



Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

An ISO 9001
Company

ENQUIRY NOTICE INVITING TENDER	Phone: +91 431 257 76 53 Fax : +91 431 252 00 31 Email : skaruna@bheltry.co.in Web : www.bhel.com
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TWO PART BID Tender to be submitted in two Parts	Enquiry Number: 2621300071	Enquiry Date: 07.12.2013	Due date for submission of quotation: 20.01.2014
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You are requested to quote the Enquiry number date and due date in all your correspondence. This is only a request for quotation and not an order.

Please note that under any circumstances both **delayed offer** and **late offers** will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before **14.00 hrs** on the Date of tender opening.

Item	Description	Quantity	Delivery Period	Delivery Terms
10	Fabrication, Supply and Commissioning of Fire Tender with the scope of work as detailed in the technical specification & commercial conditions applicable (to be downloaded from web site www.bhel.com or http://tenders.gov.in)	01 No.	6 Months from PO date	F.O.R, BHEL Stores, Power Plant Piping Unit Karaikudi Road, NH 210 Thirumayam – 622 507 Pudukotai District, Tamil Nadu
20		03 Nos.	9 Months from PO date	F.O.R ,BHEL Stores, HIGH PRESSURE BOILER PLANT, BHARAT HEAVY ELECTRICALS LIMITED, Tiruchirappalli- 620014, Tamil Nadu
30		01 No.	10 Months from PO date	F.O.R, BHEL Stores, POWER EQUIPMENT FABRICATION PLANT, BHARAT HEAVY ELECTRICALS LIMITED, Mundipar- 441804, Sakoli Taluk, Bhandara District, Maharashtra.

Important points to be taken care during submission of offer:-

- The different delivery requirements of the Respective Fire Tenders is as mentioned in the above table.
- Compliance Form No: **TRY/IND/05 - Fire Tender and Annexure-II (Details of Company Performance)** as applicable to the vendor to be filled in and enclosed along with the offer failing which, their offer will not be considered for evaluation.
- EMD for this Tender will be Rs. 2,00,000/-.

All updates, amendments, corrigenda, etc., (if any), for each tender will be posted only on the above websites from time to time, as and when required, until each tender is opened. There will be no publication of such updates, amendments, corrigenda, etc., through newspapers or any other media.

BHEL's General guidelines / instructions (refer **MM / CE / GENL / 001 - EMD**) including bank guarantee formats and list of consortium banks, commercial terms check-list can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units > Bharat Heavy Electricals Limited page) under Enquiry reference "2621300071".

Tenders should reach us before 14:00 hours on the due date
Tenders will be opened at 14:30 hours on the due date
Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present

Yours faithfully,
For **BHARAT HEAVY ELECTRICALS LIMITED**

Sr. Manager/Capital Equipment/MM

PART - A**QUALIFYING CRITERIA FOR FIRE TENDER****SECTION – 1 : Qualifying Condition**

SI No	Requirements	Vendor's Offer
1.0	QUALIFYING CRITERIA	
1.1	The BIDDER / VENDOR (OEM) shall have a minimum of TEN Years of Continuous Experience in the Design, Fabrication & Supply of “COMBINED FOAM TENDERS / MULTI-PURPOSE FIRE TENDERS” . Vendor may indicate the actual no. of years of experience in the field	
1.2	<p>Only those vendors (OEMs), who have manufactured, supplied and commissioned at least two FIRE TENDERS mounted with all the following:</p> <ol style="list-style-type: none"> 1. Water tank capacity of 3500 litres or more 2. Foam tank 3. CO2 fire extinguishers cylinders 4. DCP cylinder <p>in the past five years are only eligible to quote.</p> <p>Such supplied Fire tender should at present be working satisfactorily for at least one year after its commissioning (as on Original date of opening of this Tender). The name and contact addresses of the customers to whom the Fire Tenders have been supplied have to be furnished with details.</p>	
1.3	Vendor has to submit at least TWO Performance Certificates from Central Govt/State Govt/Public sector/Private Organisations (Preferably from Govt or Public Sector Organisation) for satisfactory performance of Fire Tenders as given in under clause 1.2 above , for a minimum period of one year (as on original date of tender opening) from the date of commissioning. For obtaining the Performance certificate, a suggestive format is provided.	
1.4	BHEL reserves the right to verify the information provided by the Vendor for the referred Fire Tender at their referred customer's works. It shall be the responsibility of the vendor to facilitate the visit of BHEL's team at their referred customer works .The Travel, Boarding and Lodging expenses for BHEL Personnel shall be borne by BHEL. In case the information provided by vendor is found to be false/ incorrect, the offer shall be rejected.	

