



THE STATE TRADING CORPORATION OF INDIA LTD.

(A GOVT. OF INDIA ENTERPRISE)

Mogul's Court, 5th Floor, Basheerbagh, Hyderabad 500 001, India

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TENDER NO.: STC/HYD/GID/2015-16/02 DATED 27.11.2015

The State Trading Corporation of India Limited, Hyderabad Branch invites offers for import/supply and fabrication of following item(s)

Sr No.	Name of the item(s)	Quantity (in nos.)
1	Emergency Rescue Tender with equipment(s) as per specifications attached as per Annexure B	03
2	Mini Water Tender based on Water Mist Technology-600 Ltrs Capacity	03

For details, please visit websites www.stc.gov.in or www.tenders.gov.in or www.eprocure.gov.in. Interested bidders must submit their bids online using e-Procurement portal of NIC (eprocure.gov.in) in the prescribed formats along with all necessary documents and information requested herein.

You are requested to submit your most competitive offer for the above product range. Bids against this tender shall be received only electronically through the e-procurement Portal of NIC (eprocure.gov.in/eprocure).

“No bids shall be accepted in hard copy or in any other form.”

Any further Corrigendum/Addendum to the tender documents will be uploaded by STC only on website i.e. www.stc.gov.in, www.eprocure.gov.in or www.tenders.gov.in and no press advertisement shall be published for the same

TERMS AND CONDITIONS

- 1) **Price - You are required to provide FOB, CIF Indian Port & FOR Vattinagulapally (Ranga Reddy District, Telangana) price as per Price Bid Format Attached (Schedule C)**

(Break-up of insurance, sea freight, Custom Clearance charges, Inland Insurance and Transportation Charges from Port to (Ranga Reddy District, Telangana) are to be given.

In case of local supplies the tenderer should give the FOR Vattinagulapally (Ranga Reddy District, Telangana) Prices giving the break-up of local taxes & levies in the Price Bid format as per Schedule 'C'. In case of goods being offered in foreign currency, the tenderer should give the CIF/CIP Prices, Rate of Import Custom Duty on assessable value for the item quoted with ITC HS Codes and Proof of rate of Import Custom Duty, Custom Clearance charges, Inland Insurance & Transportation charges upto Vattinagulapally etc. in the Price Bid Format as per Schedule 'C'.

In case of Imported equipment the following will be provided by STC :-

- (i) Authorization in favour of nominated custom clearing handling agent of the supplier,
 - (ii) Payment of import custom duty (if and as applicable) (upon receipt of copy of Bill of Entry filed with customs).
- 2) **Country of Origin** (Certificate Duly certified by Chamber of Commerce of the exporting country to be submitted at the time of shipment of goods)
- 3) **Delivery Schedule** – Immediate delivery is required.
- 4) **Payment terms** –.

I. For Imported Item

We operate on 100% TT Transfer/LC Basis. In case of LC, LC to be established for 100% value and 90% Payment under LC to be released against submission of documents pertaining to dispatch of goods along with satisfactory certificate of pre-dispatch inspection and balance 10% payment shall be payable on receipt of certificate of satisfactory installation / demonstration of goods from the end – user department. In case of LC, all bank charges (including LC confirmation

charges) payable outside India would be to Seller's account. Pre-delivery inspection of the equipment will be undertaken by the end-user department or by a reputed Inspection agency, at the manufacturer's facilities.

Payment Against the letter of Credit/Wire Transfer for 90% of the value will be available against presentation of the following documents and also on proof of evidencing of shipment.

- a. Complete set of Original Clean Bill of Lading. The Bill of Lading shall be in the name of **THE STATE TRADING CORPORATION OF INDIA LTD., GENERAL IMPORTS DIVISION, MOGUL'S COURT, 5TH FLOOR, BASHEERBAGH, HYDERABAD 500 001, INDIA AND MARKED FREIGHT PREPAID.**
- b. Signed invoice in three copies giving letter of credit No., Order No. and date respectively. The invoice shall be in the name of : **THE STATE TRADING CORPORATION OF INDIA LTD., GENERAL IMPORTS DIVISION, MOGUL'S COURT, 5TH FLOOR, BASHEERBAGH, HYDERABAD 500 001, INDIA**
- c. Satisfactory Pre-Dispatch Inspection Report.
- d. Certificate showing goods of **ORIGIN** issued by Chamber of Commerce or Equivalent Body in Duplicate.
- e. Specification and Packing list – three copies.
- f. Manufacturer's guarantee certificate – three copies.
- g. Certificate from the manufacturer to the effect that the goods conform to the manufacturers standards and are new (Production Month in Year 2015) and free from any latent or patent defects and are strictly as per Specifications mentioned in STC's Order
- h. Insurance Policy/ Certificate showing STC as beneficiary - one original and two copies.
- i. Copy of FAX MESSAGE (Fax No.00-91-040-23236768) marked to General Imports Division, sent by the seller within 24 hours of issuance of Bill of Lading to buyer notifying the details of the BL No., Goods



freighted, total invoice value, Name of the Shipping Line loading port and date of departure of the vessel and expected time of its arrival at the Indian Port.

- j. Certificate by the seller that the freightment consists complete requirement as per list of goods given in the Annexure-I enclosed with the order.
- k. Certificate from the seller that one set of non-negotiable documents mentioned under (a) to (l) above has been airtailed/couriered to the following within 10 Days of departure of the vessel in addition to one set of non-negotiable document sent with the vessel to:

**THE STATE TRADING CORPORATION OF INDIA LTD.,
GENERAL IMPORTS DIVISION, MOGUL'S COURT, 5TH
FLOOR, BASHEERBAGH, HYDERABAD 500 001, INDIA**

Balance 10 (Ten) Percent payment under the LC shall be released/payable only after receipt of certificate of satisfactory installation, demonstration & training of the vehicle to be issued by the end-user department, after receipt and examination of vehicle at their premises in India.

II. In case Manufacturer is based in India.

Payment for domestic supply via RTGS for 100% value will be available against presentation of the following documents

- a. Signed and stamped invoice (Three original) giving details of order number and date. The invoice shall be in the name of the end-user department as a Purchaser and consignee. Invoice shall be as per Annexure – I enclosed with our order.
- b. RECEIPT (FOR) GOODS RECEIVED & INSTALLATION CERTIFICATE FROM As per Annexure “c” from the end-user department.
- c. Satisfactory Pre-Dispatch Inspection Report.
- d. Specification and Packing List – Two copies.
- e. Authorised Dealers / suppliers guarantee certificate – Two Copies.

- 5) **Validity of Price** – Your offer to be valid for acceptance by us up to 120 days from the Tender closing date.
- 6) **Airport/Port of Shipment.** – For Imported equipment supplier to mention Airport/Port of shipment
- 7) **Supplier’s RTGS Bank Details** also to be mentioned in the offer.
- 8) **Guarantee Period** – The equipment(s) quoted for shall carry a guarantee for 36 calendar months and the manufacturer shall have to provide after sales service, as and when required at a short notice. The Guarantee period shall start only upon satisfactory Installation & Demonstration of the equipment at the end –user’s premises. Also see Point (F) of Other Terms and Conditions.
- 9) **Inspection**
 - a. Articles supplied shall be strictly as per the approved specifications. Or else, such Articles shall be rejected and returned to the Bidder at his own cost for replacement within 30 days.
 - b. The successful contractor shall have the work inspected and approved in 2 stages by the office nominated by the Director General, Telangana State Disaster Response and Fire Services Department. The contractor shall arrange everything including vehicle/transport to witness / attend laboratory testing at external fabrication yard/laboratory, at convenient and agreed time by Client. The cost of inspection will be borne by the contractor.
 - c. The first stage of inspection for item at Sr No. 1 would be on completion of structure work, Mounting of Cable Winch, Panel Work, Lockers and Mounting of 10kva Alternator.
 - d. The final stage of Inspection will be at Telangana State Fire service and Civil Defence Training Institute, Vattinagulapalli, Hyderabad and will be as per specifications for various parameters and general finish & workmanship before acceptance. The inspection and testing will also include all the tools and equipments supplied with vehicle for their performance test. Also check the inspection clause under the equipment specifications.
 - e. All materials/equipment supplied/installed by the Manufacturer/Contractor shall be subject to Inspection and acceptance or rejection by the Director General of

Telangana State Disaster Response & Fire Services, Hyderabad or such nominee appointed by the Director General of Telangana State Disaster Response & Fire Services, Hyderabad for the purpose and which hereinafter refers to person aforesaid as the Inspecting Officer.

- f. All those materials/equipment supplied/installed by the Manufacturer/Contractor which in the opinion of the Inspecting Officer shall be in bad order, or of inferior quality or badly installed or otherwise faulty or unfit for use or not in strict accordance with the said stipulated specifications shall be rejected by the Inspecting Officer and his rejection of such material shall in all respects be final and conclusive and altogether operative and binding upon the Contractor and shall not be open or subject to question or dispute by the Contractor upon any ground whatsoever.

10. SPECIFICATION AND DRAWINGS.

Full detailed drawings of the body showing the body construction, lockers, placement of various tools etc. shall be submitted, without which tender will not be considered. The successful tenderer will have to submit three copies of detailed drawing showing detailed dimensions, stowage arrangement fittings, etc. which shall be got approved from end-user department before commencement of fabrication work.

The tender bids without the detailed drawings will be out rightly rejected. The drawings will be scrutinized by the Technical committee.

- 11) The detailed list of consumables and spares with FOR, Vattinagulapally prices, required for smooth functioning of the equipment, shall also be submitted along with tender offer.

