

DETAILED SPECIFICATIONS FOR

NAME OF WORK: **Designing, Commissioning, Fabrication, Erection & Testing of Mini Rescue Tender with Fire Fighting Capabilities for the use of Fire Services of Urban Local Bodies**

The said mini fire rescue tender with fire fighting capabilities is the basic requirement for any fire service. (The word rescue tender etc should be read as one only).

The successful tenderer will have to complete the work as per specifications stipulated below and complete the vehicle in all respect to put into operation and ready to use.

Note:

1. Wherever makes of any equipment is given it shall always be read in continuation word "or equivalent"
2. Wherever the numerical is used indicating dimensions / measurement of any equipment or material, tolerance of +/- 10% shall be accepted.
3. Wherever the items / equipment is mentioned having NFPA or EN requirement, for all those equipment, proper certificate regarding the same shall be supplied by the OEM / Fabricator.

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1.0 Chassis:

1.1 The chassis shall be Indigenous make having following specifications:

- i. GVW: not less than 3.5 Ton
- ii. Wheelbase: not more than 3050 mm
- iii. Power: not less than 100 kW
- iv. Torque: 300 Nm
- v. Drive: Four-wheel power train (4x4)
- vi. Fuel Tank Capacity: Min. 60 liters

1.2 The chassis shall be a right-hand drive confirming to BS VI OBD II or latest applicable emission norms.

1.3 The chassis shall be equipped with full two doors, for driver and officer in the front.

Back up support letter for supply of chassis and spare parts, service support for ten years from OEM shall be submitted along with the bid.

2.0 Driver cum Crew Cabin :

2.1 The crew cabin shall be Fabricated in addition to clause 1.3 having additional seating capacity for minimum 02 fireman seating behind Driver seat. The crew cabin shall be secured to the chassis frame by any suitable means. The crew cabin shall be equipped with two additional doors having windows on both the sides.

3.0 Rear Body, Stowage and Lockers:

- 3.1 Rear body shall be fabricated with aluminium profiles of suitable size same as of crew cabin. The drawing shall be submitted by bidder for the prior approval of the competent authority.
- 3.2 Sufficient number of lockers shall be provided at both the sides of rear body for keeping rescue tools, power generator and other accessories.
- 3.3 The lockers shall be arranged in such a manner that the load distribution shall be equal on both the sides. The lockers shall be divided into compartments and halves as per the requirement.
- 3.4 Lockers shall be provided with aluminium shutters including the water mist firefighting system compartment. The aluminium shutters shall be water tight with suitable rubber packing and shall be of reputed make.

4.0 Tools and equipment's mounting:

4.1 The water mist firefighting system consist of water tank, foam tank, hose reel, fire pump etc. shall be properly stored and fitted in the rear compartment. The mountings for all the tools and equipment provided in the vehicle shall have easily accessible.



- 4.2 The tools shall be mounted at suitable locations in such way that the vehicle inside space can used more effectively. Proper fastening arrangement shall be made for keeping all the accessories, tools and gears in the vehicle considering speed of vehicle while responding to emergency call.

5.0 Water and Foam Tank:

- 5.1 The water tank of 300 litres and Foam tank of 30 litres shall be fabricated from anti corrosive material such as High-density polyethylene (HDPE) or GRP. The tank design shall be such that it should prevent the surge of water while the vehicle is in motion, accelerating, braking in speed and turning.
- 5.2 Suitable lifting eyes shall be provided on the shell of water tank to enable it to be lifted from the vehicle for repairs / replacement as and when required. The tank shall be fitted with 50 mm overflow pipe of suitable non-corrosive material and it shall be taken down below the chassis but without reducing the ground clearance.
- 5.3 The tank shall be provided with one 63 mm instantaneous hydrant connection with non-return valve and strainers for filling the tank through 50 mm bore pipe of non-corrosive material. The water tank shall have one threaded manholes of 100 mm diameter.
- 5.4 The final drawing of water tank shall be submitted along with bid.