SECTION – 2 : Additional Information

SI No	Requirements	Vendor's Offer
2.0	INFORMATION TO BE PROVIDED BY VENDOR	
2.1	Vendor to compulsorily provide the Reference list of Fire Tender supplied to Govt dept/Public Sector/Private Sector with details of Organisation to which supplied (Complete address, PO No/PO date, PO delivery date ,Qty Supplied, Actual Delivery Date, Contact person with details of phone Nos, FAX No, E-mail)	
2.2	Specify details of Fire Tenders supplied to other units of BHEL, if any (Type and Year of commissioning)	
2.3	Details on SERVICE-AFTER-SALES Set-up in India including the Address of Agents / Service Centres in India.	
2.4	Any Additional data to supplement the manufacturing capability of the BIDDER for the subject equipment.	
2.5	Product catalogues to be provided with the offer	

SECTION – 3:

The BIDDER to note:

S NO.	REQUIREMENTS	VENDOR'S RESPONSE
3.1	The BIDDER / VENDOR shall submit the offer in TWO parts. 1. Technical Offer [with PART A & PART B] 2. Commercial Offer and Price bid.	
3.2	The Technical Offer shall contain complete details against all clauses of Technical Specifications given by BHEL.	
3.3	The Technical Offer shall be supported by copies of product Catalogues, DataSheets and technical details of Bought- Out- Items.	
3.4	The Commercial Offer (given with the Technical Offer) shall contain the Scope of Supply and the Un-Priced Part of the Price-Bid, for confirmation.	

Suggestive Format of Performance Certificate:

The performance certificate should be produced **on Customer's Letter Head**.

PERFORMANCE CERTIFICATE

- 1 Supplier of the Fire Tender :
- 2 Make & Model of the Fire Tender :
- 3 Month & Year of Commissioning :
- 4 Fire Tender Details :
 - a) Chassis make
 - b) Water Tank Capacity
 - c) Foam Tank Capacity
 - d) CO2 fire extinguisher (number & capacity)
 - e) DCP fire extinguisher (number & capacity)
- 5 Performance of the Fire Tender : Satisfactory / Good / Average / Not Satisfactory
(Strike off whichever is not applicable)
- 6 After sales service : Satisfactory / Good / Average / Not Satisfactory
(Strike off whichever is not applicable)
- 7 Any Other remarks :

Date:

Signature & Seal of the Authority
Issuing the Performance Certificate

PART - B

Technical Specification for FIRE TENDER

Note:-

1. The Column “**Vendor’s offer with Technical details & Remarks**” of this format shall be filled in by the Vendor and submitted along with the offer. Inadequate / incomplete, ambiguous or unsustainable information against any of the clauses of the specifications / requirements shall be treated as non-compliance.
2. The offer and all documents enclosed with Tender should be in **English language** only.

Name & Address of the Vendor (OEM):
Telephone No.:
Fax No.:
e-mail:

Total number of Fire Tenders: 5 Nos

Fire Tenders are to be delivered at following locations:

- | | | |
|--|---|--------------|
| 1) HPBP, BHEL, Trichy, Tamil Nadu - 620014 | - | 3 Nos |
| 2) PPPU, BHEL, Thirumayam, Pudukottai Dt. , Tamil Nadu | - | 1 No |
| 3) PEPF, BHEL, Sakoli, Bhandara Dt., Maharashtra | - | 1 No |

Scope: - Procurement of Chassis, Fabrication, Supply & Commissioning of **FIRE TENDERS** for BHEL complying with the Specification as below.

A	General condition	Vendor's Offer
1.0	Fabrication of Fire Tender on the Chassis shall be either "TATA 1613" or "ASHOK LEYLAND 1616"	
2.1	Service warranty for the chassis should be indicated in their offer.	
2.2	It is mandatory that the vehicle will be registered in the name of BHEL Trichy. Accordingly chassis will be registered (temporary) in the name of BHEL Trichy by the supplier.	
2.3	Vendor should indicate the cost like Comprehensive Insurance, Road tax and temporary registration charges, etc. separately in their offer.	
2.4	All inclusive rates are considered for finalizing the offer(Cost of Chassis+ Fabrication of the vehicle + Temporary Registration and Transit insurance +all taxes and other expenses to deliver the vehicle at the units as mentioned above)	
2.5	Supplier may indicate in the offer the additional benefits that could be allowed on free of cost.	
2.6	Vendor should enclose the Technical data sheet of Chassis for technical evaluation for their offered model.as above	
B	Design, Fabrication and Supply of FIRE TENDER complying to the following specification	
1.0	<u>General</u>	
1.1	Water tank-3500 litres capacity	
1.2	Foam-500 litres capacity	
1.3	Pump – rear mounted driven through PTO (PTO shall be operated from the driver cabin either Hydraulic or Pneumatic and additional provision to operate PTO by Mechanically with wire type shall also be provided .(VAS / Fire Hawk)	
1.4	Water delivery - 3200 litres per min at 7.0 Kgf/cm ² , and through the Hose reel at 300 litres per min at 35 Kgf/cm ² (Fire Fly / Godiva / Rosenberg / UL Listed)	

