain valid upto and inclusive of day of 20..... and subject all so that the provision that the Trustees shall have no right to demand payment against this guarantee after the expiry of 6 (six) calendar months from the expiry of the aforesaid validity period upto..... or any extension thereof made by us, Branch, Kolkata...../ Haldia, in further extending the said validity period of this Bank Guarantee on Non-Judicial Stamp Paper of appropriate value, as required / determined by the Trustees, only on a written request by the Trustees to the Bidder for such extension of validity of this Bank Guarantee.

4. We, Branch, Kolkata...../Haldia, further agree that, without our consent and without affecting in any manner our obligations hereunder the Trustees shall have the fullest liberty to vary from time to time any of the terms and conditions of the said Bid or to extend the validity period of the Bid or to postpone for any time or from time to time any of the powers exercisable by the Trustees against the Bidder and to forebear or enforce any of terms and conditions relating to the said Bid and we..... Branch, Kolkata...../Haldia, shall not be relieved from our liability by reason of any such variation or extension being granted to the Bidder or for any fore-bearance, act or commission on the part of the Trustees or any indulgence by the Trustees to the Bidder or by any such matter or thing of whatsoever nature, which under the law relating to sureties would, but for this provision, have effect of so relieving us, Branch, Kolkata...../Haldia.

5. We..... Branch, Kolkata...../Haldia, lastly undertake not to revoke this Bank Guarantee during its currency except with the previous consent of the Trustees in writing.

SIGNATURE.....

NAME.....

DESIGNATION.....

(Duly constituted attorney for and on behalf of)

BANK.....

BRANCH.....

KOLKATA...../ HALDIA

(Official seal of the Bank)

Note :

In case of foreign Bank Guarantee, it shall be routed through any Branch of corresponding Nationalized / Scheduled Bank in India and such corresponding Bank shall confirm the same and standby for all the commitments under the Bank Guarantee. In all cases, any dispute regarding Bank Guarantee will be adjudicated under the jurisdiction of Kolkata High Court

Before Notary Public.....

INDEMNITY BOND**(on non-judicial stand paper of Rs 50/- only)**

This Bond of Indemnity made on (Date) by Shri (Name of the Proprietor) of M/s. (Name of the contractor), having its workshop/ garage/ residence at (full address), (hereinafter called the contractor, which expression shall where the context so admit or implies and severally bind myself and each of my heirs, representatives, successors, executors).

Whereas, M/s. Kolkata Port, Trust, Haldia Dock Complex, Jawahar Tower Annexe, Haldia, Purba Medinipur, (hereinafter called the Trustees), have placed an order at an consideration of Rs (amount in words) being the consolidated lump sum amount for purchase of chassis at the cost of Rs and Design, Construction, Supply, Testing, Commissioning and Handing over of 2 Nos Multipurpose Foam Crash Tender (Combined Water, Foam, DCP & CO2 Tender) including procurement of chassis with the complete fire fighting system and other accessories fitted in the fire tender(s) (Description of vehicle) of Haldia Dock Complex, vide work Order No. Dated On the terms and conditions mentioned in the said order and which have been mutually agreed upon the parties hereto, and I have agreed to execute (Description of vehicle) from the purchaser until Design, Construction, Supply, Testing, Commissioning and Handing over of 2 Nos Multipurpose Foam Crash Tender (Combined Water, Foam, DCP & CO2 Tender) including procurement of chassis with the complete fire fighting system and other accessories fitted in the fire tender as hereinafter appearing and undertake and agree all consequences, losses, claims, damages whatsoever arising in any way out of such payment of Trustees to myself.

Now this deed witness that in pursuance of the same agreement and in the premises, the contractor agrees to indemnify purchaser and at all the times to hold himself liable for all the damages loss due to pilferage, fire, negligence on the part of the contractor or his employees agents and representatives or from whatever cause will all losses, interest charges and expenses incurred by the said purchaser on account of the said vehicle (s) issued to the contractor and is in terms of the said contractor and this deed of indemnity is that the vehicle (s), issued free to the contractor for thereon shall be deemed to be the property of the purchaser. It is hereby agreed that the contractor shall be liable for all losses and damages that may be caused to the vehicle(s) from whatever cause and further that the contractor shall not part with or delivery possession of the said vehicle (s) to any other party or person save in compliance with an in performance of and provision of contract in respect of which this Indemnity Bond is executed, the contractor having undertaken to delivery the said vehicle(s) in all respect in compliance with the terms of the contract.

This bond and the trust hereby created shall remain valid and binding on the contractor till such time as the above said order has been fully and finally executed and the contractor has delivered the vehicle(s) complete thereon to the purchaser under the terms of the contract. This Indemnity Bond will be valid till 60 days after the date of final completion of contract as certified by the Trustees or an officer authorised by the Trustees on their behalf.

In witness whereof, I Sri..... (Name of the Proprietor) the proprietor of M/s.
..... (Name of the contractor), put my signature on this
.....(Date in words).

WITNESS

.....
Indemnifier