# Scope of Work (SOW)

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1. Supply of 01 Quick Response Vehicles (QRV) including Operation and Maintenance and Manpower for M/s Haridwar Natural Gas Private Limited at Haridwar GA.
2. HNGPL's approval shall be taken at following stages of purchase & fabrication of QRV.
   a. Selection of Chassis.
   b. Purchase of Equipment & accessories.
   c. Load distribution & Body Design.
   d. Body Fabrication.
3. The QRV shall be fabricated as per the detailed specification mentioned in the **Annexure-1.**
4. Approval shall be taken from HNGPL at each stage of purchase and fabrication.
5. The chassis shall meet emission norms i.e. BS VI or latest.
6. **Registration, Approvals, Permissions etc.:**

   6.1. QRV shall be registered in the name of the contractor/company at respective RTO/DTO CGD cities as Firefighting Vehicle and with commercial permit.

   6.2. Fully equipped QRV shall meet all statutory permissions should be fit and should have all applicable approvals / certificates for running in the city & state.

   6.3. All fees and taxes including additional charges like parking fee, toll charge, municipal fee etc. as applicable shall be paid by the contractor.

   6.4. All legal required documents including following shall be kept in the vehicle:

      6.4.1. Registration book.

      6.4.2. Insurance.

      6.4.3. Driver's license.

      6.4.4. PUC.

      6.4.5. License for wireless

      6.4.6. Tax certificate

7. **Equipment & Accessories:**

   7.1. Vehicle including all mandatory tools, spare wheel, equipment & accessories shall always be kept in perfectly operational and maintained in good condition.

   7.2. Vehicle should be fitted with GPS system and its access to see the movement shall be given to HNGPL.

   7.3. In case any equipment / accessories got damaged or crossed its self-life it should be replaced / maintained within reasonable time as per the time given by EIC considering procurement time.

7.4. QRV shall be provided with one Cell Phone with active sim card and shall always be on active mode without any fail throughout the contract period.

## 8. Crew for QRV:

8.1. QRV shall be manned on 24X7 basis (8 hours shift basis) with physically & mentally fit, at least one DCPO (Driver cum Pump Operator) and one Fireman per shift round the clock. Crew should have the following minimum qualification & experience and other details as tabulated below:

i. **DCPO (Skilled):** Minimum 12th pass with 6 months fireman's training course from any Govt. / Govt. recognized institute having valid LMV/HMV driving license. DCPO should have minimum 02 year work experience in fire & Safety.

ii. **Fireman (Semi skilled):** Minimum 10th pass with 6 months fireman's training course from any Govt. / Govt. recognized institute. Fireman should have minimum 01 year work experience in fire & Safety.

8.2. Minimum wages has to be ensured for Manpower (Fireman & DCPO) as per government rules and regulations by Vendor. Payment/ salary deposit proof has to be attached with monthly RA bill.

8.3. Before deployment of any personnel his resume shall be presented to EIC and can only be deployed on approval of EIC.

8.4. The contractor shall ensure that deployed DCPO & Fireman of QRV are given one day's off in a week and provide alternative manpower for that day.

8.5. In case of any emergency call, the crew with the vehicle shall rush to the site immediately at any point of time and act promptly to control the emergency.

8.6. Must respond promptly to any Mock Drill call.

8.7. In addition to the emergency control, the crew should do the scheduled maintenance of the F&S equipment/system provided at CGD network stations and any other F&S related activity as advised by EIC. Any consumables and spares required for maintenance of F&S equipment shall be in the scope of HNGPL.

8.8. In case of performance of deployed crew/manpower found not satisfactory, he should be replaced with suitable new member within a weeks' time.

8.9. Transportation, accommodation, food etc. for the crew/manpower shall be in the scope of the contractor.

8.10. Proper Safety uniform & Kit shall be given to each crew member as per following details:

8.10.1. Two pairs of Cotton Shirt & Trouser and socks per year.

8.10.2. One Pair of ISI marked Safety Shoes per year.

8.10.3. DGMS approved and ISI marked Safety Helmet per person per year.

8.10.4. One pair of gumboots.

8.11. The colour & style of safety kits shall be selected as per the advice of the EIC.

8.12. Contractor shall also ensure to engage only those persons whose character/antecedents have been got verified by him. Contractor shall provide proper identification cards for his employees duly signed by him or his authorized representative to be deputed for work, Contractor should also obtain entry passes from the Company's Security agency through Engineer-in-charge for his employees, wherever required.