12) Schedule to Tender :-

- a) **Closing date & time for receipt of Offer :11.01.2016 at 03.00 PM**
b) **Opening of Offers , Time & Date : 11.01 2016 at 03.30 PM**

13) Offers invited under Two Bid System :

All Bidders are required to submit their item-wise offers in two cover/part i.e. Technical Bid Part and Price Bid Part. **Separate offers are to be uploaded for different items.**

A. Following documents are required to be uploaded online as part of Technical Bid Part

1. No Deviation Certificate as per format enclosed. Schedule “E”
2. Scanned Copy of Pay Order / Demand Draft/Bid Bond equivalent to 2% of total cost of items towards Earnest Money Deposit.
3. Detailed Technical offer & specifications of the equipment offered to be supplied.
4. Detailed drawings of the Item. For rescue tender drawings showing the body construction, lockers, placement of various tools to be submitted.
5. An undertaking by the company stating that it has not been blacklisted by any central, union territory and state govt./ organization or any Govt. procurement agency as well as convicted by any court of law and the period of blacklisting is not enforced till the date of validity of this offer being submitted.
6. Letter of Authority, in case the bid is being submitted by local agent of the foreign supplier, as per Schedule-A

B. The” Price Bid” Part must contain Price Bid (Format enclosed) which must be duly signed & stamped.

Please Note: Offers having conditions/deviations are liable to be rejected at the sole discretion of STC. Your Price Bids shall be opened only if your Technical Bid is found in order. Your technical and price bid shall be valid for at least 120 days.

SPECIAL INSTRUCTIONS TO THE TENDER NOTICE FOR COMPLIANCE OF THE TENDER PARTICIPANTS:-

- A. All Equipments to be offered with installation, supervision and complete training to operating staff.
- B. Standard Products should be offered, be of latest models and meet **international specifications and norms of safety, environment, pollution etc.** Models and specifications should be clearly spelt out.
- C. It is mandatory to enclose Product literature with the bids.
- D. In case equivalent make/model/brand is offered, a comparative statement with the make/model/brand desired by customer should be enclosed with bid.
- E. Options on all machines to be offered for three year comprehensive warranty (parts, travel and labour included).
- F. Warranty/Guarantee on the items should be spelt out clearly.
- G. Service arrangements in / for India/ site should be mentioned clearly in the bids. Similarly services included in the price offered for equipment/machines should be mentioned.
- H. Specifications are indicative, better specification may be offered as optional.
- I. Names where ever mentioned are for reference purpose, equivalent or better specification/ brand may be offered.
- J. List of essential spares and consumables should be mentioned and prices offered for the same as optional items.

OTHER TERMS AND CONDITIONS

- (A) Having regard to STC's Corporate Policy, offers from Principal Manufacturer/Distributor or their Authorized agents with Tender Specific authorization by their principal Manufacturer/Distributor in their favour as per Schedule 'A' enclosed only shall be considered. Offers otherwise submitted, if any, are thus liable to be rejected summarily.

(B) In case of imported equipment, the Authorized agents may quote the prices for and on behalf of their principal manufacturers in the respective foreign currencies. Accordingly, upon award of order STC shall be entering into direct contract with the Principal Manufacturer.

(C) Earnest Money Deposit

- i. All offers shall be submitted along with an Earnest Money Deposit (EMD) of 2% of total offer value in the Form of Pay Order / Demand Draft/ Bid Bond in favour of “The STC of India Ltd., Hyderabad”. However, for sake of convenience the foreign suppliers may submit the requisite EMD through their Indian Agents in equivalent Indian Currency, should they so desire. The EMD DD/Payorder/Bid Bond to be placed in a sealed envelope along with a covering letter duly superscribing the Tender No. Item & Name of Item addressed to The Deputy General Manager, STC of India Ltd., Mogul’s Court, 5th Floor, Basheerbagh, Hyderabad 500 001 and dropped in the Tender Box placed conspicuously on the 5th floor, Mogul’s Court, Basheerbagh, Hyderabad 500 001. Separate EMD’s may be forwarded for different items.
- ii. The Bidders are also requested to provide the RTGS Bank details for future refunds/Payments. EMD’s paid by Cheques are not acceptable. The format of Bid Bond is attached. (Schedule-D).
- iii. No interest will be applicable on the EMD payments
- iv. The details of EMD entered during the bid submission, and those available in scanned copies, should tally with the EMD sent physically. Otherwise, the bid may be rejected.
- v. Earnest Money Deposit (EMD) must reach STC before last date and time of bid submission
- vi. The EMD of the unsuccessful bidders would be returned within one month of signing of the Contract with the successful bidder.
- vii. EMD of the successful Bidder will be released only after the Bidder signs the Contract with STC and furnishes a Performance Bank Guarantee (PBG) in the format prescribed in the tender. Annexure

- viii. The EMD shall be forfeited by STC, in the following events: (a) Bidder withdraws its bid during the validity period specified in RFP or any extension thereof agreed by the bidder. (b) Bidder does not respond to requests for clarification of its bid. (c) Bidder fails to provide required information during the evaluation process. (d) In case of a successful Bidder, the said Bidder fails to sign the Contract; or furnish Performance Bank Guarantee in time
- (D) **Pre – bid meeting-** STC will organize a pre-bid meeting on 16th December, 2015 at 1500 Hours in STC's Hyderabad office. Prospective bidders are requested to submit the queries and email them to STC not later than one day before the pre-bid meeting. Such emails should be sent to hyderabad@stc.gov.in and the subject line must contain STC's Tender reference no. STC may respond to queries and upload responses on its website for information of the bidders if felt necessary. In any case, the source of inquiry will not be identified.
- (E) For the purpose of equitable comparison and evaluation of the offers, prices quoted in different currencies will be converted to a single currency viz., Indian Rupees as per the TT Selling Rate established by the State Bank of India as on the date of Price Bid Opening. The Comparison of prices & identification of L1 Bidder would be on FOR Destination Basis, duly delivered, commissioned etc. as the case may be on the date of opening of Price Bid.
- (F) The Financial Bids of the Tenderers whose Technical Bids are approved shall be opened subsequently.
- (G) Upon award of the Tender/Order to the successful bidder, a Performance Guarantee for due performance of the Contract, **valid up to the guarantee period** of the equipment, equivalent to 10% of the order value shall be submitted by the awardee in the prescribed format in favour of end-user department through a Nationalized Bank in India. As per Schedule B enclosed.
- (H) For Imported Item, STC would be selling the goods on High Seas Sales basis to the end user Department. All the custom Clearance documents including High Seas Sales Agreement along with Invoice etc. shall be submitted to the supplier's nominated Custom Clearing Agent.

- (I) The offers received (other than conditional offers) after opening of bid(s) shall be forwarded to the end-user department for their evaluation.
- (J) You are also requested to kindly give the details of after sales service arrangements in Telangana and India. The name of your Service representatives in Telangana and India along with his complete address and contact numbers may also be informed to us along with the offer so that the same could be notified to the end-user.
- (K) All the tools and facilities required for the inspection shall be arranged by the contractor free of cost.
- (L) No deviation, whatsoever, shall be acceptable. The tenderer has to certify that by duly signing and stamping the certificate as per Schedule
- (M) An undertaking/certificate stating that the rates quoted are uniform for all the Government Institutions in the country is to be provided. This certificate giving the reference of STC's Tender No. and Date along with your quoted item details may be submitted in original and the items if proprietary, a certificate to this effect may also be given.
- (N) In case of delay in supplies beyond the quoted delivery period, liquidated damages to the extent of 0.5% of the cost of the delayed supplies per week is applicable, subject to a maximum of 10%. Beyond this period, we reserve the right to either extend further or to cancel the contract.
- (O) Without any protests or demur, supplier indemnifies STC and its Branches and shall always keep STC fully indemnified and agrees to hold STC and its Branches harmless against any loss, claim, proceedings, damage, demurrage, costs, penalties, taxes, duties liabilities, legal cases, short shipment, quantity/quality/weight/purity, marking/specifications, etc of the material, costs or expenses of whatsoever nature, costs to STC on account of supplier/ handling agent/ omissions /negligence /mistake/misconduct breach or default and or non-fulfilment of terms and conditions of this agreement. The supplier shall keep STC indemnified at all times against any claims/liabilities/proceedings, etc from any third party or otherwise arising out/or in connection with this Tender.
- (P) Arbitration: Any dispute or difference whatsoever arising between the parties out of or relating to the construction, meaning, scope, operation or effect of this contract or the validity of the breach thereof shall be settled by arbitration in accordance with the Rules of Arbitration of the Indian Council of Arbitration and the award made in

pursuance thereof shall be binding on the parties. The supplier hereto agree that the courts and tribunals at Hyderabad, Telangana State shall have exclusive jurisdiction to settle any or all disputes which may arise out of or in connection with the Tender. All disputes arising out of this tender shall be decided in accordance with the Laws of India.

(Q) STC may at its absolute discretion, reserve the right to shortlist, accept, disqualify, elect to abandon, reject any part or whole of the process without giving prior notice to the prospective party. STC reserve the right to cancel this tender in totality without assigning any reason at any point of time.

(R) Submission of Bids

- i. Bids against this Tender shall be received only electronically through the eProcurement Portal of NIC (eprocure.gov.in). No bids shall be accepted in hard copy or in any other form.
- ii. For submission of bids, bidders are required to get themselves registered with eprocure.gov.in website using Class II / Class III Digital Signature Certificate.
- iii. Earnest Money Deposit (EMD) must reach STC before last date and time of bid submission.
- iv. The bidders are required to upload softcopies of the two parts of the bid viz. Technical & Financial.
- v. A bidder may modify, substitute or withdraw its e-bid after submission before the last date and time of bid submission. No bids shall be modified, substituted or withdrawn by the bidder on or after the last date and time of bid submission.
- vi. STC may ask the bidders to submit any or all the documents in original submitted as part of their online bid anytime during the bid process.
- vii. For modification of e-bids, bidder has to detach its old proposal from e-tendering portal and upload/resubmit digitally signed modified bid.
- viii. For any queries relating to the process of online bid submission or queries relating to Procurement Portal (eprocure.gov.in), the bidders may contact CPP Portal Helpdesk on Tel No's.: 1800-3070-2232, 91-7878007972 and 91-7878007973.

HYDERABAD.
27.11.2015

DEPUTY GENERAL MANAGER (MKTG)
Tele No. – 040-23237389/23296460



Schedule “A”

UNDERTAKING TO BE SUBMITTED BY PRINCIPAL MANUFACTURER / DISTRIBUTOR

It is to certify that M/s _____
(Name & Address of Tenderer) is our Authorised Distributor / Dealer. They are Authorised to submit tender for _____ (Name of Item) to the State Trading Corporation of India Ltd., Hyderabad against their Tender Notice No _____ Dated _____.