1.5	Water foam solution delivery through Monitor and 2 side line - 3000 litres per min at 7Kgf/cm ² and not less than 2500 litres per min at 9 Kgf/cm ² through Monitor.	
1.6	Hose reel – High pressure Hose reel should be mounted at the rear of the appliances with 60m X 19mm. Single piece Hose Tubing Terminating in a high pressure jet/spray gun	
1.7	Supplementary Agent – CO ₂ (2 set of 02 Nos X 22.5 Kg) with 22.2 mtrs High pressure hose reel with discharge horn .and DCP (75 Kg X 2 Nos) with 22.2 mtrs High pressure hose reel with discharge gun be provided.	
1.8	A Variable round the Pump proportionator should be fitted between suction and delivery of the Fire pump. The proportionator should have Five position select or valve.	
1.9	Towing hook as per IS:8298 latest edition at rear side	
1.10	Execution of work and using of materials in regard with fabrication of fire fighting vehicle and its accessories, workmanship, shall be related to standard specification of IS Latest Edition. If any improvement is necessary to be added with manufacturing of appliance for modular Fire Fighting Vehicle is to be taken care by Vendor.	
1.11	Detailed drawings shall be submitted within 3 weeks from the date of PO (in case of an order) for approval by BHEL..	
2.0	<u>Material selection and treatment</u>	
2.1	Fabrication material lightness with strength and durability	
2.2	Timber shall not be used	
2.3	Water ways, foam compound ways shall be corrosion resistant material Pipe lines, joints flanges and all metal parts exposed to atmosphere be not dipped and galvanized Pipes and pressure parts withstand 2 times the maximum working pressure.	
3.0	<u>Design and Construction</u>	

3.1	Super structure designed on Modular Concept with easy accessibility for maintenance and repairs at sub assembly and Lubrication points.	
4.0	<u>Water Tank</u>	
4.1	Water tank mounted on chassis capable of carrying 3500 litres, welded construction with SS sheet as per AISI 304 latest edition Bottom and Side 5mm thick, Baffles not less than 4 mm thick.	
4.2	Baffled in both side to avoid surge while accelerating, cornering and breaking.	
4.3	Tank mounted on appliances at the centre of gravity.	
4.4	4 Nos of Folding type lifting eye on the shell of the tank for lifting the tank	
4.5	Man hole in 45 cm dia on the top of the tank fitted with removable strainer and manhole cover with washer	
4.6	Drain cock and pipe in 75 mm dia and taken down to a point below the chassis with ground clearance	
4.7	Over flow pipe in 100 mm dia	
4.8	2 filling pipe for hydrant connection in 63 mm dia with male and female coupling with strainer. Water level indicator either in gauge or acrylic tube	
5.0	<u>Plumbing</u>	
5.1	Self-filling of water tank directly from the pump through 50 mm pipe	
5.2	Plumbing between tank and pump shall have clear water way not less than 100 mm throughout with brass wire screen filter	

5.3	Plumbing between pump and hose reel have clear way not less than 25 mm through out	
5.4	Two isolating butterfly valve of 125 mm ID between pump and outside suction hose and Tank to Pump	
5.5	Direction for cock valve open/close shall be clearly marked	
6.0	<u>Priming of surface for Water tank</u>	
6.1	Primer touch up will be done on cut edges, burnt, weld.	
6.2	The tank shall be connected to the pump and hose reel and control valve with any of the operation Hydrant to tank, hydrant to reel, tank to pump to reel, hydrant pump reel to adopter 100 mm X 63 mm, pump to tank.	
7.0	<u>High pressure Hose reel (As per IS 950:2012)</u>	
7.1	High pressure Hose reel be mounted at the rear side of the appliance	
7.2	High pressure Hose reel with 60 mtrs length, 19 mm dia of single piece along with high pressure jet/spray gun outlet and bevel gear type to prevent over run of Hose reel	
7.3	A separate handle to be facilitated for manual rewinding the Hose reel	
8.0	<u>Pump</u>	
8.1	Preferably in accordance with EN: 1028 (latest) 1&2 norms or equivalent – UL Listed / Fire Fly / Godiva / Rosenberg (Vendor to specify the make).	
8.2	Multi pressure / High and Low pressure pump be mounted at the rear side of the appliance	
8.3	Centrifugal type pump conforming to IS: 5120 latest edition easy accessible to the impeller	
8.4	Pump shaft in SS conforming to 04 Cr 18 Ni 10 of IS 6603 / SS of 304. The shaft shall be supported by anti-friction bearing, mechanical carbon seal self-adjusting type to be provided.	