8.13. Complete Health Checkup of all crew members shall be carried out at least once in a year or as per the applicable statutory acts / rules.

**9.** Vehicle with crew/manpower shall report to EIC or his representative at site as per the instruction of EIC.

**10. Fuel Supply:**

10.1. Fuel tank of the QRV shall be always kept in full condition or at least 90% of the fuel tank capacity.

10.2. Fuel supply for running 12000 KMs per year considering 1000 KMs running of vehicle per month shall be in the scope of the contractor. Payment for extra kilometers if any shall be paid @ Rs.15/- per kilometer. Log book shall be filled up on daily basis for running KM. Payment for extra kilometers if any shall be paid @ Rs.15/- per kilometer at the end of each year after evaluation extra kms on yearly basis i.e., extra kms beyond 12000 kms in a year are payble.

10.3. In case, total run of a QRV during the contract period or its extended period exceed 1.5 lakh km it has to be discontinued and replaced by similar or better specifications QRV till the end of the contract period or extended period.

**11. Inspection/Repair / Maintenance:**

11.1. It should be ensured that QRV is well maintained & checked regularly:

11.2. In case any maintenance is required authorized mechanic should be called at site for maintenance. However, if at all it is required to take the vehicle to the service center, it can be released with the permission of EIC and should be back on operation within 12 hours.

11.3. Regular inspection needs to be done in order to ensure that the QRV is in safe condition and is fit for purpose. Crew should check the QRV condition in each shift as per the established checklist.

11.4. Inspection records of the same should be maintained. Based on the checking any non-conformity shall be reported to EIC.

11.5. In case of failure of the contractor to repair the QRV or to provide the substitute QRV payment for the day(s) of absence will be deducted, to be calculated on pro-rata basis.

11.6. If HNGPL makes alternative arrangement, the contractor shall have to bear the difference of the cost incurred in the alternative arrangement made by HNGPL in addition to

deduction of day(s) payment.

11.7. The Contractor shall ensure that the QRV is kept clean and upholstery with neat seat covers duly washed / dry-cleaned to be provided at an interval as specified by the Engineer-in-Charge.

11.8. Preventive / periodic Maintenance shall be based on the manufacture's recommendations and has to be carried out by the authorized service representative of the vehicle/engine manufacture and the service planned well in advance.

11.9. **Replacement of tyres**: Tyres of the QRV need to be replaced on the following conditions:

11.9.1. Completion of 50000 kms.

11.9.2. Frequent issues with the tube leading to deflations.

11.9.3. Showing heavy wear and loss of tread.

11.9.4. Condition of tyres and spare wheel (All tyres have minimum of 2 mm tread depth- no tears, cuts or bulges).

**11.9.5.** Usage of re-treaded tyres (i.e. remoulding of tyre) is not permitted.

## 12. Log Book Maintenance:

12.1. In case of not getting the log book filled-in correctly and properly or if there is any objection, the bill(s) may be returned for getting the objection(s) rectified. The logbook must be got filled-in on day-to-day basis.

12.2. Responsibility of obtaining the daily KM runs properly entered in the logbook in all respects to tally the distance run and places visited shall be entirely of Contractor.

12.3. The opening KM reading in logbook shall be filled immediately on report to duty in each shift.

12.4. One log book for vehicle running shall be maintained by DCPO and get counter signed by EIC or his representative.

## 13. Accidents / Damages / Claims Liabilities:

13.1. In addition to local legal requirement, all accidents and incidents involving injury to any person and/or damage of any sort to company, contractor or third- party property shall be reported to line management / reporting officer as soon as practicable. Incidents with significant impact (fatalities, serious injuries and major damage) shall be reported instantly or verbally. Reporting of all incidents can initially be by phone, but shall be followed soon afterwards by a full written report describing the incident and the extent of any injury/damage as per HNGPL prescribed format.