6.0 Fire Fighting System:

- 6.1 The firefighting system shall be water mist system and shall allow the operator to attack fire from a safe position. The flow and pressure of the pump shall not be less than 38 LPM and at pressure of 90 bars. The pump shall be driven by suitable driving system.
- 6.2 The panel shall be labelled and installed to be easily visible from the operator's position. The following instruments and controls shall be provided on control panel.
- On/Off Switch.
 - Emergency Stop Switch
 - Pressure gauge
- 6.3 The pump shall be provided with high pressure gun having a handle, should be provided with facility to adjust the flow rate, high pressure ball valve with locking lever to select the type of jet. The gun shall have the following features:
- Flow: min 38 LPM
 - Working Pressure: Not less than 100 bar
 - Throw: min 15 meters
 - Weight: Not more than 4 kg.



7.0 Hose Reel:

- 7.1 The Firefighting system shall be provided with reputed make manually operated hose reel. The hose reel shall be provided with ½" dia. X 30 m reinforced hose. The reinforced hose shall sustain working pressure up to 150 Bar & sustains temperature from -20 to +55 Deg C.

8.0 Electrical System:

- 8.1 All the important electrical circuit with separate fuses suitably indicated and grouped into a common fuse box located at an accessible position shall be provided for all the system other than chassis system.

9.0 Painting:

- 9.1 Before painting all surfaces of steel structures shall be treated for corrosion resistance carefully after which they shall be primed and then applied the coat of approved paint. For very high corrosion resistance of hollow structures such as steel profiles shall be treated with anti-corrosion protection.
- 9.2 The entire appliance shall be painted with Fire Red paint i.e. RAL 3000 using double coat spray painting on the outside. The user's (ULB's) name and logo will be written on both-sides with yellow colour (in English & Marathi).

10.0 Marking / Name Plates:

- 10.1 All the lockers / cabins will be provided with SS name plates with letters etched on it boldly indicating the content
- 10.2 Each appliance shall be clearly and permanently marked with the following information:
- 10.1.1 Manufacturer's name, or trade-mark, if any;
 - 10.1.2 Serial number of the pump body and year of construction;
 - 10.1.3 Capacity of pump, in l/min;
 - 10.1.4 Capacity of water tank, in litre;
 - 10.1.5 Nominal speed, in rev/min;
 - 10.1.6 Transmission ratio of the PTO;
 - 10.1.7 Working pressure, in kg/cm²;
 - 10.1.8 Direction of rotation of the pump shall be indicated by an arrow and this shall be permanently marked on the pump body; and
 - 10.1.9 Lubrication points, drainage devices, etc, shall be colour coded.
 - 10.1.10 Engine & Chassis no.
 - 10.1.11 Instructions for Driver in cabin / panel



11.0 DOCUMENTS :

11.1 Following Documents shall be submitted during the bidding process and after the delivery such as :

General layout of the tender / equipment layout.

EN / CE Certificate as per applicability from third party (self-certification not permissible)

Flow diagram of Electrical system

Locker drawings

User Manual and Instruction Booklet-

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

12.0 ANCILLARY EQUIPMENTS :

12.1 The ancillary equipment as given in the Annexure A of this specification shall be provided along with the vehicle.

13.0 INSPECTION.

13.1 Inspection will be carried out by representative from the Director & Commissioner, Municipal Administration or any authorized person by Director. It is hereby suggested that there should be minimum three member panel in the inspection team.

13.2 Expenses towards lodging boarding of inspecting team members should be born by the Company. To and fro expenses towards the travelling of the team members from the journey place to the works will be borne by the successful tenderer and the offer shall contain all such expenses.

13.3 Advance notice of at least 1 week should be given by the fabricator; however the fabricator must keep the vehicle ready for stage wise inspection before giving such notice to Purchaser i.e DMA.