8.5	Impeller neck ring must be made of copper alloy, gun metal drain plug to be provided	
8.6	Impeller dynamically balanced and no leakage from pump casing, hydraulic pressure subjected to 1.5 times the shut of pressure and twice the rated pressure	
8.7	Gun metal suction eye for 100 mm dia suction hose connection with internal strainer and gun metal blank cap fastened with SS chain	
8.8	Two delivery valves at the panel 63 mm dia delivery hose coupling and gun metal blank cap with screwed type quick closing clack valve in standard hose connection	
8.9	Pump to be coupled with prime mover through PTO unit with operation (Hydraulic/Pneumatic) from the driver's cabin and to operate with a ratio of 1:1.42. PTO must be provided with oil level indicator and cooling circuit.	
9.0	Pump out put : 3200 litres per min at 7 Kgf/cm ² and through the Hose reel at 300 litres per min at 35 Kgf/cm ²	
10.0	Engine R.P.M. : Not to exceed 2400 rev/min when the pump is delivering its rated output at 7kgf/cm ²	
11.0	Primer	
11.1	The primer shall be Water Ring auto priming type and shall be capable of lifting water from a depth of 7 m not less than rate of 30 cm/sec	
11.2	Primer shall be made in gunmetal	
11.3	Provision for limit the speed of engine when prime is engaged.	
11.4	When pump is primed auto disengage primer to be provided.	
12.0	Cooling system	
12.1	In addition to radiator cooling inter cooler tank made of 1.5 mm thick brass sheet for indirect cooling system while continuous stationed running of the engine	

12.2	Cooling water from PTO and additional cooling tank be connected through GI pipe and brought back near the Pump panel. Minimum 5 mtrs length flexible rubber hose shall be connected to the open end for discharge of waste cooling water	
12.3	Engine cooling water shall be thermostatically controlled.	
12.4	The oil in the sump shall be prevented from overheating	
12.5	Gauge for cooling water and glow lamp for Lubricant system shall be provided in the drivers cabin and on the Pump panel	
13.00	<u>Foam tank</u>	
13.01	A compound tank of 500 Ltrs capacity mounted on the chassis, shall be separated for removal and replacement	
13.02	Construct with SS sheet and rigid type as per AISI 304 latest edition	
13.03	Thickness shall be 3 mm on all area	
13.04	Manhole of 450 mm dia on top with SS strainer, marked foam covered with aluminium casting plate	
13.05	Fitted with 2 lifting eye placed diagonally	
13.06	Foam Tank shall have top dished / funnelling arrangement provided to enable easy filling of 20 Lts of foam drum. Sharp edged puncturing device to be provided for puncturing foam compound drum	
13.07	Foam tank fitted with removal sump and drain valve	
13.08	Foam draw off tube fitted with gauge strainer with mesh	
13.09	Provide automatic venting of the foam compound tank	
13.10	Draw off tube length connected to foam compound tank as short as possible, for easily dismantling, cleaning and thorough flushing.	

13.11	Provision for external source to draw foam compound through a pick up tube	
13.12	Provide hand operated foam transfer pump made of gun metal capacity of 20 Ltrs/min with SS plumbing and ball valve fitted in a locker	
13.13	Pick up tube connection at pump control panel	
13.14	Foam level indicator either in meter gauge or acrylic tube	
13.15	Foam level indicator marked with empty, 1/4, 1/2, 3/4 and full on SS plate	
13.16	Foam indicator protected with aluminium bracket sheet 1 mm thick	
14.0	<u>Foam compound proportionator / Inductor</u>	
14.1	Around the pump Proportionator should be fitted between suction and delivery of the pump, which will induct foam compound into the water stream, with no loss in delivery pressure from the pump.	
14.2	The proportionator shall comprised of an induct and select valve which should have Five parts, calibrated to ensure the correct intake of the foam liquid at the rate of 5 to 6% to supply solution for the operation of foam making branch pipe.	
14.3	Calibrated the intake of the foam at the rate of 3 %	
14.4	Provide "Off position" select for use of water tender	
15.0	<u>Foam monitor</u>	
15.1	Mounted manually operated Foam monitor on the roof locker behind the cabin Traversing 360 degree on horizontal and 60 degree vertical elevation from horizontal	