The Equipment / Item is Guaranteed for minimum 2 year Comprehensive free onsite Guarantee with Spare Parts from the date of completion of satisfactory testing, commissioning installation and Authorised Distributor / Dealer shall during the Guarantee period replace the parts if any, or rectify any manufacturing defect found during the above period so as to make the machinery operative and in perfect condition.

They are also Authorised to provide Annual Maintenance Contract and repairs contract for the period as desired by the purchase officer after the expiry of 2 year comprehensive Guarantee They will be responsible to ensure adequate regular supplies of spare parts, consumables, non- consumables needed for the same whether AMC or otherwise.

In case of change of Authorised Distributor / Dealer, we will inform the purchase officer accordingly within 15 days of change of authorized distributor/ Dealer. The new Dealer / Distributor will be responsible for after sales & service and annual maintenance and repairs contract as above. In case of failure of Authorised Dealer / Distributor we will be responsible for providing after sales service of the equipment as per terms and conditions of tender and contract.

If there is any defect M/s _____ shall replace or upgrade the defective part/faulty which shall also be subject to same guarantee as the original equipment. M/s _____ shall bear all costs, travel, labour, material cost which are required on rectification of defects onsite during the guarantee period.

**SIGNATURE OF THE PRINCIPAL MANUFACTURER/ DISTRIBUTOR
WITH RUBBER STAMP**

Note: This Undertaking should be Typed & Signed by Principal Manufacturer/ Distributor on his Original Letter Pad



Schedule 'B'

PERFORMANCE BANK GUARANTEE FORMAT

(To be executed by any Nationalised Bank in India having their Branch in the State of End-user Department on stamp paper of Rs.100/-)

Name & Address of the Buyers(End-user Department)

1. Against Tender No. _____ dated _____ and Contract No. _____ Dated - _____ (hereinafter called the Contract entered into between the STC of India Ltd., Hyderabad which expression shall, unless repugnant to the context or meaning, thereof include its successors, representatives & assigns for and on behalf of _____ (hereinafter called the Buyers/End user Department) and M/s. _____ (Name and Complete Address) (hereinafter called the Sellers) which expression shall, unless repugnant to the context or meaning, thereof include its successors, representatives & assigns this is to certify that at the request of the Sellers, we _____ Bank unconditionally and irrevocably guarantee to pay to the Buyers immediately on first demand, the amount of US \$/Rupees _____ (@ 10% of contract value) without any protest or demur or reference to the Sellers if the Sellers fail to perform all or any of their obligations under the said contract. The decision of the Buyer/End user _____ or The STC of India Ltd., Hyderabad duly communicated in writing to the bank that the sellers have failed to perform all or any of the obligations under the contract shall not be questioned and be final and conclusive. The said amount of US \$/Rupee _____ will accordingly forthwith be paid without any conditions or requirement of our proof whatsoever failing which interest @ 15% p.a. on monthly rest basis shall be payable by the Bank to Buyer.
2. It is fully understood that this guarantee is effective for a period upto _____ (36 Months + Delivery Period) and that we _____ Bank undertake not to revoke this guarantee during its currency (upto claim period) without the consent in writing of the Buyers.
3. We _____ Bank, further agree that the buyer shall have the fullest liberty, without affecting in any manner or obligations hereunder to vary/extend any of the terms and conditions of the said contract or/extend time of performance by the Sellers from time to time or to postpone for any time or from time to time any of the powers exercisable by the Buyers against the said sellers and/or forebear to enforce any of the terms & conditions relating to the said contract and we, _____ Bank shall

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not be released from its liabilities under this guarantee by reasons of any such exercise, variations or extension being granted to the said sellers or for any forbearance and/or commission on the part of the buyers, or any indulgence by the Buyers, to the said Sellers or by any other matter or thing whatsoever which under the law relating to the sureties would, but for this provision have the effect of so releasing us from our liability under this performance guarantee. We further agree that the validity period of this Performance Bank Guarantee will be extended by us upon receipt of any such request in writing from the Buyer and any charges on account thereof shall be to the account of seller

4. We _____ Bank further agree that the guarantee herein contained shall not be affected / discharged by any change in the constitution of the said Sellers/Buyers/Bank.
5. The Guarantee will be governed by Indian Laws and will be subject to the jurisdiction of competent courts in the State of Buyer / End – user India alone.
6. No claim shall be admissible against the Buyer in respect of interest on Performance Guarantee regardless of the time of release.
7. The Bank further agrees that decision of the Buyer as to the failure on the part of - _____ to fulfill their obligations as aforesaid /or as to the amount payable by the bank to the Buyer shall be final, conclusive & binding on the Bank.
8. This Guarantee will remain in force up to _____ (36 Months + Delivery Period) and any demand in respect thereof should reach Bank not later than 10 (Ten) working days (claim period) from the expiry of above validity date.
9. Notwithstanding anything entered hereto Banks liability under this Performance Bank Guarantee shall not exceed _____ (in words. Bank is liable to pay the guaranteed amount if Buyer same upon in written claim/demand on of before the expiry date.

FOR _____ BANK

ACCEPTED

Witness:-

Schedule " C "

Price Bid
ON THE LETTER HEAD OF THE COMPANY

Tender No. & Date :

Name of the Item Quoted :

S.No. of Item in Tender Document :

Price Format for Imported Equipment

Details	Qty (in Nos.)	Total Amount (in Foreign Currency) (Amount to be provided in words as well)
Ex-Works Price		
FOB (Port /Airport) Price		
Insurance & Airfreight Charges upto Indian Port		
Total CIF Price, Indian Port		
Total FOR, Vattinagulapally (Ranga Reddy District, Telangana) India Price		

Price Format for Local Supplies

Details	Qty (in Nos.)	Total Amount (in INR) (Amount to be provided in words as well)
Ex-Works Price		
CST/VAT @%		
Inland Transportation & Transit Insurance Charges		
Total FOR, Vattinagulapally (Ranga Reddy District, Telangana) India Price		

We have carefully gone through the Terms and Conditions of the Tender Documents and hereby agree to abide by the same for the fulfillment of the contract. This is to also confirm that I am fully authorized by company for signing and submitting this price bid.

Place: _____ SIGNATURE OF THE TENDERER
 Date: _____ NAME & DESIGNATION OF TENDERER
 _____ COMPANY SEAL



BID BOND PROFORMA

Schedule " D "

(To be executed by any first class international Bank through its branch office in Hyderabad (India) on stamp paper of Rs.100/-).

M/s. State Trading Corporation of India Limited,
5th Floor, Mogul's Court,
Basheerbagh,
Hyderabad-500 001.

Dear Sirs,

1. WHEREAS M/s _____ (BIDDER) has offered to supply _____ to STC, and the bidder is required to submit a Bid Bond at the rate of US\$ _____ along with the offer as a guarantee for fulfillment of all the terms and conditions of subsequent sale. We (Bank with full address) hereby unconditionally and irrevocably guarantee and undertake to pay the amount demanded by STC not exceeding the sum of US Dollars _____ only, in case the bidder fails to perform any or all the obligations, undertaken by him as per STC's acceptance, without any demur, protest and without any reference or recourse to the Bidder notwithstanding any dispute raised by the Bidder in any suit proceedings relating there to pending before any court or tribunal our liability under these presents being absolute and unequivocal. The payment shall be made to STC across the Counter of the Bank on the same day of receipt of invocation of this Bid Bond. Any such demand in writing made by STC, shall be final, conclusive and binding on us irrespective of any dispute or difference raised by the bidder.
2. Notwithstanding anything mentioned herein before, our liability under this guarantee is restricted to US\$ _____ (US\$ _____ only) and it will remain in full force up to (one month from the last date of validity of offer). Unless a claim under the guarantee is filed against us on or before _____ all your rights under the said Guarantee shall be forfeited and we shall be relieved and discharged from all the liabilities there under. We, _____ (Bank) further agree that the Guarantee hereunder contained shall not be affected by any change in the terms of purchase originally offered by the bidder and any change in the Constitution of said Bidder/ STC/ Bank.
3. This bond will be governed by Indian Laws and will be subject to the jurisdiction of courts at New Delhi in India alone.

DATE

FOR

PLACE

BANK

N.B. Bid Bond to be furnished in US Dollars only. Bid Bond in Indian Rupees will not be accepted.

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Schedule " E "

CERTIFICATE

Certified that the enclosed offer against Tender No. STC/GID/HYD/2015-16/02 dated 27.11.2015 is in total conformity with tender terms & conditions including special instructions and specifications without any deviation, whatsoever.

Place:

SIGNATURE OF THE TENDERER

Date:

NAME & DESIGNATION OF TENDERER

COMPANY SEAL

**SPECIFICATION FOR SUPPLY AND FABRICATION OF EMERGENCY RESCUE
TENDER ON TRUCK CHASSIS WITH COWL BS IV – 03 NOS.**

The Tender calls for Fabrication and Supply of Emergency Rescue Tender along with accessories on 4X2 Chassis having minimum 3300 mm wheel base (GVW not more than 7.0 ton) full forward control, Diesel Driven, Right hand drive BS III, Cowl Chassis of ASHOK LEYLAND/EICHER/TATA make or equivalent. The Chassis has to be procured by the successful Tenderer.

Scope of Supply

CHASIS. The chassis shall be 4X2, Right hand drive BS IV (Euro IV) having minimum of 3300 mm wheel base, Cowl chassis with suitable P.T.O. The Brand new chassis shall have GVW not more than 7.0 ton capacity shall be of ASHOK LEYLAND/EICHER/ TATA make or equivalent. The chassis shall be **purchased by the successful Tenderer** from the Chassis manufacturer or his authorized dealer after the inspection of the Client. The contractor shall furnish **3 sets** of shop/working drawings within seven days from the letter of commencement/work order for approval.