14.0 TRAINING

- 14.1 The successful tenderer has to arrange training for the personnel of ULB's Fire Service in handling, operation and maintenance of the equipment as mentioned in the Annexures. The training of minimum 2 sessions at ULB's fire station shall be conducted. The training shall cover operation, handling and maintenance of all the tools equipment and gears listed under this tender.
- 14.2 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.

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ANNEXURE - A

List of Equipment's to be stowed/provided along with the vehicle

“Note: For the Items specified in Annexure A, deviation of +/- 15 % is permitted.”

Sr. No.	Item Description	Qty.
1	<u>FIRST AID MEDICAL KIT</u> - The approx. dimensions of the bag shall be suitable to accommodate all the articles. - It shall include a Medical First Aid kit for 25 Persons. - It shall include CPR Masks – 3 Nos. - It shall include adjustable Collars – 5 Nos. - It shall have Ambu Bags for Child 1 No. and Adult 1 No. - It shall have colour coded Airway Oral Sets of different sizes – 60 mm, 70mm, 80mm, 90mm, 100mm.- 1 No. each. - It shall have Emergency adjustable Flexible Splints of Large, Medium and Small Size (Set of Three) – 1 No. - It shall have 5 Nos. of Glasses for Eye Protection.	1 Set
2	<u>RECHARGEABLE TORCH</u> - It should be LED rechargeable torch made out of thermoplastic housing with rubberized cushion grip. - It should be very compact and dimensions should be less than: Length -7.5 X Width-5 x Height -6.5 inches. Weight should be less than – 2 LBS. - It should work for at least three hours once fully charged. High Output should be minimum 145 Lumens and Low output should be minimum 70 Lumens.	04 Nos.
3	<u>COMBI TOOL:</u> - The combi tool shall provide for both cutting and spreading. - The combi tool shall comply the technical specifications as per NFPA 1936 or EN 13204 standards. Back up support letter for supply of combi tool, spare parts and service support for ten years from OEM shall be submitted along with the bid.	1 Set

9182



4	RAM: - The ram shall provide for push and pull. - The ram shall comply the technical specifications as per NFPA 1936 or EN 13204 standards. Back up support letter for supply of ram, spare parts and service support for ten years from OEM shall be submitted along with the bid.	1 Set
5	<u>STRETCHER</u> - The stretcher shall be folding type to allow length adjustment as per patient height. - The stretcher shall comply approx. following dimensions; Maximum Length – Approx. 200 cms. Load carry capacity – minimum 150 kgs.	1 No.
6	<u>ABC TYPE FIRE EXTINGUISHER</u> - The fire extinguisher shall be stored pressure of DCP ABC type of 6 kg capacity. - The extinguisher shall be ISI marked. - The extinguisher shall meet IS 15683 standards. - The extinguisher shall be fixed in the vehicle at suitable position in upright condition and shall be fastened properly. - The ABC type effective at extinguishing fires that involve ordinary combustibles, such as wood, cloth, and paper liquids, greases, gases, electrical equipment's.	1 No.
7	<u>WINCH</u> - Winch shall be operated suitably and fitted in the front of vehicle on heavy duty mounting bracket - A pulling capacity of the winch shall not be less than 2 ton and controlled by wired or wireless controller. - Wire cable of minimum 15 m length on rope drum with replaceable self-locking clevis hook shall be provided. - The winch should comply relevant safety standards.	1 No.
8	<u>LIGHT MAST</u> - A compact, low profile, roof mounted lighting mast system shall be fitted with 2 x 50 watts or equivalent LED lamp. - The mast shall be vertically elevated and pneumatically extended min. 1000 mm from the roof of the vehicle.	1 No.