15.2	Self-aspirating type flow not less than 2500 litres per min at 9kgf/cm ² and expansion not less than 8 times and aggregate discharge not less than 20000 litres of foam.	
15.3	Foam discharge distance not less than 50m at 9 kgf/cm ² pressures	
15.4	Monitor assembly fabricated with light bronze alloy with locking arrangement in vertical angular position/telescopic stay rod/stand for holding monitor	
16.0	<u>Hand lines</u>	
16.1	2 hand lines be provided either side of appliance at rear in locker and kept in flaked condition	
16.2	Foam making branch pipes fitted with spray / jet attachment with hand control capable of delivering of water foam not less than 450 litres per min at 7 kgf/cm ² with expansion ratio of not less than 8 times and throw 20m when both are simultaneously used.	
16.3	Inner Dia of hose hand lines 70 mm dia length of 30m RRL / non percolating	
16.4	Control of Hand line outlet shall be ball valve type with standard hose connection	
17.0	<u>Supplementary Extinguishing agent</u>	
17.1	2 sets of 2 X 22.5 kg CO ₂ supplementary Fire extinguishers shall be provided with accessories and standard fixation and forged grip valve, discharge horn, applicator, tube discharge with wheel valve and hose reel. Common header and accommodated one set on each side on the lockers. Also 2 Nos of DCP Fire extinguisher of 75kg with discharge hose to be provided. Above each item will be mounted on lockers.	
18.00	<u>Instruments and Control</u> : Rear pump operating control shall have the following:	
18.01	Pressure gauge glycerine filled calibrated from 0 to 17.5 kgf/cm ² and 40kgf/cm ² for high pressure hose reel.	

18.02	Compound gauge glycerine filled calibrated as 0 to 17.5 kgf/cm ² and vacuum 0 to -1 kgf/cm ²	
18.03	Engine throttle control	
18.04	Foam select valve	
18.05	Control valve for auxiliary foam connection	
18.06	Ball valve /butterfly valve for tank to pump	
18.07	Valve for engine cooling	
18.08	Foam tank to induct and pump to induct isolating ball valves	
18.09	Valve for hose reel control	
18.10	Valve for direct filling of tank	
18.11	Ball valve for monitor operation	
18.12	Two 63 mm dia male instantaneous hydrant connections to be fitted with return valve with strainer. A ball valve fitted before NRV	
18.13	Suction inlet of pump with isolating valve control	
18.14	Two 63 mm dia female instantaneous delivery outlets of pump with wheel type quick closing clack valve	
18.15	Control for flushing out the foam making equipment and its plumbing	
18.16	Glow lamp for engine lubricating system	
18.17	Temperature gauge for engine radiator	
18.18	Engine rpm meter on dashboard in drivers cabin	
18.19	Pump hour meter	

18.20	The Ball valves used shall be of Stainless Steel. Investment casting of CF – 8 (m) grade with 3 piece design	
18.21	Caution plate in drivers cabin write up with PUMP ON/HAND BRAKE ON in red colour	
19.00	<u>Body work</u>	
19.01	Double compartment for driver and leader in front and crew of five in rear below the seat lockers shall be provided for keeping accessories.	
19.02	Afford maximum possible vision for the crew and adequate ventilation	
19.03	One seat out of five seats provided for crew members shall be facilitated withhold B.A System	
19.04	Two hinged doors on both side ready access to driver and crew opened to out ward	
19.05	Door shall be provided with 'Have' locks with double catch striking plate	
19.06	Non slip step and grab rails coated with plastic be provided for driver and crew for get in and out	
19.07	Seats made with 100 mm thick foam cushion and back rest in 50 mm thick.	
19.08	Hinges are heavy duty - 3 Nos for crew cabin and 2 Nos for driver cabin doors	
19.09	Driver seat shall be adjustable in front and back as well as up and down	
19.10	Glass of window door has winding type regulator and have splinter proof safety type	
19.11	2 Nos sun visors be provided on each side	
19.12	Rear view mirror in bigger size on both sides	

