



## Technical Specification

Owner:- Nijgadh Municipality , Nijgadh ( Bara)

Fire fighting vehicle of approx. 4000 liters Capacity

Qty: 1 Unit

S.N.	CRITERIA	DEPARTMENTAL REQUIREMENT	OFFERED SPECIFICATION
1	General	The Fire fighting vehicle of capacity approx. 4000 liters for water and 500 litre for foam shall be designed and manufacture as per standards and sound engineering practice with advance & additional feature. All material used in fabrication / construction of the vehicle shall be new as per international standards.	Make: Model: Country of Origin:
2	Engine	Water cooled diesel Engine, developing rated Power output not less than 120 HP and Torque not less than 400 N-m at rated RPM with an efficient fuel injection system having precisely control air fuel ratio for high efficiency in response to all loads and operating conditions. The Engine shall be fully equipped with all necessary items/ accessories and controlling devices for safe, smooth, efficient, economical operation and optimizing vehicle performance producing lesser amount of pollutive emissions	Make: Model:
3	Water Tank	Water tank shall be of approx. 4000 liters capacity and foam tank of 500 litres suitably mounted on the chassis after the cabin so as allow full contents to flow to the pump. The tank shall be fabricated out of MS plated with bottom sheet not less than 5mm thickness and other sheet of minimum 4 mm thickness suitably paint coated from inside. The tank shall be of sound welded construction & shall be fitted with suitable baffle plates not less than 3mm thickness. An inspection hole of not less than 450 mm size shall be provided on top and others necessary arrangement as per standards.	

*[Handwritten Signature]*



4	Pump	A Single stage Centrifugal type 'CF-Marked' Pump capable of delivering water not less than 2250 LPM at discharge pressure of 7kg/cm <sup>2</sup> and suction lift of 5 mts. The suction inlet shall minimum 100mm round threaded type and minimum 2X63mm delivery outlets with GM valves having female instantaneous coupling. The pump shall be rear mounted for ensuring max. hydraulic efficiency when working from open water.	Make:-  Model:-
5	Prime	The pump shall be fitted with reciprocating type. Prime shall be capable of lifting water from 7 meter at a rate not less than 30cm/sec.	
6	Cooling System	Indirect cooling system of open circuit type consisting of special heat exchanger shall be provided to the vehicle to enable full power outlet to be maintained during pumping duty without overheating and hot water is discharged to waste.	
7	Power Take Off (PTO)	The Power Take Off would be heavy duty indigenous origin of VAS Make Model V3N Mechanically & Pneumatically control having ratio 1:1.27 and the lever for engaging the power take off shall be provided in the Driver's cabin.	Make:-  Model:-
8	Monitor	One water monitor of minimum discharge of 1400 LPM @9kg/cm <sup>2</sup> water shall be provided on the top of the driver cabin/tender in such a manner that a member of fire crew can operate in mutually.	
9	Chassis	The tender shall be fabricated on truck chassis of appropriate size. Drag hook or eye of adequate strength shall be provided at the rear and front.	
10	Hose Reel	2 Nos 60m X 19mm hose shall be provided near the control panel.	
11	Ladder Gallows	Gallows to carry 7.5 mtrs. Extension ladder would be provided on the appliance.	
12	Dry Chemical Powder	2 Nos. X 25 kg. each DCP cylinders with Hose Reel shall be provided.	
13	Stability	Fully laden vehicle shall be tested for stability test at 27.5 degree and the vehicle shall not topple down. Gradient test shall be carried out at 1:4.	