The fabrication shall generally as per BIS 949:2007, but also conforming to the specification given below:-

1. GENERAL REQUIREMENT:-

- 1.1 The Emergency Rescue Tender shall be fabricated as per prevailing safety standards stipulated under BIS or any other relevant standards and as per the following specifications. This specification lays down the requirements regarding the material, construction, workmanship, finish, accessories and acceptance test.
- 1.2 The vehicle shall incorporate a drive-cum-crew cabin, rear body, hydraulic winch, light mast, Alternator, and all the equipment and accessories as stipulated herein.
- 1.3 All the tools, gears and accessories shall be stowed in ROLL IN – ROLL OUT trays, Shelves and stored on HEAVY DUTY SWING IN – SWING OUT TYPE PARTITION WITH THREE POINT LOCKING SYSTEM, compartments with proper fastening arrangement.

- 1.4 At least 3 lockers shall be provided to the left side and the right side of the vehicle and 1 at the rear of the vehicle. These lockers shall be provided with aluminium shutters with locking arrangements.
- 1.5 The lockers shall be provided on both sides of vehicle and also at the rear. These lockers shall be provided with Aluminium shutters with locking arrangement.
- 1.6 The vehicle shall be designed to be as compact as possible with ease of accessibility to all parts. The arrangement of the locker shall be made in view for proper load distribution on both the axles and to both sides of vehicle. Proper steps shall be provided for easy accessibility to all the gears stowed in the lockers.
- 1.7 Light Mast, Winch, Alternator, Aluminium Roller Shutters and all the tools and accessories shall be of reputed make and complying safety standards stipulated under BIS/EN standards.
- 1.8 The vehicle shall be capable of performing all the normal rescue operations in any situation.
- 1.9 The complete rear body shall be made from corrosion resistant light alloy material, having modular design.
- 1.10 A separate control box, holding all controls and switches for the Public Address System shall be dashboard mounted within easy reach of the driver or co-driver. This control box holds controls and switches for adjusting the electronic siren to the required signal and for simultaneous operation with the Public Address System, Windshield wipers and washers, Cab interior illumination, 12 Volt electrical supply for radio, through an approved voltage dropper.
- 1.11 Standard Toolkit shall be provided with jack.

2. DRIVER CUM CREW CABIN:

- 2.1 The driver cum crew cabin shall be made such as to accommodate driver and officer in the front and four fireman at the rear.
- 2.2 The dimensions of driver-cum-crew cabin shall be mentioned by the contractor.
- 2.3 The driver cum crew cabin shall be fabricated in continuation and in line.

- 2.4 The cabin shall be provided with four doors i.e. two in the front and two at the rear with inbuilt suitable steps.
- 2.5 The windows shall be provided to all the doors with safety glasses and window regulating mechanism.
- 2.6 The doors shall have automatic door locking mechanism with a facility to open door locks from outside and from inside. The outside door handle shall have inbuilt locks and can be lockable with key.
- 2.7 The complete cabin with doors shall be made from Mild steel sheet, die pressed section and treated for anti-corrosive treatment or it shall be made from GRP (Glass Reinforced Plastic) material of suitable thickness considering its use and climatic conditions in India.
- 2.8 All the MS super structural members and under frame cross members shall be treated with rust preventive paint/coating.
- 2.10 The flooring of the crew cabin shall be fabricated from 2 mm Aluminium anti-skid plates rigidly fixed to the under frame. Trap doors shall be provided for topping up wherever necessary.
- 2.11 One piece laminated safety wind screen glass shall be provided.
- 2.12 Grab-handles and illuminated access steps to allow fire fighter to mount and dismounting safety. Steps to be of sufficient depth to facilitate safe use.
- 2.13 The driver-cum-crew cabin shall be equipped with full four doors, one for driver, one for officer in the front and two at the rear for the crew members.
- 2.14 All the doors shall be fitted on the super structural members each hung upon invisible hinges and fitted with best quality handles. The automatic door locks shall be provided to all the doors.
- 2.15 The window on all the doors shall be full lift type controlled by glass winding machine.
- 2.16 Preferably a peep window of suitable size shall be provided at the officer's side bottom panel above the floor level for the use of driver to see clearly the off side.

- 2.17 For all the above windows toughened safety glasses shall be used as per chassis Manufacture's standards.
- 2.18 All the doors and windows shall have long life good quality rubber sealing.
- 2.19 The grab handles shall be provided from inside the cabin for easy ingress and egress.
- 2.20 The officer and driver will be provided by seat which would have foam cushions and will be covered with good quality Rexene. The crew shall have individual seating for crew, fitted with brackets for placement of Breathing Apparatus in an upright position. The seats shall be of H O Bostrom (Model Tanker 300ctfu) or Tanker 400slse only. These shall be of the wear unlock and walk away type so that when the crew disembarks from the vehicle the Breathing Apparatus Set should easily come off the seats with them. Verification of documents shall be done at the time of stage inspection.
- 2.21 The seats shall be fully upholstered as per the chassis manufacture's design.
- 2.24 Trap doors and openings shall be provided wherever necessary for topping up or for the maintenance purpose.
- 2.25 The driver-cum-crew cabin shall have all the fittings required as per provision of Motor Vehicle Act 1988 and Central Motor Vehicle Rules 1989 or should confirm to latest ECE or equivalent regulations.

3. REAR BODY:

- 3.1 The rear body shall accommodate three lockers on each side and one locker at the rear to keep all the accessories, 10 KVA Alternator with control panel, Light mast, Hydraulic Winch, Rescue Tools, Pneumatic Tools, and accessories etc.
- 3.2 The approximate dimensions of the rear body shall be as follows:
- 3.2.1 Length of body - 4000 mm approx
- 3.2.2 Width of body - 2100 mm. approx
- 3.2.3 Height of body - In line with crew cabin.
- 3.3 The rear body shall be fabricated in continuation and in line. The under frame cross members shall be fabricated from steel profile suitable sections and size and as per fabricators standards.

- 3.4 If required a full-length runner shall be provided and fixed on the chassis frame by means of suitable arrangement to the chassis frame.
- 3.5 The super structure of the rear body shall be constructed out of corrosion resistant (MSCR tubes). The super structure shall be adequately strengthened specifically at the members where the doors are fitted and also other members.
- 3.6 The flooring of the lockers shall be fabricated from steel/light alloy sections of suitable sizes taking into consideration the load of all the equipments to be kept in the lockers.
- 3.7 All the under frame cross members and other Mild Steel members shall be painted with coats of rust preventive paint/coating.
- 3.8 The complete external and internal panelling of the rear body, lockers, doors shall be of at least 1.6 mm Aluminium sheet glued to super structural members with all joints riveted and beaded wherever necessary.
- 3.9 The side panelling of lockers shall be made of at least 1.6 mm Aluminium sheet and the flooring shall be made from 3mm anti-skid Aluminium sheet.
- 3.10 The complete top deck of the rear body shall be provided with at least 3 mm Aluminium anti-skid sheet rigidly fixed to the super structure members by means of solid rivets or nuts and bolts. The complete top deck panelling shall be sealed properly to avoid leakage of rain water in the lockers.

4. **LOCKERS:**

- 4.1 Minimum THREE number of lockers shall be provided at both the sides and one locker at the rear body for keeping all the accessories and equipments. The lockers shall be arranged in such a manner that the load distribution shall be equal on both the sides.
- 4.2 The lockers should be provided with drawers as per the latest international standards i.e. ROLL IN-ROLL OUT type with opening in tapered position, vertical hinged walls, vertical slides etc giving very easy & immediate access to all equipments. All equipments should be stowed very scientifically & systematically in the drawers or stored on HEAVY DUTY SWING IN – SWING OUT TYPE PARTITION WITH THREE POINT LOCKING SYSTEM & each piece of equipment shall have its designated location so that at the time of emergency the required equipment can be very

easily located & removed for use. Location of equipment (labels) should be provided on each drawer for immediate identification.

- 4.3 All the equipment should be properly clamped and strapped in the drawers to prevent shifting of the equipments while the vehicle is in motion.
- 4.4 The drawers shall be totally constructed from steel/ Aluminium sheets/Plastic trays & shall have self-locking system to prevent accidental opening while the vehicle is in motion. The bottom edges of the drawers shall be covered with SS angles. The ROLLIN-ROLL OUT drawers / the HEAVY DUTY SWING IN – SWING OUT TYPE PARTITION WITH THREE POINT LOCKING SYSTEM should be made according to the required size of the equipment that is to be stowed. The drawer floor shall be covered with good quality rubber sheets or PU sheet of 5 mm thick.
- 4.5 The lockers shall be covered with ALUMINIUM ROLLER SHUTTERS of Fire co Italy or AS make or equivalent only. The shutter should be roller or sliding type. The opening of the shutters should be done by means of a lift bar provided. This should be of the self-locking type so that while the vehicle is moving, the shutters do not open accidentally.
- 4.6 The lockers shall be divided into compartments and shelves as per the requirement. The final design will be decided at the time of approval of drawing.
- 4.7 Footboard shall be provided in the lower part of the body in order to provide easy access to all the equipments installed in the higher lockers. The footboards shall also serve as a closer for the lower part of the storage locker.

5. **LADDER:**

- 5.1 A High quality Aluminium Double Extension-Trussed Type ladder of 5 mtrs. of Simplex or equivalent make shall be provided in the gallows. The design of the gallows shall be such that the ladder can be released without difficulty from a reasonably accessible position and embodied roller to permit easy withdrawal, suitable arrangement should be made for locking the ladder when stored.

6. **MISCELLANEOUS:**

- 6.1 Ladders shall be provided and fixed at the rear for access to top deck.
- 6.2 Aluminium pipe railing with sufficient number of brackets or protection foot wall shall be provided to the rear body over the deck.

6.3 A towing hook shall be provided and fitted at the rear end by means of nuts and bolts.

7. **ALTERNATOR UNIT:** A 10KVA HYD/PTO driven generator unit will be mounted at a suitable location with all necessary connections and control panel. The generator shall be of a reputed make, with a brush less alternator of 10 KVA capacities. The generator will be permanently mounted in the chassis on heavy-duty foundation & driven by the vehicle engine through full through PTO. The alternator will be of self-excited & self-regulating type. The generator would be able to deliver the power in constant voltage & frequency. The technical parameters, make, model & catalogue of the generator offered shall be elaborated by the bidder. The built up body will be such that it would protect the generator as well as the electrical connectors from rain water & weather condition & at the same time will provide easy access for maintenance of the generator. There would be a facility to keep the engine in constant RPM on connecting the P.T.O. The vehicle will be capable of running continually in stationary (static) position for a period of at least 4 hours at an ambient temperature of 38°C. In case any modification is required the same will be made in the radiator/engine cooling system.