	• The mast control is provided by a 12 V DC remote controller. • It shall have directional lighting system with 360 degrees rotation and 180 degrees tilt lamps to provide total coverage. • The remote-control unit shall allow a person to operate all the functions of the light mast and accurately aim for complete directional positioning. • The total maximum weight of the light mast shall be less than 55 Kgs. It shall be manufactured in lightweight aluminum and stainless-steel materials.	
9	<u>PNEUMATIC LIFTING BAG</u> • The insertion height of the bag shall not be more than 25.4 mm. • The working pressure of the bag shall be 8 bar and it can be inflated by SCBA cylinder. • The lifting capacity shall not be less than 20 Ton. • The lifting height of the bag shall not be less than 240 mm. • The maximum weight of the bag shall not be more than 13 Kgs. • The pneumatic lifting bags shall be provided with following accessories. Pressure reducer 300 bar to 8 bar – 1 no. Control box for operating 2 airbags with pressure gauges and carrying strap –1 No. Single control unit –1 No. Air Hose 5 meters – 2 Nos. Air hose 10 meters – 1 No. Shut off hose with safety valve – 1 No. Connection piece to connect two air cylinders – 1 no. • The pneumatic bags shall be of reputed make and should confirm to EN 13731:2007.	1 No.
10	<u>NYLON ROPE</u> • The rope shall be Nylon or Polyamide having 12.5 mm dia. and 30 meters length. • The rope shall meet CE EN 1891 Type A standards. • Strength ties with figure-eight knot min. 15 kN • Strength with sewn termination min. 22kN	1 No.



11	<u>EMERGENCY SUITCASE LIGHT:</u> - The lighting system shall be portable, light weight, and packed in easy to carry box. - The light shall have multiple LEDs to give light intensity of minimum 8000 lumens. - The run time shall be min 8 Hours. - Charging time 2 to 3 hours - The light should be store in outdoor type box and should be water proof.	1 No.
12	<u>MULTIPURPOSE SEVEN IN ONE HAND TOOLS KIT:</u> - Tool shall be made out of high-grade tempered steel, 34 inches handle. - The head of axe shall be 3.5-pound hudson bay style. - The tool shall have Leather axe sheath. - The weight of the tool shall be approx. 12.5 pounds. - Tool Kit shall comprise of following tools: Axe with sheath, Shovel, Mclead Reversible Roke/ Hoe, Safety Locking pins, Broad Pick, Pick, Mattock.	1 Set
13	<u>BATTERY OPERATED WOOD CUTTER – 01 NO:</u> - The cordless chain saw strong reliable with a 160 Wh lithium-ion rechargeable battery for up to 150 cuts in squared spruce timber (10 cm x 10 cm). - It shall have 30 cm long guide bar. - It shall have electronically-controlled electric motor (EC) that shall be brushless, low-wear and works with outstanding staying power. - The machine shall be of reputed make and shall meet relevant safety standards.	1 No.
14	<u>LIFE JACKET:</u> - The jacket of universal size should be so designed to save human life in water. - It should be made of highly visible international "Orange" colour, rot proof nylon, stuffed with polyurethane foam with nylon webbing and retro- reflective tapes. - It should be highly buoyant even when punctured or torn, waterproof and noninflammable.	4 Nos.



	• It should confirm to SOLAS 1983 (IM) Resolution A 689 (17) or CE or MMD approved. • The life jacket should have name of the department at the back side as per fire brigade requirement. • The Life Jacket shall be of reputed make	
15	SPADE- High strength steel with fiberglass handle	1 No.
16	Rubber Gloves- 33 kVA tested	5 pairs
17	Asbestos Gloves- Full Size	5 pairs
18	Seat Belt cutter cum window glass breaker	1 No.
19	Craw bar- 6 inch long	1 No.
20	Sledge Hammer 6.5 kg, IS-841	1 No.
21	Bolt Cutter- 14 inch	1 No.
22	Rescue Harness	1 No.
23	Tool Kit	1 Set
24	Pick Axe wooden handle marked with IS 273-1973	1 No.
25	Mitten Gloves	1 Pair