*Syed*



14	Control Panel & Instruments	Control Panel & Instruments as necessary for efficient operation and maintenance such as: Throttle control, Pressure Gauge, Compound gauge, primer control, cooling water control, Delivery valves, Water level indicator, Suction mouth, Pump to Hose reel control, Tank to pump control	
15	Cab	The front compartment of driver's cabin shall all steel construction with insulated roof, right hand drive, laminated glass windscreen, wipers, glass windows on doors, and shall be provided with two independent foam cushioned seated for driver and an officer. Driver's seat shall be adjustable. Rear compartment should be provided with fixed cushioned seat for at least 5 crew men.	
16	Essential Accessories	<p>The following accessories shall be supplied / fitted on the appliance.</p> <ul style="list-style-type: none"> <li>• Head light, tail and rear light and turn signals</li> <li>• Cabin lights</li> <li>• Spare wheel with tire and tube</li> <li>• Fog light at front</li> <li>• Fire Bell</li> <li>• Additional Equipments/Accessories as per Accessories/Equipments List</li> </ul>	
17	Clutch	Heavy duty disc type	
18	Transmission	Manual shift at least five forward and one reverse, All forward synchromesh	
19	Emission Standard	The Emission Standard of the vehicle should comply with the current Vehicle Mass Emission Standard of Nepal.	
20	Suspension	Heavy duty semi elliptical leaf springs and shock absorbers	
21	Tires	Standard Size, Single front, Dual rear	
22	Steering	Power Assisted/ Power Steering	
23	Brakes	Servo assisted Hydraulic or air operated internal expanding type and mechanical parking brake and engine exhaust brake.	
24	Color	Painted in fire red with proper under coating.	
25	Axles	<p>Front: Steel I Section</p> <p>Rear: Heavy duty, Fully Floating</p>	





26	Instructions	All signs and instructions in the equipment shall be in English	
27	Manuals	One copy of the Operator's and Owner's Instructions and Maintenance manual in English shall be supplied with each equipment/vehicle	
28	Proven performance	<ol style="list-style-type: none"><li>1. The water tender offered shall be a current model under standard production by the manufacturer for at least one year. Also truck chassis shall be of current model under standard production by the manufacturer with production year 2019 or onward.</li><li>2. The bidder shall provide the manufacturer's data of the performance of the unit to include the fuel consumption, performance curve of the engine and production capacity of the unit.</li></ol>	
29	Warranty	Manufacturer shall provide a minimum of one year warranty after acceptance.	
30	Related Service	The supplier shall arrange and conduct training at own cost for two operators for a period of one week in Nepal in operation, maintenance and /or repair of the equipment	
31	Delivery	<p>The Fire fighting vehicle with all necessary accessories shall be delivered to:</p> <p style="text-align: center;">Nijgadh Municipality Office of the municipal executive Nijgadh (Bara) Province No. 2, Nepal</p>	

Note:

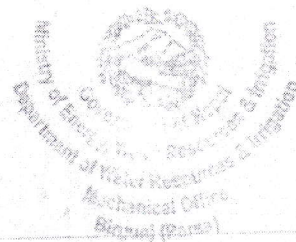
- a) The major items are indicated by bold and highlighted letters/alphabets/figures in the technical specifications. Non-compliance of these major items will result in non-responsiveness of the bid offer
- b) The bidder must mention clearly the make/model for S.N. 1,2,4 and 7 otherwise the bid will be considered non-responsive

Bidder's Signature.....

Date.....



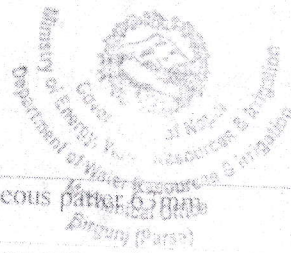




## ACCESSORIES / EQUIPMENT LIST

SN	Description	Unit	Qty
1	Extension Ladder 10.5 M (Trussed type double extension)	No	1
2	Armored Rubber Suction Hoses 100 mm dia. 2.5 Meters Length fitted with round threaded male and female coupling Heavy duty, made of copper alloy of 100mm size	Nos.	4
3	Non Percolating 63 mm X 15 meters flexible fire fighting delivery hose of three layered synthetic jacketed, with elastomeric outer covering, resistant to liquids, chemicals, acids alkalis, solvents, abrasions & heat, having 42kg/cm <sup>2</sup> burst pressure and bonded with gun metal ISI Marked & MMD approved instantaneous male and female coupling	Nos.	10
4	Suction Metal Strainer - 100mm Size	Nos.	1
5	Basket Strainer -100mm size cylindrical	No.	1
6	Dividing Breaching with Control Valve made of light alloy	No.	1
7	Collecting Breaching -63 mm size made of light alloy	No.	1
8	Suction wrenches for 100 mm suction couplings Universal types	Pair	1
9	Long line 50 mm circumference 30 meters long each	Length	1
10	Short line 50mm circumference 15 m long	Length	1
11	Hose Bandages rubberized	Nos.	25
12	Hose Clamps	Nos.	25
13	Hydrant Valve Key and Bar	Set	1
14	Fire fighter suit (EN/CE/BS Certified or equivalent)	Set	2
15	Fog Nozzle made of gunmetal with extension applicator with fog head	No.	1
16	Hand Controlled Branch Pipe-63mm made of gunmetal	No.	1
17	Gunmetal Branch Pipe, Universal 63mm size	No.	1
18	Gunmetal Branch Pipe with Revolving Head	No.	1
19	Gunmetal short branch pipe complete with 63 mm size male instantaneous connection with gunmetal detachable nozzle	Nos.	2
20	Gunmetal nozzle of sizes 12 mm, 16mm, 20mm, 25mm and 32mm (two each)	Nos.	10
	a) Adaptor for 100mm suction female screw coupling and 63 mm male instantaneous	Nos.	2