8. **TELESCOPIC MAST:** A compact, low profile, roof mounted folding type, lighting mast of Fireco or Will Burt make, fitted with 4 X 1500 watts water proof halogen lamps. The mast shall be elevated and vertically extended up to 4.5m pneumatically from the roof top. The mast shall be installed on the roof of the vehicle at a suitable location.

The light mast shall operate in temperatures of -40 deg.C up to 60 deg C, with anti-twist lock, with safety valve and drainage outlet valve.

The mast will be equipped with an internal spiralled electrical cable with 9 wires with a section each of 1.5 mm² and 13 wires with a section each of 0.22 mm², the group of 13 wires will be screened. Each section of the mast should have a thickness of not less than 3.5 mm².

The telescopic mast should be extremely resistant and designed with a minimum of 4 sections and it will be equipped with an internal spiralled electrical cable with 9 wires with a section each of 1.5 mm² and 13 wires with a section each of 0.22 mm², the group of 13 wires will be screened. Each section of the mast should have a thickness of not less than 3.5 mm².

Each section of the mast should have a water drainage outlet. The folded and stowed height should not be more than 1800mm. The Light mast will have Halogen flood light and reflectors in weatherproof casing. The floodlights on the top should have a minimum electrical rotation of 365° and a tilt of 310° Suitable connections for taking permanent

Power Supply from generator set through an internal spiral wire mounted inside the mast should be provided.

A safety device must be added, by means of an infrared sensor, that will stop the movement of the mast when tilting to the parking position in case any obstacle is detected on the way down.

All the functions of the mast, including extension and return to the original position, lights on/off, automatic restore should be capable of being done through a wired remote control. The same remote control must work without wire (wireless mode) through a male/female connector IP68 which keeps the battery under charge, whenever the remote is plugged and there is tension on the power circuit. Every single input given by the user, no matter which, will be confirmed by a visual led and an additional led will confirm the battery status; every single group of 2 lights when switched on will have a corresponding led alight on the remote control that will go off only when the lights will be switched off. Every single input given by the user on the remote control will make the whole remote keyboard alight for not less than 15 seconds.

9. **CONTROL PANEL:** A suitable control panel shall be provided for the supply of power & lighting controls. The control panel would be made of aluminium & finished in textured paint. The panel would conform to IP 54 & the fittings will be of reputed make. The control panel will comprise of all controls required for safe speedy operation of the system including the following.

- a) Heavy-duty type. MCCB – 63 Amp set 40Amp.
- b) Ammeter, voltmeter, frequency meter, indication lamps & fuses.
- c) Counter for operational hours.
- d) Generator main switch fuse unit/MCB suitably rated.
- e) 1 No. MCB for control panel illumination
- f) 1 No. 3 phase / single phase KW meter (As appropriate).
- g) 32Amp switch with bakelite molded fuse holders & suitable HRC fuses & reverse forward DOL starters for tilting / lifting operation.
- h) 32Amp switch with bakelite molded fuse holders & suitable HRC fuses for 3 Nos. single-phase plugs & socket of 32Amp rating.
- i) 32Amp switch with bakelite moulded fuse holders & suitable HRC fuses for 2 Nos. three phase plugs & socket of 32Amp rating.
- j) Any other controls not specified above but required for satisfactory operation or the system will also be provided.

10. CABLE WINCH:An electrically operated cable winch of Ramsey / Rotzler / Sepson or equivalent make having capacity of not less than 6.5 tons pulling capacity (single layer) would be provided and mounted in the front of the vehicle. The winch unit should be complete with minimum 5.5 hp, 12v DC series wound electric reversible motor for increased pulling power. The motor and solenoids shall be grounded to the battery. It shall have an automatic load holding brake system for more strength. For free spooling the clutch design shall be easy to use type with spring loaded pull and rotate system. The gear system should be 3 stage planetary type for faster line speed and the gear reduction ratio shall not be more than 300:1, the rope drum shall not be of more than 8 inches long having 3.5 inches dia and shall be supplied with minimum 90 ft heavy duty galvanized EIPS wire rope with replaceable self locking clevis hook and would be mounted on the front bumper of the vehicle with suitable strong supports and a 4 way roller fairlead. The Weight of the winch shall not be more than 55 kgs. A wireless remote for 12 V system or wired remote for 24 v system shall also be supplied with the unit

11. ELECTRICAL SYSTEM:

- 11.1 All the important electrical circuit shall have separate fuses suitably indicated and shall be grouped into a common fuse box located at an accessible position. The suitable size wire shall be selected for different circuits considering the current consumption of that circuit.
- 11.2 Electrical siren of 1 mile range 24 Volts D.C of “ KHERAJ” make or equivalent shall be provided and fitted at suitable place with one control push button at Officer side.
- 11.3 Emergency Light Bar System (LED) with Hooter & P. A. System of “GRAND” make or equivalent shall be provided over the top of driver’s cabin. The other lights at the pump side, cabin light, locker lights shall be provided. All the controlling switches of lights shall be provided on dashboard.
- 11.4 Two fog lamps of approved make shall be provided and fitted on front-bumper with controlling switch on dashboard.
- 11.5 New wiper motor assembly of Lukas make or equivalent of 17 Watts with new blades and arms shall be provided. The location of wiper motor shall be such that it shall be easily accessible for repairs.
- 11.6 Adjustable search light assembly shall be provided at a convenient position on the top of rear body deck with 30 mtrs Cable drum with Rexene cover.

12. PAINTING:

- 12.1 The driver cum crew cabin, rear body shall be painted RED color RAL 3000.
- 12.2 The complete external and internal aluminium panelling of rear body shall be painted with primer.
- 12.3 The complete exterior of the vehicle shall be painted with two finish coats of “RED” RAL3000.
- 12.4 The internal painting of lockers etc. shall be suitable shade.
- 12.5 The Aluminium shutters shall be hard anodized or powder coated.
- 12.6 The words “TELANGANA STATE DISASTER RESPONSE & FIRE SERVICES” shall be painted on both sides of vehicle in yellow shade.
- 12.7 The “EMBLEM” of the department shall be painted on both sides of vehicle in natural colours at suitable place.

13. ACCESSORIES:

The following accessories shall be provided.

- 13.1 Six aluminium hooks for keeping the uniform clothing shall be provided in crew compartment.
- 13.2 Quickly removable wire mesh guards shall be provided to wind screen glass and all the windows of driver cum crew cabin.

14. WIRELESS SET BOX:

Suitable box for fitting the wireless set shall be provided in driver’s cabin at suitable place with 12 volts electrical supply.

15. STABILITY:

The stability of the vehicle shall be such that when fully equipped and loaded (but excluding crew) the surface of which are appliances stand is tilted to either side, the point at which overturning occurs shall not be less than 27 degree angle or as recommended by vehicle manufacturer from the horizontal.

16. WORKMANSHIP AND FINISH:

The vehicle shall be fabricated, painted etc. with standard workmanship, acceptable to the Client.

17. TRAINING:

The successful contractor has to arrange training for the personnel of the Client or his authorized person in handling, operation and maintenance of the equipments. The training period shall consist of minimum one week at the Client or his authorized person. The training shall cover operation, handling and maintenance of all the tools equipment and gears listed under this tender. All the expenses towards the training shall be included in the cost in addition to training material and the cost of tools and equipment and consumable required at the time of training. The training program shall be chalked out in consultation with the Client or any other officer authorized by him.

18. INSTRUCTION BOOKS:

Instruction books for the guidance of the user including both operation and normal maintenance shall be supplied for all the equipments in English language. The books shall include an item wise and illustrated spare parts list giving reference numbers of all the possibly swearing parts. The workshop manual and spare parts catalogue of chassis shall also be supplied with vehicle preferably with soft copy.

19. GENERAL REQUIREMENTS:

19.1 R.T.O. REQUIREMENTS:

The vehicle shall conform in all respect of the provisions contained in the M.V. Act 1988 and M.V. Rules 1989 or to any other statutory modifications or replacements thereon from time to time. All the equipment necessary for R.T.O.'s passing shall be provided on vehicles.

19.2 GUARANTEE:

- a) The successful contractor will have to furnish a maintenance guarantee, undertaking for service, repairs, replacement, maintenance etc. against any defects in the material used, for 36 calendar months commencing from the date of acceptance of the appliance.
- b) The contractor shall guarantee the supply of spare parts and service for minimum period of 15 years from the date of supply of vehicles.

20. DELIVERY:

- 20.1 Free delivery of the fabricated Emergency Rescue Tender along with equipments shall be given at TELANGANA STATE FIRE SERVICES & CIVIL DEFENCE TRAINING INSTITUTE, Vattinagulapally, Hyderabad. Delivery period shall not be more than 3 months from the date of issue of supply order.
- 20.2 The Brand new chassis shall be **purchased by the successful** contractor from the Chassis manufacturer or his authorized dealer after the inspection of the Client. The procurement of chassis shall be done in the name of “**Director General, State Disaster Response & Fire Services, Telangana State, Hyderabad**”. The responsibility of vehicle will be upon the contractor while vehicle is being transported and when under fabrication work. After fabrication, the contractor shall liaison the Director General, State Disaster Response & Fire Services, Telangana State, Hyderabad for registration of vehicle in RTO office, Hyderabad & deliver the vehicle.

21. SPECIFICATION AND DRAWINGS:

Full detailed drawings of the body showing the body construction, lockers, placement of various tools etc. shall be submitted, without which tender will not be considered. The successful contractor will have to submit three copies of detailed drawing showing detailed dimensions, stowage arrangement fittings, etc. which shall be got approved from before commencement of fabrication work by the Client.