13.2. Any dents and other minor damages must be repaired immediately to maintain the image of the company.

13.3. In the event of any accident or damages while the QRV is on duty, the Company shall be completely free from any liability of any nature connected with the accident/damage(s).

13.4. Contractor himself will be fully and exclusively responsible for any damage to QRV or any personal injury to driver or any other person in the employment of the contractor, occupants of the QRV or damage to any property or person including any third party claims.

13.5. However, if the damage or loss is incurred by the Company or its employees as a result of any accident or any other reason involving the failure of the QRV, Contractor shall reimburse on demand and without any demur the compensation/ damages if any sustained by the Company on this account.

13.6. Contractor shall be solely responsible for any consequences under law, arising out of any accident caused by the QRV /equipment to the property or personnel of the Company. Contractor shall also be responsible for any claim/ compensation arising out of such damages or injuries sustained by any third- party including loss of life, permanent injuries etc., by his/their QRV in addition to damages/disabilities/death etc. caused to the employees and property of the Company. Contractor shall reimburse on demand and without any demur the compensation/damages if any sustained by the Company on this account.

13.7. The Company shall not be responsible for any claim/compensation that arises due to damages/injuries/pilferage to Contractor's QRV/ property under any circumstances while the QRV is on duty of the Company.

13.8. It is the responsibility of Contractor to inform the Engineer -in - Charge or his authorized representative occurrence of any accident as early as possible to avoid any disruption to the Company's operations, provide substitute QRV and submit a detailed report to the Engineer-in Charge or his authorized representative within 24 hrs. for the record of the Company.

13.9. Absence of QRV to any accident shall not entitle Contractor to any exemptions from the liabilities under the Contract. Arrangement of the alternative/ substitute is the responsibility of the contractor.

**14. Insurance:**

14.1. Hired QRV should be fully / comprehensively insured by Contractor, at his own cost covering all risks and liabilities including strike & riots.

14.2. All liabilities arising out of the accidents, disturbances to the QRV operations of the Company will rest upon the contractor.

14.3. Contractor shall be responsible to submit copies of insurance cover and other documentation in respect of QRV deployed with the Company on the date of placement of QRV. Contractor shall also be responsible for renewal of such insurance covers in time.

14.4. Contractor shall also ensure and provide insurance cover to its staff including driver, if so deployed with the QRV.

**ANNEXURE-I**

TECHNICAL SPECIFICATIONS

FOR

QUICK RESPONSE VEHICLE (QRV)

# Technical Specifications for QRV:

## 1. GENERAL:

1.1. The Quick Response Vehicle including all accessories shall be designed for gas firefighting application and manufactured as per relevant Indian Standards and as per sound engineering practice.

1.2. The specifications mentioned here under lays down the requirements regarding material, design, construction, workmanship and finish, accessories and acceptance test of Quick Response Vehicle (QRV).

1.3. All the equipment and accessories shall be fixed on the appliance in a compact and neat manner and shall be so placed that each part is easily & readily accessible for use and maintenance. The center of gravity shall be kept as low as possible.

1.4. All equipment, accessories and panels shall be kept inside covered lockers with aluminum shutters including water mist pump.

1.5. All material/equipment shall be BIS/EN marked & where BIS/EN is not available the material shall be of high quality from reputed manufacturer. The vendor shall be responsible for supplying all Equipments/accessories and properly fixing them on the chassis as described in this specification. Other details & requirements which are not covered under this specification, but may be necessary to complete the Quick Response Vehicle (QRV) and/ or to full fill the operation /performance requirement shall be provided by the vendor, who will be responsible for the design & construction of the complete appliance to the full satisfaction of HNGPL.

1.6. The required accessories / Equipments shall be supplied along with the Quick Response Vehicle (QRV). All equipment / accessories will be in scope of contractor. A list of accessories / Equipments is given in the **Annexure-A.**

1.7. The QRV shall be suitable for firefighting and capable of being deployed in narrow lanes in urban and rural areas with maximum manpower deployment.

## 2. CHASSIS:

2.1. The QRV shall be fabricated on light commercial vehicle chassis of GVW capacity lies between 2.9 to 4 Tons of **TATA /Mahindra** with required (complying latest emission norms) approvals for registering the Vehicle in Haridwar Uttarakhand. The chassis shall be purchased by the vendor on behalf of HNGPL & shall be registered in Haridwar Uttarakhand as mentioned above (Registration of Vehicle shall be in Scope of contractor).