	b) Adaptor double female instantaneous pattern 6.3mm	Nos.	2
	c) Adaptor double male instantaneous pattern 6.3mm	Nos.	2
21	Nozzle spanner	Nos.	2
22	Portable electric box lamp with rechargeable accumulator	Nos.	2
23	Hand Lamp (Torch-4 cells)	Nos.	2
24	Flameproof lamp (usable in the presence of inflammable gases or vapors)	Nos.	2
25	Fully imported self contained Breathing Apparatus Set with One Spare Air Cylinder of 45 min duration of 6 liters, 300 bar pressure	No.	1
26	First Aid Box of 10 Person	No.	1
27	Rubber Gloves (in case)	Pair.	2
28	Asbestos gauntlets (in case)	No.	1
29	Axe-Large	No.	1
30	Spade	No.	1
31	Pick Axe	No.	1
32	Crow Bar	No.	1
33	Sledge Hammer	No.	1
34	Carpenter's saw	No.	1
35	Hydraulic Jack 20 Ton	No.	1
36	Fire Hook	No.	1
37	Tool Kit	No.	1
38	Portable Fire Extinguisher, Dry Powder type 2 kg (IS:1910)	No.	2
39	Lowering line 50mm diam, 40m long having two ends spliced in and bend with a running nose	No.	1
40	Hydrant Stand Pipe two ways	No.	1
41	Hand Control Special nozzle <ul style="list-style-type: none"> <li>- The nozzle should have a built in system which should ensure efficient water flow in the form of jet, spray or fog.</li> <li>- The nozzle should be of lightweight aluminum alloy hard anodized.</li> <li>- Flush without shutting off</li> <li>- Bit should be of akron rosenbauer/ Cosmotech only.</li> </ul>	No.	1
42	Fire fighter boot: The footwear shall be BS/EN or equivalent certified	Set	1



43	Fire fighter hand gloves: The gloves shall be BS/EN or equivalent certified.	Set	2
44	Fire fighter helmet: The gloves shall be BS/EN or equivalent certified.	Set	2
45	Fire Rescues harness	No.	2
46	<p>Portable Pump:- It must comply following features. Along with pump ,they should provide needed all necessary tools, pipes and other accessories along with it for ready to use. (MUST SUBMIT BROCHURE)</p> <p>2 Stroke/4 stroke air cooled engine            Engine displacement not less than 180 cc            Maximum power output not less than 10 PS            Dry weight not less than 40 kgs            Suction/Discharge Diameter not less than 50 mm            Fuel Tank - Minimum 4 ltr capacity            Maximum Suction Height- Minimum 8 meter            Electric starter and manual starter</p> <p>Pump Performance:-            At 3 meter suction head, discharge should be minimum 450 ltr/min at 0.5 MPa and 250 Ltr/Min at 0.8 MPa            At 1 meter suction head, discharge should be minimum 550 ltr/min at 0.5 MPa and 300 Ltr/Min at 0.8 MPa</p> <p>Priming Performance:- At one meter suction head should not take more than 5 second</p>	No.	1

*Note:- The bidder should provide details (standards with code Number , If possible brochure) for S.N. 14,41,42,43 44 and 46 of accessories list as mentioned above.*