22. WORKMANSHIP AND MATERIAL:

- 22.1 Workmanship executed shall be of the highest order. All rivets and bolt holes shall have a coat of approved paint on both surfaces before riveting or bolting or welding. All steel screws, bolts, nuts, rivets etc. shall be zinc coated or shall have rust proof coats by recognized process.
- 22.2 The roof joints shall be subjected to rigid water test in the presence of the representative of the Client. All the directions and instructions (oral or written) on all points related to the fabrication shall be executed whenever given by the Client for quality workmanship.
- 22.3 All the material to be used in the fabrication of the body work shall be of reputed make and good quality or approved make and type. All equipment and material shall comply with the requirements of the latest relevant standards. The structure of vehicle shall be rattle free and noiseless while in motion.

23. INSPECTION:

- 23.1 The successful contractor shall have the work inspected and approved in 2 stages by the office nominated by the Director General, Telangana State Disaster Response and Fire Services Department. The contractor shall arrange everything including vehicle/transport to witness / attend laboratory testing at external fabrication yard/laboratory, at convenient and agreed time by Client. The cost of inspection will be borne by the contractor.
- 23.2 The first stage of inspection would be on completion of structure work, Mounting of Cable Winch, Panel Work, Lockers and Mounting of 10kva Alternator.
- 23.3 The final stage of Inspection will be at Telangana State Fire service and Civil Defence Training Institute, Vattinagulapalli, Hyderabad and will be as per specification for various parameters and general finish & workmanship before acceptance. The inspection and testing will also include all the tools and equipments supplied with vehicle for their performance test.

ACCESSORIES AND EQUIPMENTS:-

The following accessories, tools, and equipment shall be provided and fitted in the lockers in proper group. All the tools shall have purpose built stowing and fastening arrangement so has to have easy access to all the tools during the emergency.

EQUIPMENTS TO BE PROVIDED ON MINI RESCUE TENDER

SR.NO.	DESCRIPTON	QUANTITY
1.	Reflective Jackets Water Proof. This High Visibility Jacket is an ANSI Class 3 compliant Waterproof Parka. It is breathable, with a mesh liner and is made with a high visibility polyester shell and a hidden in-collar hood. Two large front pockets and a cell phone pocket keep you organized. The parka extends to mid-thigh in length and the zipper extends up through the collar to keep you dry. VEA [®] brand (Visibility Enhanced Apparel) High Visibility Jackets feature 3M [™] Scotchlite [™] Reflective Material.	04 Nos.
2.	Canvas gloves with anti-skid palm	04 Pairs.

3.	Pairs of Chemical Resistant Gloves Made of PVC. Fully lined with a soft cotton tricot. Anatomically curved fingers allow for increased dexterity. Heavy duty quality that meets all requirements in respect of resistance to abrasion, cuts, punctures and chemicals. Length 270mm. Size large.	04 Pairs.
4.	Rubber Gloves, (tested to 10,000 volt)	04 Pairs.
5.	Heat Resistant Gloves. Made of fire and heat resistant aluminised Kevlar/Carbon fibre, 570 g/m ² . Palm of glove is made of highly resistant Sebatan leather. Interior of glove is lined with fire resistant cotton. Length: 450mm	04 Pairs.
6.	Chemical Protective Suit Level 'A' Light weight, Heavy duty, gas tight and chemical proof encapsulated suit against all chemicals and gases including Ammonia, Chlorine, Acids, aerosols (gaseous chemicals). The suit shall have special coating on polyamide fabric. The suit shall have gas tight connected 5 finger gloves made of coated neoprene and a pair of highly coated chemical resistant safety Boots, permanently bonded to the suit. The boot should be puncture resistant. The lens of the hood shall be made of chemical resistant plastic fixed to the suit provided with durable coating against fogging, Fly front with heavy duty gas tight Zipper. The suit shall have provision of accommodating B.A. Set donned by the wearer. The suit shall comply NFPA/EN standards. The weight of the suit shall not be more 6.5 kgs, with carrying bag. The suit shall be of reputed make such as MSA, AUER, RESPIRAX, DRAGER, TRIELLBORG or equivalent.	02 Nos.
7.	Self-contained positive pressure Breathing Apparatus Set of Drager (PSS 7000 Type II) or equivalent with Carbon composite cylinder (CCOE approved) 45 minutes duration complete with cylinder, harness, facemask and back plate conforming to EN:137:2006 level 2 (All items should be from single OEM) or of equivalent.	04 Sets.
8.	Shears (small, medium and large)	01 No. (each)
9.	Round Showel Shovel of round shape with provision to incorporate wooden handle and grip. Make – Reputed	02 Nos.

10.	<p>SPADE Forged, with beech wood handle and T-grip, 1.400 mm long. Weight 2kg.</p>	02 Nos.
11.	<p>CROW BAR [SMALL] Size - 36" Long Claw attachment for removing nail Made of tempered steel Dia. of bar - 20mm approx.</p>	01 No.
12.	<p>CROW BAR [BIG] Size - 60" Long Made of tempered steel Dia. of bar - 20mm approx.</p>	01 No.
13.	<p>RESCUE, FALL ARREST HARNESS Multipurpose Full Body Harness with Fall indicator used in Sewers, Wells, Silos, Tanks Rescuing The harness shall consist of 1 Dorsal attachment D ring/1 Rescue D ring (rear), 2 Lateral attachment D rings, Positioning belt, Fully adjustable shoulder and thigh straps, net weight 1.6 Kg., Conforms to CE Standards EN 361 &EN 1497. Rescue strap with hooks for 2nd person Conforms to CE Standards EN1498 class B. It shall be of reputed make such as KARAM, PROTECTA, DBI SALA, TRACTEL, OR EQUIVALENT</p>	02 Nos.
14.	<p>Polyester Rescue Lines, 30M long In full accordance with DIN 14920, made of high-quality polyester. 10mm diameter. Breaking strength 1000 kg. One end is fitted with a light alloy carabineer hook, the other end is provided with a loop. Comes complete with polyester carrying bag.</p>	02 Nos.
15.	<p>Rope Bundles of Polypropylene Polyamide a) 8mm 50 Meter each in Length. b) 10mm 50 Meter each in Length. c) 14mm 50 Meter each in Length. d) 20 mm 50 Meter each in Length. The breaking strength of the rope shall be 2.8 Ton with spicing ends.</p>	01 No. (each)
16.	<p>ROPE LADDER OF POLYPROPYLENE 10 M Ladder made of polypropylene ropes, the ends are equipped with</p>	01 No.

	rope eye stiffener. Comes with hardwood rungs fixed to the ropes with screws. UV resistant. Distance between the rungs: 300 mm. Any number of ladders can be connected to extend their length. Weight: 11 kg.	
17.	“Sharpex” or equivalent Make one Man operated Chain Saw, I Phase, 220 Volts, 2100 Watts Motor with 64 Cms. Bar/Chain with Heavy duty cable of 30 mtrs. length.	01 Nos.
18.	‘STHIL’ or equivalent Make, Model MS 381 or equivalent one man operated Petrol Driven Chain Saw, 3.9/5.3 Power output, 50 cm bar length.	01 Nos.
19.	<p>Petrol Driven Concrete Cutting Chain Saw</p> <p>94 CC, 2 stroke petrol driven IC engine, min. 4.5 KW (6.1hp) power, max. load engine speed 9800 rpm +/- 300</p> <p>Trigger lock and safety inter lock must be provided</p> <p>Chain Saw with fast start segment design having min. 350mm deep cutting capacity.</p> <p>Fuel Tank Capacity – 1liter, min.</p> <p>Should be capable of cold manual pull cord start</p> <p>Should be provided with choke arrangement</p> <p>Cutting depth 390mm, min.</p> <p>Weight not more than 15 kg with chain & bar.</p> <p>Guide bar length 14" min.</p> <p>Spare Chain- 1 nos.</p> <p>The machine shall be of reputed make such as PARTNER, STIHL, BOSCH, HITACHI, huskaverna ATLAS COPCO, ICS, OR EQUIVALENT and CE approved.</p> <p>With operating and maintenance manual.</p>	01 No.
20.	<p>ROTARY RESCUE SAW PETROL DRIVEN</p> <p>Min. 94 CC, 2 stroke petrol driven IC engine,</p> <p>Diamond tip blade, abrasive blade,</p> <p>Accessories</p> <p>Adjustable blade guard</p> <p>Fuel tank of capacity at least 01 litre</p> <p>Should be capable of cold manual pull cord start</p> <p>Should be provided with choke arrangement</p>	01 No.

	<p>Weight not more than 13kg. Diamond Tip Rotary Blade for wood RPM - 6300 Diameter - 300 mm- 1 No. Rotary Blade Metal & Concrete Cutting RPM - 5100 Diameter - 300 mm, Thickness - 3.5mm --- 5 Nos. CE approved, Operation and maintenance manual Make- PARTNER, STIHL, BOSCH, HITACHI, ATLAS COPCO, OR EQUIVALENT</p>	
21.	<p>The door opener shall be hydraulically operated with two toes, one fixed and one moving and it shall be suitable to force open doors of building that open to the inside and that can be reinforced or blocked.</p> <p>The spreading force shall be 100 kN [10.2 ton].</p> <p>The door opener shall be single acting, spring return type, driven by hand - or foot pump, working on non - toxic mineral based hydraulic oil.</p> <p>The insertion height up to the first groove shall not be more than 3mm, whilst the stroke length of the door opener shall not be less than 128 mm.</p> <p>The back of the fixed toe shall be designed with a flat face to be used a hammering base. The door opener must be available with a carrying and positioning handle that automatically keeps the tool from twisting when positioning the tools. The carrying and positioning handle would be finished with a black epoxy layer for optimal grip.</p> <p>The door opener must be available with a swivel connection that must be mounted on the back of the tool for optimal manoeuvrability of the tool and hydraulic connection hose.</p> <p>Dimension of the tool shall be [l X w X h] 300 X 120 X 105 mm approx. & weight would not be more than 7 kg.</p> <p>The door opener shall be supplied with the accessories such as 30 cm pigtail hose and quick coupler, that can also fitted with the</p>	01 No.