2.2. The Quick/Emergency Response Vehicle shall be fabricated / built as per the technical specification on latest chassis model (Current year) with single/double cab of GVW capacity lies between 2.9 to 4 Tons, having Hydraulic Power assisted Steering and latest Emission norms Diesel/petrol/CNG Engine should have minimum output of 65


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BHP.

2.3. It should be one single /double cab accommodating 01 driver plus 02 Officer/Crew.

2.4. Vendor shall ensure compliances to all applicable NGT orders with respect to chassis.

2.5. Drag hook or eye of adequate strength & design shall be provided at the rear & front of the chassis.

## 3. High Pressure Water Mist System:

### 3.1. High Pressure Pump:

3.1.1. Rated Maximum Discharge output capacity of the pump shall be between 20 to 45 LPM at 100 bars to 200 bars.

3.1.2. Ultra-high pressure Plunger/Piston Pump shall be made of brass.

3.1.3. The pump shall be multi Cylinder type and have oil bath lubrication of suitable type.

3.1.4. Suitable easy clean Screen/ filter/strainer shall be provided between water tank and pump to ensure that no mechanical impurity enters the pump (one spare strainer/filter should be supplied).

3.1.5. The delivery shall be directly connected to the hose reel with isolation valve.

3.1.6. 2X30 Meter High Pressure Hose Reels (minimum 1.5 times bursting pressure) and the discharge Guns (with foam discharge facility).

3.1.7. Suitable safety features shall be provided to deliver/release the pressure in case delivery or hose reel valve is suddenly closed.

3.1.8. Pump shall be of OERTZEN/UDOR/CAT/IP BERTOLINI/ANNOVI REVERBERI/ Rosenbauer Make only.

## 4. Hose Reel:

4.1. Two separate high-pressure hose reels shall be provided of 30-meter length each, and will be provided at a suitable place on the appliance, one on each side.

4.2. The hose used for the hose reels would be R2 type rated for a minimum working pressure of 270 bars & will be of minimum 10mm to 16 mm ID.

### 4.3. Discharge Gun:

4.3.1. The unit shall be equipped with two Mist/Fog guns; guns shall be capable for discharging between 20 to 40LPM at 100 to 200 bar in mist mode.

4.3.2. The jet range shall be approximately 15-20 Meters (in still air condition).

4.3.3. The gun shall be of Rosenbauer / Fireco / Equivalent imported make only.

Verification of documents shall be done during the inspection.

## 5. Pump Prime Mover – Power take Off (PTO):



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The prime mover of pump shall be Power take Off unit with suitable gear ratio made of aluminum alloy coupled to the pump to transmit required horse power and torque to operate the pump at its rated capacity. The PTO shall be engaged using a mechanical level arrangement. The PTO shall be of Kozmaksan/Alpha Drives/Bezares/ Rosenbauer Make only.

## 6. Water Tank:

6.1. Water Tank of minimum 500 Liters capacity, made of stainless steel (SS-316) shall be suitably mounted on the chassis.
6.2. Tank shall be mounted on three cross bars/bearers to counteract stresses caused by chassis flexing and shall be so secured that it can be removed. It shall be rectangular or suitable in shape and the mounting of the tank shall be flexible type to prevent the tanks distortion due to the chassis flexion.
6.3. The mounting shall permit full contents of the tank to flow into the pump.
6.4. It shall be fabricated out of Stainless-Steel grade 316 sheet minimum 3mm thickness for sides.
6.5. An inspection manhole of not less than 250 mm size shall be provided on top with hinged/bolted/ removable cover and shall be marked `WATER'.
6.6. The baffles shall be of minimum 3.0 mm thickness.
6.7. The tank should have adequate SS angle reinforcement.
6.8. The water tank shall be connected to the pump through strainer and lever operated ball valve.
6.9. A cleaning / drain shall be provided with a valve and plug connection and will be taken down to a point well below the chassis without reducing the effective clearance.
6.10. A water level indicator shall be electronically and provided in control panel.
6.11. The engineering of the tank should be of good quality so as to increase the life of the tank and should be of least maintenance or leak.