19.13	Provision to hold entire set of breathing apparatus to wear while on movement	
19.14	The construction of the cab shall be such that the roof shall support the weight of two men without damage.	
20.00	<u>Stowage</u>	
20.01	Cab and lockers in composite construction with rigid, reinforcement, and kept as light weight	
20.02	32 X 32 X 1.6 mm Square pipe grade "A" of IS used for super structure with zinc passivated coated thickness 18 to 20 microns after cleaning surface	
20.03	16 gauge Aluminium sheets for exterior panelling work for all over and 16 gauge MS sheet shall be used for inner locker walls.	
20.04	2mm Aluminium chequered sheet for all locker, cabin floor, top of cabin roof. Quality of aluminium as per IS 737 latest edition	
20.05	Lockers shall accommodate with stowage of all equipment and suitable arrangement shall be provided for securely clamping all the accessories in the locker and these shall be quick release type.	
20.06	Shadow marking for indicating location of equipment and articles in lockers	
20.07	Locker will provide with internal automatic lighting arrangements with master switch in the cabin. Locker shall be weather proof and self-drain valve to release all water following a wash down.	
20.08	Lockers easy accessible from ground to a man of average height (1.67mtr)	
20.09	The doors of the locker have efficient flush fitting spring loaded locks	

20.10	The locker facilitated to carry 2 Nos of 100 mm dia X 4.5 m long suction hose on the port side of the vehicle.	
20.11	The grab rails on both side of the top of appliance will 25.4 mm OD X 1.6 mm thick and 200 mm high.	
21.0	<u>Ladder gallows</u>	
21.1	Shall be provided to carry 10.5m Aluminium extension ladder. The design shall be such that the ladder can be released without difficulty from a reasonably accessible position and embody rollers to permit easy withdrawal by one man. Means shall be provided for locking the ladder when stowed. It shall be suitably positioned in a manner that does not provide any obstruction to the working of monitor.	
22.0	<u>Tool kit container</u>	
22.1	A suitable box to be provided for carrying all normal tools	
22.2	An electrical bell to be provided on the pump panel to send signal from pump panel to driver cabin	
23.0	Foot board : Two foot board at the rear of the appliance	
24.0	Stability: The appliance when fully equipped and loaded with crew, if the surface on which the appliance stands is tilted to either side should not virtues within 27 degree from the horizontal for which chassis will not be altered.	
25.0	Articulation : Suspension capability test to be conducted as per approved Vendor standard	
26.0	<u>Workmanship and Finish</u>	

26.1	Standard of workmanship and finish of all mechanical and other parts shall fit correctly	
26.2	Appliance painted with Fire Red colour on the outside and cream colour in cabin and locker	
26.3	Fire service insignia on both side of appliance in golden and black colour	
26.4	All switches and gauges identify with embossed/ engraved name plates	
26.5	BHEL emblem and lettering to be painted on the sides / front of the appliance by the vendor. The details shall be indicated in the final scope of supply	
26.6	Under chassis shall be painted black. Necessary anti-corrosion and priming coat shall be applied before painting.	
27.0	<u>Accessories:-</u>	
27.1	Fire bell : 252 mm dia (natural tone carillon) fire bell mounted externally on the left hand side below the extension ladder and it shall be of hand operated from driver cabin & Electrical siren of 2 Km range on roof of driver cabin be provided	
27.2	Fog lamp : 2 Nos of fog lamp mounted on front bumper	
27.3	Reversing lamp : Lamp suitably situated to assist reversing	
27.4	Red Blinker Light : Twin Red blinker light on head of driving cabin	
27.5	Spot Light : Adjustable, mounted in a convenient position on the near side of driving compartment.	

27.6	Tools: All tools required for normal routine maintenance of the appliance which are not included in the kit of the chassis.(To be specified by the Vendors)	
28.0	<u>Trafficators</u>	
28.1	1 set of illuminated with indicating light on instrument panel in driver's cabin	
28.2	Adjustable search light mounted in a convenient position and capable of disconnected and mounted on tripod away from appliance with 30 m TRS cable on a reel mounted on the appliances.	
28.3	Inspection lamp with bracket protected type of wonder lead with plug. A socket each shall be provided in control panel and in driver cabin	
28.4	Connection for tail lamp of trailer be provided	
28.5	Industrial grade trickle battery charger of minimum 6 A provided with 3 pin non-breakable plug/socket to 250 V a/c supply with 10 m main cable with charging cable directly connect to battery for charging 24 V battery set. Multi voltage select, red pilot lamp indicate the charge complete, provision for auto cut off , mounted under crew seat	
28.6	Cab, Instrument panel and locker lights	
28.7	Battery operated PA system of 15 watts output with mike and amplifier, loud speaker in driver's cabin.	
28.8	Towing hook be provided at rear of appliance to tow a 1 ton trailer	