	<p>additional positioning & carrying handle with a 360 degree rotation elbow, 30 cm pigtail hose and quick coupler, supplied in a synthetic storage box.</p> <p>Make- Holmatro or Weber – or Lukas or equivalent.</p>	
23.	<p>The battery operated hydraulic rescue tool of Holmatro or Weber or Luauus or equivalent make shall meet the following requirements:</p> <p>All rescue tools shall operate on a working pressure of at least 700 bars. The Battery will be 5 Ah 28 A Lithium ion rechargeable battery. The battery will be click ON / click OFF type for quick changing of battery. The battery shall be capable of being recharged fully in max. 60 minutes. A LED power indicator showing the battery status shall be integrated in the battery.</p> <p>Each individual Tool shall be operated independently and shall provide the max safety and protection for the operator and the causality. All Tools shall be equipped with high capacity flash LED lights integrated in the handle to light up the working space in case of low visibility.</p> <p>Each rescue tool shall be a one-man operated light-weight tool, meaning that one person will be able to position, guide and operate the tools without needing assistance by another person.</p> <p>All hydraulic tools shall be provided with carrying handle which allows the operator to reposition the tool from one side to the other (left to right and back) without the need to reposition the hand or to release the handle in order to do so. The carrying handle should be mounted in such a way that the tool is fully balanced, even when the tool is picked up with one hand. The position of the carrying handle and the control handle shall allow easy operation for right-handed as well as left-handed operators.</p> <p>The Tools shall be resistant against dust, heavy rain, spilling water under various temperature conditions.</p> <p>All tools shall be provided with a Twist dead man's control</p>	01No.

	<p>mechanism with automatic neutral position. The Control handle shall provide full grip for the operator hand (no finger or dumb control). The deadmans handle must be easy to operate in any situation and position of the tool.</p> <p>The control mechanism must be part of the handle in order to ensure a safe operation. The main valve will allow precise proportional operation in order to influence the working speed of the tools. To avoid confusion for the operators, the operation mode shall be similar for all tools. The dead-man's handle shall be easy to operate from any given position the tools or the operator may be in.</p> <p>The tool body shall be made out of high quality thermoplastic material that assures a solid construction combined with an acceptable (low) weight. The tool body shall assure highest stability and a long service lifetime.</p> <p>All hinges, pins, levers, shall be made out of high tensile (heat treated) tool steel, and protected against corrosion. The blades of the cutter and the claw of the rescue ram shall be of dropped-forged special steel alloy to ensure a long service lifetime.</p> <p>The arms of the spreader shall be made out of High alloy forged light metal. All movable parts shall be covered to ensure the highest safety for the operator. All tools and accessories should be fully operational for longer periods at temperatures of -20°C up to +55°C.</p> <p><u>TECHNICAL PARAMETERS</u></p> <p>The combi tool shall be capable of cutting of various sections such as solid round bar, hollow round bar, flat section, square tube, rectangular tube etc. It would also cut the door pillars of new generation cars and also be able to perform the spreading and pulling functions.</p> <p>The blades shall be of shock resistant non corroding alloy steel, hardened and ground and shall be exchangeable and re-grindable.</p> <p>The combi tool shall have following specifications:</p>	
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	Spreading Distance	Not less than 350 mm	
	Spreading force measured at 25 mm from the tips as per EN 13204	Not less than 3.5 T	
	Spreading force	Not less than 21 T	
	Cutting force	Not less than 38 T	
	Squeezing force	Not less than 7.5 T	
	Pulling distance	Not less than 415 mm	
	Pulling force	Not less than 5 ton	
	Weight including battery	Not more than 20 kgs	
	Capable of cutting round steel bar	Not less than 32 mm	
	The material of the steel profiles shall conform to EN 10025-1-2000 table 5, type S 235		
	<u>Accessories</u>		
	Pulling Chains Set 10 mm – 1.5m + 3.0m	1 set	
	Pulling Attachment Set	1 set	
	Mains Power connector to connect the tool to any 220 V source	1 no	
	Battery charger	1 no	
	Battery Pouch	1 no	
	Carrying strap	1 no	
24.	<p>Scoop Type Stretcher</p> <p>Made of Anodised aluminium. Attendants can readily uncouple an end of the stretcher and gently “scoop” the victim onto the stretcher by means of a scissors leverage action suitable for difficult body pick-ups. After the scoop stretcher has been applied, the scoop stretcher should be placed into a basket type stretcher, thus achieving full immobilization of the patient. Length of the stretcher can be adjusted to fit any size patient. Each stretcher is provided with three 2” belts. Weight of stretcher appx. 9.1 kg.</p>		01 No.

25.	<p>SPINE BOARD STRETCHER with Safety Straps (Locking Mechanism). Model:- YDC-741. Make:- RED-LEAF (imported) or equivalent. Gross Weight:- 9 kgs.</p>	01 No.
26.	<p>RESCUE LINE, 30 M WITH CARRYING BAG 30 m long. Certified as to DIN 14920 or equivalent, Made of high quality polyester, 10 mm diameter. Breaking strength: 1.000 kg. One end is fitted with a light-alloy snap hook. Comes complete with carrying bag. Weight: 2,00 kg. Rescue line according to British Standard and NFPA or equivalent.</p>	01 No.
28.	<p>WATER PROOF RECHARGEABLE TORCH The torch shall be waterproof and ATEX approved. There shall be switch with high intensity halogen/Xenon bulb. There shall be steady mode light with minimum 40,000 peak beam candle power. The min. run time of the torch shall be 3 hrs. The torch shall have rechargeable type lead acid / Ni-Cd battery of 6/12 volt, battery. The approx. weight of the torch shall be 1.5 kgs. and shall be supplied with quick release strap and charging accessories. The torch shall comply all safety standards applicable and shall be brand new and of reputed make such as Pelican or Equivalent.</p>	02 Nos.
29.	<p><u>Collapsible Cones</u></p> <ul style="list-style-type: none"> • Height: 450mm/ Base size: 280*280mm (rubber Base). • Should have impact on caution and insulation. • It should be sun proof, waterproof, heat-resistant, cold-resistant, non-rimous, and colourfast. • The reflective film should meet EN 471. 	6 Nos.
30.	Traffic Warning Batons	02 Nos.
31.	<p>VICTIM LOCATION CAMERA <u>Purpose :</u> This victim location system is electronic equipment for location and rescue of trapped victims. With this equipment, light and easy to carry, it is possible to explore the ruins, collapsed</p>	01 No.

	<p>structure caused by earthquake, explosions, landslides, construction cave-ins or mine disasters and to communicate with victims via the microphone incorporated in the camera. The system should comprise of a telescopic boom with a camera, able to turn through 360° fixed to the end and connected to a portable control box screen.</p> <p><u>Capabilities required:</u></p> <ul style="list-style-type: none"> • The systems primary configuration should be based on a video camera built at one end of a telescopic boom which can reach out into depths and void spaces up to a distance of 2m. This boom shall be extended telescopically and shall have 4 sections giving a total length of 2m and shall be fitted with minimum 5m of cable. Provision should also be made to manually lock the telescopic boom at the distance required. • The video camera shall have a colour display with a sensitivity of 0.5 lux and shall have 6 white LED lights which will allow visibility in pitch black conditions to a distance of 4 m. The camera head shall be able to rotate 360° without stop (infinitely). A speaker and a microphone shall be built into the body of the video camera, which will allow communication with the trapped person through a head-set. • The system shall have a control box for the operator which will be fitted with a minimum 7-inch, LCD colour screen, TFT active matrix, and shall be stored in a leather protective case with adjustable shoulder strap. • The system shall also be provided with mono headphones fitted with dynamic microphone with anti-disconnection plug which will allow the operator to communicate with the victims via the speaker and microphone built in the video camera. The cable length shall be minimum 1.5 mtrs • There should be provision for attachment of an additional 	
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	<p>headset for use by a third person like an interpreter or a doctor etc</p> <ul style="list-style-type: none"> • The system design shall be such that it would not require more than 2 persons to operate, one operator to handle the probe, and the second for the control box: of the probe to see and search through the screen, communicate with victims. • The system shall have an inbuilt battery, 12V - 4.5 Ah battery, Ni-MH technology with an intelligent charger. The battery shall allow minimum 4.5 hours of continuous usage of the system and should be able to be fully charged in 4 hours. The system shall be equipped with an audible alarm which will warn the operator when the battery is low. A suitable Cigar-lighter adapter shall be provided to enable the charge the battery in a vehicle if necessary • An additional water proof camera capable of being used at a depth of 60 mtrs with 60 mtrs cable mounted on reel shall be provided. The camera shall be IP 67 compliant and shall give colour display. The camera should rotate 360 deg. and shall have integrated LED lights. Speaker and microphone shall be integrated in the body of the camera <p>The system shall be capable of being operated in temperature range -10° to $+60^{\circ}\text{C}$</p>	
32.	<p>Electrically Operated Chipping Hammer (BIG) Impact rate -900 to1400 blows per minute, Single impact force - 38 -42 Jouls minimum. Power input -1300 to 2000 Watt, single phase 230 volts. Light in weight , shock proof body with required accessories Weight approx. 18 kg, With pointed, round and flat bit Operation and maintenance manual CE approved, Make- BOSCH or HITACHI or equivalent.</p>	01 No.
33.	<p>Pneumatic Lifting Airbags Set (Flat Type) (HOLMATRO Make or equivalent) having lifting capacity with control unit.</p>	01 No. (each)

	<p>a) 10 – Ton Capacity b) 20 – Ton Capacity</p> <ul style="list-style-type: none"> Working pressure shall be 8 bar and made from Kevlar reinforced with 3 layers aramide reinforcement. Non slip design, capable of being interlocked when 2 bags are placed on top of each other, quick connection with automatic double locking system. Each pneumatic lifting bag shall be of blue colour for better visibility during night operations and shall be equipped with bras valve connection with internal thread and vulcanized into the reinforced corner of the bag to which a male connector for quick connect coupling shall be threaded in. This male connector shall be replaceable if it is damaged. Insertion thickness of the bag shall not be more than 25 mm including profile. Resistant to ozone and range of chemicals etc. The bags shall comply the following requirements. <table border="1" data-bbox="381 1029 1175 1323"> <thead> <tr> <th>Lifting capacity (Ton)</th> <th>Minimum Inflation height (MM)</th> <th>Approx. Weight (Kgs)</th> <th>Qty</th> </tr> </thead> <tbody> <tr> <td>--</td> <td></td> <td></td> <td></td> </tr> <tr> <td>10</td> <td>200</td> <td>04</td> <td>1 no</td> </tr> <tr> <td>20</td> <td>375</td> <td>13</td> <td>1 no</td> </tr> </tbody> </table>	Lifting capacity (Ton)	Minimum Inflation height (MM)	Approx. Weight (Kgs)	Qty	--				10	200	04	1 no	20	375	13	1 no	
Lifting capacity (Ton)	Minimum Inflation height (MM)	Approx. Weight (Kgs)	Qty															
--																		
10	200	04	1 no															
20	375	13	1 no															
34.	Life Buoy (MMD Approved)	04 Nos.																
35.	Synthetic Life Jacket (MMD Approved)	04 Nos.																
36.	<p>Portable Mega Phone (Ahuja Make or equivalent) Power output - 16 watt rated / 20 watt max. Voice range - 0.4 km [01 km in quite area] Power Source – with suitable battery Microphone - unidirectional Dimension - Horn Dia - 220 mm Length - 370 mm Weight - 2 kgs. [approx]</p>	01 No.																