## 7. PIPING SYSTEM DETAILS:

7.1. All valves shall be of Lever operated (high rated/passing proof) ball valves type except for any other type of valves mentioned anywhere else in the specification.
7.2. All piping should be sized so as to have minimum pressure drop and achieve the required pressure and flow at various locations.
7.3. Pipe fittings and valves should be SS – 316.
7.4. Piping should be seamless and designed for 10% over the maximum pressures encountered in the pipe.
7.5. All lines should be hydraulically tested at 1.5 times the design pressure.
7.6. All lines should be suitably supported so as to provide rigidity and avoid vibrations.

## 8. Shutter:

8.1. The lockers shall be covered with push pull type aluminum roller shutters of MCD


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France/FIRECO/Magirus- Germany make for fast & smooth rescue operation during emergency.

8.2. The shutters would be made of extruded aluminum sections & will be roller type only.

8.3. These shutters would be rolled inwards under the roof giving unobstructed access to the equipment lockers and the stored tools, equipment and gears.

8.4. The shutters shall be completely torsion free & have a sturdy lock, preventing accidental opening during movement of vehicle.

8.5. The shutters shall be water tight when closed, durable, maintenance free, weather & corrosion resistant and easily repairable due to the interchangeable links.

8.6. Fabrication shall confirm to Motor Tenders Act & BIS. Shutter space below chassis shall be fully utilized.

8.7. A "GRAND" / Equivalent standard make battery operated Multi tone hooters & mike system with amplifier & microphone in the driver cabin & LED flashing light system/ bar with programmable flash pattern shall be provided. Selection of LED flashing light system shall be approved by HNGPL.

8.8. One standard make loud speaker (Megaphone) with two tone hooters shall be mounted on the driver's cabin roof. Amplifiers and microphone shall be provided in front of officer's seat in sealed box.

## 9. Electrical System:

9.1. All wiring shall be properly fixed in position and shall be protected against heat, oil and physical damage. Wherever necessary, wiring shall pass through PVC sleeves and conduits.

9.2. All-important electrical circuits shall have separate fuses suitably indicated and grouped in a common fuse box located in an easily accessible position.

9.3. All electrical system including that of the chassis should be dipole and reach through conduits and terminals in flame proof junction box. Battery cut off switch should be provided inside cabin. All electrical Equipments, lighting & system wirings shall be of flame proof construction.

## 10. CONTROL PANEL:

10.1. Appliance shall have separate control panel for water mist system.

10.2. The panel for water Mist system adequately illuminated and shall be spaced properly & marked for easy operation. All valves shall be of lever operated type & shall be made of SS with Teflon seats.

10.3. Control panel shall be provided at rear/suitable location of the Quick/Emergency Response Vehicle.

10.4. All other controls like electrical siren, PA system shall be provided at the driver's cabin. All control panels shall have clearly written operating instruction plate. Adequately illumination shall be provided.

10.5. In addition to the items mentioned above, Vendor shall provide any other items that he may find essential. Any of these items which are also required in the Driver's cabin shall be provided at suitable locations in the driver's cabin.



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## 11. FITTINGS & ACCESSORIES:

11.1. The Quick Response Vehicle shall be provided with the following accessories in addition to those normally fitted to the chassis. All the accessories shall be suitably fixed in position or shall be kept in lockers or other suitable place as on the tender. Electrical fittings shall be flame proof preferably & all equipment shall be ISI marked or superior quality.

11.2. Fog lamps powered by the battery of the Tender, these shall be low mounted in front of the Vehicle - 02 Nos.

11.3. Reversing lights with horn - 04 Nos., suitably situated to assist reversing.

11.4. Removable PESO Approved spark arrestor fitted to the exhaust of the engine - 01 no. PESO Certificate required at the time of supply & 01 no spare spark arrestor to be provided.

11.5. Wind screen wipers (Electrically operated of approved design) if not provided with the chassis.

11.6. Public Address System: (Philips / Ahuja / Grand make) Battery operated with a control panel in driver's cabin shall be provided. One loud speaker shall be mounted on driver's cabin roof. The range shall be 1 KM in still air and 500 meters in noisy areas.