C Equipments and Spares for FIRE TENDER complying to the following specification:			
S.No	Description	Qty per vehicle	Vendor's offer
	EQUIPMENTS:-		
01	100mm dia PVC Heavy duty Suction Hose for Fire Brigade use in 4.5 mtrs length fitted with round threaded male and female couplings Heavy duty made of copper alloy of 100 mm size including metal and basket strainer.	02 Nos	
02	RRL Fire delivery hose 63 mm rubber lined (Type – B) as per IS: 636 – 88 in 30 m lengths complete with GM couplings as per IS: 903	10 Nos	
03	Double male adopter	02 Nos	
04	Double female adopter	02 Nos	
05	Suction coupling 4” male and female round threaded	01 Nos	
06	Collecting Breech (Gunmetal)	02 Nos	
07	Dividing Breech (Gunmetal)	02 Nos	
08	Spine Board Stretcher	01 Nos	
09	Helmet with A I Bracket	06 Nos	
10	Manila Rope 30 mtrs 1” dia	02 Nos	
11	Aluminium ladder (Extendable) 35 feet FIR ESCAPE make (trussed type) (Angus type) D/E as per British JCDD Spec	01 Nos	
12	Breathing apparatus EN 137-2006 Part I approval (6 Ltrs water capacity of Carbon composite cylinder, 300 bar pressure with one spare cylinder)	01 Set	
13	Suction wrenches (IS: 4643-1968)	01 Pair	
14	Hose bandages, rubberised (IS: 5612 part I – 1977)	12 Nos	
15	Hose Clamps (IS: 5612, Part II – 1977)	06 Nos	
16	Hydrant valve key and bar (IS: 910 – 1980)	01 Set	

17	Fog Nozzle (IS: 952 – 1969) with extension applicator with fog head	01 Nos	
18	Hand controlled branch for 63 mm size hose coupling	01 Nos	
19	Branch pipe Universal (IS: 2871 – 1983)	01 Nos	
20	Branch with revolving head (IS: 906 – 1972)	01 Nos	
21	Branch pipe (IS: 903 – 1975)	04 Nos	
22	Nozzle of sizes 06 mm, 12 mm, 16 mm, 20 mm and 32 mm (IS : 903 – 1975)	02 each	
23	Adaptor for 100 mm suction female screw coupling and 63 mm male instantaneous.	02 Nos	
24	Adaptor double female instantaneous pattern 63 mm	02 Nos	
25	Adaptor double male instantaneous pattern 63 mm	02 Nos	
26	Nozzle spanner (IS: 903 – 1975)	02 Nos	
27	Portable electric box lamp with rechargeable accumulator	02 Nos	
28	Hand lamp: LED Bright light with chargeable	02 Nos	
29	Flameproof lamp (usable in the present of inflammable gases of vapours)	02 Nos	
30	First aid box for 10 persons	01 Nos	
31	Rubber gloves (in case) (IS: 4770 – 19680	01 Pair	
32	Asbestos guantlets (in case)	01 Pair	
33	Axe, large (IS: 703 – 1966)	01 Nos	
34	Spade	01 Nos	
35	Pick axe (IS: 273 – 1973)	01 Nos	
36	Crow bar (IS: 704 – 1968)	01 Nos	
37	Sledge hammer, 6.5 Kg (IS: 841 – 1968)	01 Nos	
38	Carpenter's saw, 60 cm (IS: 5098 – 1964)	01 Nos	
39	Hydraulic Jack – 7.5 tonne	01 Nos	

40	Fire hook (IS: 927 – 1981)	01 Nos	
41	Door breaker	01 Nos	
42	No. 5X Foam Making Branch Pipe	02 Nos	
43	Medium expansion Foam Generator	01 Nos	
44	Canvas Bucket ,18 Ltrs capacity (IS : 8857)	02 Nos	
45	Short Line 16 mm dia X 15 m Long (IS: 1084)	01 Nos	
46	Long Line 51 mm in circumference X 30 m Long (IS: 1084)	01 Nos	
47	Lowering Line , 16 mm dia X 30 m Long (IS: 1084)	01 Nos	
48	Suction collecting Head three way 100 mm gun metal (IS: 904)	01 Nos	
	SPARES		
01	FIRE PUMP:-		
1.1	Discharge seal washers	06 Nos	
1.2	Washers for Impeller	01 Nos	
1.3	Nut for Impeller	01 Nos	
1.4	Key for LP Impeller	01 Nos	
1.5	Sealing Rubber for Delivery Flap	04 Nos	
1.6	Washer for suction mouth	01 Nos	
02	POWER TAKE OF UNIT:-		
2.1	Castel nut	02 Nos	
2.2	Cottor pin	02 Nos	
2.3	Coupling washer	02 Nos	
03	PROPELLER SHAFT:-		
3.1	Shaft nut bolt	12 Nos	
3.2	Grease nipples	02 Nos	