	<p>Dry cell & 12 V Car Battery operation All ABS Body, sturdy yet lightweight. Built in siren Microphone with volume control and press to talk switch Or equivalent to above specifications of reputed make.</p>	
37.	<p>Drager or equivalent make X-AM 2500 – Multi gas Detector Size (top) Instrument shall not exceed 48 x 130 x 32 mm (1.85“ x 5.08“ x 1.22“) in total size (with rechargeable battery installed)</p> <ul style="list-style-type: none"> ➤ Weight (TOP) Approx. 220 g (7.8 oz.) ➤ Instrument housing:-Instrument shall be constructed of a high strength non- corrosive polymer material with an integral rubber boot to be durable against an accidental dropping from a height of 1 m (3.2 ft.) ➤ Shock resistance :-The instrument shall have an integrated rubber protection and shock proof sensors to ensure resistance to impact and vibration ➤ Display:- Display is viewable at the front ➤ Fixation :-A safe fixation of the instrument shall be assured by the use of a crocodile clip ➤ Gases:-Instrument shall be capable of measuring combustible gases and vapours as well as O₂, CO, H₂S, NO₂, SO₂. ➤ Battery Options (Top):- Alkaline T3 or T4, rechargeable NiMH battery pack T4, with additional battery pack. 	01 Sets.
38	Paratech make or equivalent forcible entry tool kit (PRT kit)	02nos
39	Paratech make or equivalent Titanium axe	02 nos

II. Specifications of Mini Water Tender based on Water Mist Technology of 600 Ltrs Capacity

- a. The specification covers the requirements of design, manufacture, testing, supply of MINI WATER TENDER BASED ON WATER MIST TECHNOLOGY -600 Ltrs CAPACITY mounted on a 1 ton capacity chasis to be procured by the tenderer and the 600 Ltrs Mist equipment shall be mounted on it. The cabin shall have a seating capacity for Driver and 04 other members. The unit design is complete with opening roller shuttle frame which provide protection for the unit itself and easy transportation.
- b. The tender shall be suitable for extinguishing A, B class and electrical fires with live electrical installation upto 1000 Volts

2. DESCRIPTION

- a. The tender shall comprise following components
 - b. Water Mist Fire Fighting system
 - i. The water mist fire fighting systems shall have filling volume of 600 Ltrs of water. It should be designed to be mounted on most standard pickups and other small vehicles. It should have minimal requirements of space and weight while optimizing on manpower requirement and minimizing the water and other collateral damage to negligible in comparison to conventional water tender. The unit design is with foam induction system which provides variable foam dosing and suction of water from an external source for direct fire fighting or filling the tank.

3. Specifications of the Fire Unit

Weight of empty 600 Ltrs unit.....300 Kgs (Max)
 Max measurements of the unit (in mm): As compact as possible
 Usable Water capacity.....600 Ltrs
 No. of deliveries.....1- Nos

Main Extinguishing Gun

Flow Rate.....50 ltrs/min (+5%)
 Weight of extinguisher Gun.....2 Kgs Max
 Gun Dimensions..... As compact as possible
 Working Pressure on the nozzle: 60 bars max with nominal reaction

Throw.....Jet-not less than 15 mts (+/- 10%)
 Spray: 5m (+/- 10%)
 Hose Reel.....30 mts (standard) on manual drum
 Max set operating pressure.....60 bars
 Starter.....Electric starter with provision of Pull cord over-ride Level indicator mechanical
 Level Indicator.....Mechanical

4. Main Pump

The pump should be capable of suction of water from tank and to maintain adequate discharge rate and pressure for operation of nozzle at optimum efficiency.

Max Pressure.....40 Bars
 Power of the Engine.....Not Less than 13 HP
 Fuel.....Unleaded Petrol

5. ENGINE

- a. The prime mover for pump shall be 4-stroke Petrol driven engine and shall have compatible electrical and lubrication system. The engine should preferably be On 12V battery for which adequate charger shall also be provided. Suitable electronic instruments shall be provided on the body of engine! panel for fuel level, battery and temperature.

6. Foam Induction

A suitable means shall be provided for induction of foam from tank so that proportion for sirfgle or double delivery remains constant and foam quality Is maintained.

Size of foam tank40Its(Min).
 Max. induction6%

1. Accessories

Electric starter (Enabling the Unit to be Electrically started)	1
Utility light 12V 55W complete with telescopic bar	1
Complete control panel	1
Hour counter	1
Aspiration kit complete with 6 mtrs suction pipe	1
Electronic level indicator (For Fuel in Engine	1
Additional hose length of 30 mts. with Drum	1
Aqueous film forming foam (AFFF) in 20Ltrs Cap. 40 L1rs.	1 Per Set.
Cans	1
Tool kit	1

8 DESIGN & DEVELOPMENT:

8.1 The water tank shall be made of GRP giving a free corrosion for life and a lightweight of the WATER MIST SYSTEM, having useable water storage capacity of 600 Ltrs properly baffled into segment to reduce water surge. The thickness of the Main water tank should be of 5 mm minimum. A man hole of Ø330 mm avec overflow pipe and an optical level of water should be part of the tank. The tank should resist to the flame and be anti ignition complying with the standards

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The tank must be monolithic (one piece design) to eliminate the problem of the limited mechanical resistance to lateral and centrifugal forces of the tank when vehicle driven on uneven ground. The details of material of tank along with specification shall be indicated in the offer.

8.2 The Water Mist Fire Fighting System will be a self driven fire fighting unit operated with Inbuilt Petrol Engine coupled to a pump and attached with a reducer & hose pipes, Mist generating Guns.

8.3 The water mist system shall be capable of carrying 600 (Six hundred) liters of water (in the standard unit) made of non-corrosive material and for AFFF a separate system to pump and mix the required ratio, which can be discharged In the form of a mist from a gun.

8.4 The discharge gun shall be of light weight having stainless steel nozzle capable of producing Water Mist with the ability to control the discharge in short burst and long shots

8.5 The size of mist particle shall be in the range of 100 to 150 microns.

8.6 A suitable pressure reducer with a safety valve, capable of reducing to a low pressure not morethan 40 bars & Jerk free working pressure shall be incorporated. The main vessel shall be corrosion free.

8.7 The foam required shall be aqueous film forming foam (AFFF)

8.8 The unit shall have adequate provisions for safety of the system

9. SAFETY DEVICES

9.1 The following safety device shall form part of equipment.

I. The system shall be provided with pressure safety valve.

II. The system will have proper heat & exhaust outlet for the engine with cut causing any interference to the operator while operating the unit.

III. Any other safety device which is felt to be necessary to be a part of the equipment.

11. MAIN WATER TANK

- 11.1 The water shall be made of corrosion resistant material having useable water storage capacity of 600 Ltrs properly baffled into segment to reduce water surge. The details of material of tank along with specification shall be indicated in the offer.

12 GUN

- 12.1 The gun shall be provided with a suitable stainless steel filter. The discharge rate of main gun shall not be less than 50 Itrs./ Min. at pressure not exceeding 12 bars. The second gun should have a flow rate not exceeding 20LPM. The design of gun shall be such that there is no appreciable re-coil pressure and the throw shall not be less than 15 mts. (Jet Mode) and shall not be less than 6 meters (Spray mode). The throw from second gun should not be less than 10 mts

13. HOSES

- 13.1 The hoses provided in the system shall be high quality and shall be capable of holding the temp, ranges -20o to + 55oC. The material specification, working pressure, test pressure and cracking pressure should be indicated for each type of hose. The minimum length of each hose should be 30M

- 13.2 The seals and O-rings used in the system should be of synthetic material like Nitrile rubber or equivalent.

14. PERFORMANCE

- 14.1 The system shall have minimum performance rating of extinguishing 100 Itrs of Petrol (90 Octane) fire with 2.8 m2 surface area in 15 seconds using main gun (50LPM). The extinction time shall be reduced by one second for each additional 2 LPM 01 flow rate. Pre-burn shall be 60 seconds. The test shall be carried out at an ambient temperature of 21 o C. The extinction time shall be increased/decreased by 1 second for every 3 o C above/below 21 o C. The operator shall have flexibility to move at safe distance for effective fire control

15. OPERATING CONDITIONS:

Water Mist Fire fighting system shall operate satisfactorily under the following climatic conditions.

- Variation of ambient temperature from-20 deg.C To 55 deg.C with 98% relative humidity.
- Dusty and corrosive atmosphere with dust content in air up to 1.6 gm/ cubic mtr.
- Altitude- Up to 1200m above Mean Sea level.

16. Marking

Marking shall give details of capacity, manufacturer's name, month/year of manufacturing of the system etc.

16. Test of acceptance of firefighting system

Physical dimensions, performance & weight check of equipment as given under different items above shall form part of test of acceptance.