## 12. WORKMANSHIP AND FINISH:

12.1. The Quick/Emergency Response Vehicle shall be fabricated with the best light weight material and good workmanship, ensuring effective and efficient operation.

12.2. The standard of workmanship and finish of all mechanical and other parts should be such that the parts normally required to be replaced can be easily & conveniently replaced and fitted correctly.

12.3. The Gross Vehicle Weight (GVW) of the QRV should not exceed the GVW of chassis manufacturer’s specification with all Equipments & crew.

12.4. The extended cab and lockers shall be of composite construction with sufficient rigidity and reinforcement and shall be kept as light as possible; sections of sufficient strength shall be used for the superstructure. Lockers shall be provided for secure stowage of all accessories and equipment provided with QRV. All equipment would be stowed very scientifically and systematically and each piece of equipment shall have its designated location so that at the time of Emergency the required equipment can be very easily located and removed for use. Location of equipment (labels) shall be provided on each locker for immediate identification. Each equipment would be properly clamped and strapped to prevent shifting of the equipment while the Vehicle is in motion.

12.5. Drag Hook or eye of adequate strength & design shall be provided at the rear and front of chassis.

12.6. All electrical circuits feeder wiring supplied and installed by the vendor shall be standard copper alloy conductors of gauge rated to carry 120% of maximum current for which circuit is protected.

12.7. All wiring shall be properly fixed in position & shall be protected against heat, oil & physical damage wherever necessary wiring shall pass through PVC sleeves. All

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important electrical circuits shall have separate fuses suitably indicated and grouped in a common fuse box located in an easily accessible position. Provision shall be made for a minimum (4) spare fuse in the fuse box.

12.8. Electromagnetic interference / suppression shall be provided to ensure positive operation of radio equipment without interference.

12.9. Circuit shall be provided with properly rated low voltage over current protective devices. Such devices shall be readily accessible and protected against the excessive heat, physical damage and water spray. Switch relay terminal and connectors shall have direct current rating of 1.25% maximum current for which this circuit is protected.

12.10. Battery master isolation switch shall be provided near the dash board at convenient locations for the driver to operate.

**13.** The dash board panel in the driver's cabin shall be provided the following:

13.1. Fuel tank contents gauge calibrated in liters.
13.2. Odometer calibrated in Kms
13.3. Speedometer calibrated in Km/ hr.
13.4. Digital Tachometer
13.5. Siren switch
13.6. Ignition switch.
13.7. Engine cooling water temperature gauge
13.8. Master Switch for Batteries.
13.9. And other necessary monitoring devices

**14. PAINTING & MARKING:**

14.1. The appliance shall be painted in 'Fire Red' (two coats) Du-Pont paint conforming to shed 536 of IS- 5-2004 and of 0.12 to 0.2 mm thickness, using double coat spray painting. The paint (synthetic enamel paint) shall conform to IS 2932. Necessary anti-corrosion and priming coat shall be applied before painting in order to achieve gloss finish.

14.2. Also, on both side of the Vehicle (Logo and name of HNGPL) monogram Shall be made computerized & affixed (adhesive HDPE sticker type) at suitable Places bilingually in Hindi & English. [HARIDWAR NATURAL GAS PRIVATE LIMITED]Font shall be approved by HNGPL.

14.3. The driver's compartment shall be laminated. Lockers shall be finished in shadow board painting to show the position of each pieces of equipment.

14.4. Diesel truck shall have Name Plate showing main features: Name, Model No. and Serial No. of unit and year of manufacture.

14.5. The Vehicle shall be clearly and permanently marked with the following, mandatorily on a metal plate attached in the driver's cabin and also near pump operating control panels:

14.5.1. Manufacturer's name or trade mark.
14.5.2. Year of Manufacture.
14.5.3. Pump number & Capacity of Pump in LPM. Capacity of Water tank.
14.5.4. Engine and chassis number.


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14.5.5. All instrument controls shall be identified with name plates.
14.5.6. All hoses & valves inlet & outlet shall also be identified by suitable name plates.