04	HOSE REEL:-		
4.1	O ring set complete	01 Nos	
05	ELECTRICAL ITEMS:-		
5.1	12 Volt bulb	02 Nos	
5.2	Pull push switch	01 Nos	
5.3	Fuse	02 Nos	
	TOOLS		
	The following tools shall be supplied in a suitable box		
01	DE Spanner set 6.25 mm	01 set	
02	Ring Spanner set 6.25 mm	01 set	
03	Adjustable Wrench 200 mm	01 Nos	
04	Pliers Cutting 200 mm	01 Nos	
05	Pliers Long Nose 15 mm	01 Nos	
06	Pipe Wrench 300 mm	01 Nos	
07	Screw Driver 150 mm	01 Nos	
08	Screw Driver 250 mm	01 Nos	
09	File Half Round Smooth 150 mm	01 Nos	
10	Hammer Ball Pen ½ Kg	01 Nos	
	(Vendor to specify if any additional / changes)		

D		General Points to be complied as per the following specification:	
S.No	SPECIFICATION		Vendor's Offer
01	DOCUMENTS		
1.1	Operation and Maintenance manual in English shall be provided - 2 copies for each Fire Tender		
1.2	Repair and Maintenance Manual: This manual shall contain step by step disassembly and assembly of pump, primer, control panel, electrical circuit.		
1.3	Log Book: Shall be provided for the equipment for daily, monthly and yearly maintenance of the mounted equipment, which will be filled by the operator of the equipment of the holding unit for the period of Warrantee. The Log Book will contain detailed instructions for maintenance.		
02	STATUTORY DOCUMENTS for each FIRE TENDER		
2.1	Temporary Registration Certificate for Chassis in the name of BHEL		
2.2	Manufacturer's warranty for Chassis		
2.3	Payment receipt for temporary registration		
2.4	Invoice for Chassis		
2.5	Temporary Insurance Certificate valid for Fire Tender upto delivery of vehicles at respective BHEL units.		

03	INSPECTION	
3.1	Stage Inspection	
	Fire Tender shall be offered for inspection by BHEL at the following stages:	
	<ul style="list-style-type: none"> a) Pre stage of Fabrication <ul style="list-style-type: none"> i) Chassis document verification ii) Skeleton structure iii) Water Tank Hydraulic Test iv) Foam Tank Hydraulic Test v) PTO mount cooling system b) At the stage of PTO and Pump mount <ul style="list-style-type: none"> i) 4 hrs Fire Pump Running ii) Priming at the depth of 7 mtrs c) At the stage of Fabricating side lockers d) Pump and all equipment performance Test 	
3.2		
04	Pre-Dispatch Inspection	
4.1	The fire tender shall be offered for final inspection at Vendor's works before dispatch. The fire tender shall be inspected for its performance for the parameters as specified in the tender. Arrangements for inspection shall be made by Vendor. All consumables like DCP, CO ₂ , AFFF and Water to be arranged by Vendor.	
05	TRAINING	
5.1	<u>Training at Vendor's works:</u> Training of operation of Fire Tender shall be imparted to two BHEL officials during pre-dispatch inspection at Vendor's works.	
5.2	<u>Training at BHEL works:</u> Training of Operation and Maintenance of Fire Tender shall be imparted to the Fire crew and maintenance personnel at each of BHEL units where the vehicles are delivered for at least two days.	

06	COMMISSIONING	
6.1	Vendor shall depute their commissioning Engineer for final commissioning at each of three BHEL units where the vehicles are delivered.	
07	WARRANTY	
7.1	Warranty to be given for 12 months from the date of commissioning or 18 months from the date of dispatch whichever is earlier for the complete fire tender including chassis.	
08	GENERAL	
8.1	General Arrangement drawing to be submitted with the offer	
8.2	Fire tender shall be delivered with First fill of all consumables like DCP (more than 90% Sodium bicarbonate), CO ₂ , AFFF (3% concentrate). Water shall be filled at BHEL.	
8.3	Temporary registration and Transit Insurance for Fire Tender to the actual P.O to be Vendor's scope.	
8.4	Charges against Temporary registration, Transit Insurance and other expenditure to be indicated separately for transporting the Fire Tender to respective BHEL units.	