**15. ACCEPTANCE AND PERFORMANCE TESTS:**

15.1. Following test shall be carried out before accepting the QRV, either at manufacturer's works or a place to be mutually agreed upon by the vendor to the complete satisfaction of owner's inspector without any extra cost.
15.2. The design of the Vehicle shall be such that it will not affect the chassis characteristics as specified by the chassis manufacture such as speed, turning circle, acceleration, breaking efficiency with appliance fully loaded, etc.
15.3. The stability of the appliance shall be such that when under fully equipped and laden condition , if the surface on which the appliance stands is tilted to either side, the point at which the overturning occurs is not passed at an angle of 27 ½ " from horizontal.
15.4. The pump shall run for a continuous period as per manufacturer without no abnormal sign.
15.5. All the piping shall be tested to a hydrostatic test pressure at 1.5 times of working max. pressure. Test certificates to be provided.
15.6. Water tank shall be tested for leakage after fabrication before applying any paint. The tanks shall be kept full with water and shall be observed for 24 hrs for any leakage.

**16. Documents needed along with bid:**

16.1. Following documents shall be submitted by bidder along with bid:

16.1.1. Details of Quoted Pump (Make, Catalogue, its approval, performance etc) shall be submitted along with bid.
16.1.2. Details of Quoted PTO (Make, Catalogue, its approval, performance etc) shall be submitted along with bid.
16.1.3. Details of Quoted Chassis (Make, Catalogue, etc) shall be submitted along with bid.
16.1.4. Load calculation (along with chassis, equipment, fabrication etc.) of the QRV to be provided.


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**ANNEXURE-A**

**List of Equipment & Accessories to Be Stored / Supplied Along With the Quick Response Vehicle by vendor**

| S.No. | DESCRIPTION | QTY |
|---|---|---|
| **A** | **Water-mist System** | |
| 1 | Water Mist Pump | 01 |
| 2 | Power Take Off | 01 |
| 3 | Water Tank – 500 Liters | 01 |
| 4 | Spare suction Strainer | 01 |
| 5 | 30-Meter High Pressure Hose Reels | 02 |
| B | **Fire Fighting Tools** | |
| 6 | Fire hydrant F- Keys metallic in red color | 02 |
| 7 | Stored Pressure type ABC Dry Chemical Powder (MAP-90) Fire Extinguishers, Capacity 06kg conforming & bearing ISI mark. Conformity Certificate of powder shall be submitted along with Supply. | 02 |
| 8 | Stored Pressure type ABC Dry Chemical Powder (MAP-90) Fire Extinguishers, Capacity 04kg conforming & bearing ISI mark. Conformity Certificate of powder shall be submitted along with Supply. | 02 |
| 9 | CO2 Fire Extinguishers, Capacity 4.5kg conforming & bearing ISI Mark | 02 |
| C | **Safety Equipment** | |
| 10 | Double Telescopic Aluminum Extension Ladder- 5m length, carrying capacity > 100Kg (Euro or equivalent make) | 01 |
| 11 | Fire Blanket, non-asbestos, non-glass wool, Temp rating approx. 800-1000-degree C) | 02 |
| 12 | Lowering/Rescue line – 10-12mm dia. Polypropylene Rope, 30 meter Length | 01 |
| 13 | Water Gel Blanket of Size- 2.4mX1.6m and Burn Mini wrap of Size- 18” X 8”. Self-life of all Water Gel Blanket should be five years. | 02 |
| 14 | First Aid box as per standard/act | 01 |



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| | | |
|---|---|---|
| 15 | Removable PESO Approved spark arrestor fitted to the exhaust of the vehicle | 01 |
| 16 | **Portable LEL cum Oxygen detector**, the detector shall be Intrinsically safe for use in class 1, division 1, Group A, B, C, D or Ex ia IIC T4 rating. The detector shall be CCOE (PESO) Nagpur approved for use in hazardous areas. Pump shall be integral part of Detector. PESO approval certificate shall be submitted along detector. Calibration of detector shall be done periodically/as per std by contractor. | 01 |
| 17 | Full Body Safety Harness (ISI Mark) with Test Certificate. | 03 |
| **D** | **Traffic Control Equipment:** | |
| 18 | Grand Light Bar with Inbuilt PA System with Multi tone Siren & Hooter in one unit | 01 |
| 19 | GPRS Navigation System with minimum 7" screen size fitted in driver cabin. | 01 |
| 20 | Dedicated smart mobile instrument with SIM, regular recharge of SIM shall be done by contractor | 01 |
| 21 | Battery operated Portable Public Address System - Philips / Ahuja / Grand make | 01 |
| 22 | Good quality HDPE Traffic Cones with sign boards and chain for barricading.<br>(i) Good quality HDPE Traffic Cones for traffic control having height of 2.5 feet having base of 12" dia marked with radium strips, stackable- 10 nos. along with 50-meter plastic chain.<br>(ii) Sign board of 30" x 12" made from 20 SWG MS plate with heavy duty frame and folding stand painting with following: Road closed, Gas Leak – Fire Hazard, No smoking – Danger, 02 each (marking should be of reflective material)<br>(iii) Portable battery operated 04 sets of flashing glow light bars shall be supplied. | - |
| 23 | Barricading Tapes/Roll (500 meters) [HNGPL Logo; HNGPL Limited] | 2 |
| **E** | **Lighting System** | |



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|---|---|---|
| 24 | **Safety Hand Lamp:** Rechargeable safety hand lamp with LED Ultra Bright. It must be light weight, intrinsically safe and suitable for use in Zones 0 or 1 and Gas groups IIA, IIB and IIC. It shall be ATEX / BASEEFA / CE / UL approved for safety rating / hazardous area Zone 1 use. It should have high impact resistant, electrostatic enclosure. The lamp enclosure shall ingress protection of at least IP 66 or higher. Light source should be LED and have single light source. Light output should be not less than 350 lumens. Light duration of lamp shall be up to 7 - 8hrs. The safety hand lamp must be supplied along with the AC & DC charger. The detachable shoulder strap shall be provided along with lamp. The necessary approvals / Test certificates shall be provided along with the hand<br>lamp. | 02 |
| **F** | **Tools** | |
| 25 | Non-Sparking Tool (Beryllium free Aluminum Bronze alloy) Box: 1 set of box spanners [Size- 10 to 40cm]<br>2 Still son wrenches, 150mm and 450mm<br>1 Sledge Hammer Gun Metal [0.5 &1.0 Kgs (IS841-1968)]<br>1 hammer/mallet (non-metallic)<br>Tools shall be of Mekaster / Snapon / Hindustan Everest / Hebei Boton or Equivalent make. | 01set |
| **F** | **Personal Protective Equipment** | |
| 26 | Carbon composite light weight & ergonomically designed Drager/MSA/Scott make, EN approved, BA set of minimum 40 minutes working duration, analogue display unit, along with 01 no's spare carbon composite light weigh cylinder. Back plate of BA set should be made of flame-retardant material. BA cylinders should have PESO approval and certificate should be given along with the BA Set.<br>Approvals:<br>• EN 137: 2006 (Type 2) approval for self-contained open circuit breathing apparatus.<br>• EN 136 class 3 for face mask (made of Silicon) | 01 |
| 27 | 3 layers Fireman Suit (preferably Nomex suite) approved to NFPA 1971, Two part trouser and jacket blue color with boot, Fireman Helmet Compacta, Hood, and Hand gloves complete set in carrying<br>bag. SIZE: XL | 02 |



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| 28 | PPEs - Safety Goggles-05Nos, Safety Goggles for Chemical splash-05Nos, Ear Plugs-50Nos, Ear muffs-10Nos, Polka dotted cotton hand gloves-50nos, Electrical Hand Gloves, IS/EN marked for 33KV-02 no's, Leather hand gloves- 02 nos., Face Shield - 02 no's,<br>Dupont-Tyvek coveralls -02 nos., nitrile gloves-5pairs | 01 |
| 29 | Fire Jacket with radium reflective tapes | 06 |
| 30 | Rain Coat & Gumboot (pair) of Duck back or equivalent | 02 |
| 31 | Good quality Big & Heavy-duty Umbrella for weather protection | 02 |

**Note:**

1. If any items/equipment as mentioned above in annexure-A gets damaged/used/misplaced/non-operational shall be replaced/repaired/refilled by contractor without additional cost to HNGPL.

2. All equipment are required to be approved technically by HNGPL. Thus, contractor has to provide/send the list of equipment along with its specification, brand, model etc. to HNGPL for approval.



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