



F.No.PI/NAHEP/CAAST DFSRDA/Quot./ 87h /of 2020

Date:05/ 02 /2020

To,

Dear Sir,

Subject: INVITATION OF QUOTATION FOR SUPPLY OF REFRIGRATED VAN

1. You are invited to submit your most competitive quotation for the following Goods: -

Sr. No	Brief Description of the goods	Specifications*	Quantity** (Unit)	Delivery Period	Place of Delivery	Installation requirement if any
1	Refrigerated Van	Technical Specifications Of Refrigerated Van are as follows	1	After awarding the contract & the period of validity of quotation	Office of PI, NAHEP, NAHEP-CAAST, VNMKV, Parbhani	Yes, with installation and technical demonstrations.

Description	Technical Specification
Storage Capacity	Refrigerated compartment capacity:
Applications	<ol style="list-style-type: none"> The refrigerated truck is required to transport large quantity of payload from GMSD to state and regional vaccine stores, where long distances are covered maintaining as per Para 3.0 In the insulated compartment. A single-phase motor compressor cooling unit, operating on 220 Volts, mounted on the driver's cabin. During the normal operation / running of the vehicle, the compressor shall be powered through a diesel generator. It should also have a provision to connect to external electric power source, in case of long halt at one location with vaccine load or any emergency such as diesel generator failure, or fuel shortage.
Temperature recording	<ol style="list-style-type: none"> The Refrigeration unit must maintain the interior of the insulated body / storage compartment at a temperature between- 2 degree to +8 degree Centigrade at any point, with full load or no load The specified temperature must always be maintained continuously, so long as any payload is expected to be loaded, or is in all ambient temperature conditions. The temperature gradient should not be more than 2 degree Centigrade across any two points in vaccine compartment. There should be provision to continuously monitor the temperature of the storage compartment. There should be a visual indicator at the dashboard for the driver to observe any temperature variation during the transport / storage of the vaccine load in the vehicle.



	<ol style="list-style-type: none"> 6. There should be provision to keep hard and soft copy records of the continuously monitored temperature. 7. These records need to be maintained for a minimum of three years.
Structure	<ol style="list-style-type: none"> 1. The body comprises of outer and inner panels and an insulating material. 2. The outer and inner panels should be of cold rolled (CR) sheet / stainless steel / Glass Reinforced plastic (GRP) or aluminum. 3. Inner chamber should not be connected with outer enclosure or doors through any thermally conductive material or joints. 4. The vaccine compartment should be reinforced appropriately to manage structural integrity and to handle 6000 kg pay load. 5. Internal ceiling-mounted low energy fluorescent or LED luminaries should be used for lighting of the vaccine compartment with an external switch with pilot light on the dashboard 6. The cargo chamber should have powder coated adjustable shelves having depth of 450mm and width 750mm running along the long sides. 7. Provision for two shelves in the cargo chamber along the two longer side walls. 8. The storage rack should have mechanism for bracing the vaccines cartons to prevent any movement or drop during the movement of the vehicle. 9. The bottom most shelf should provide a ground clearance of 100 mm. 10. The floor of the Vaccine storage compartment should be of robust structure capable of supporting the pay load and the movement on account of material handling. 11. There should be a camera facing the rear door and lock with screen in driver's cabin so that the driver can keep watch on rear door during travelling. 12. Four drainage points should be placed close to four corners with screw type cap at outside and removable plug from inside. 13. The caps and plugs should be so attached to prevent them from getting lost. The body should be in the aerodynamic shape from the front. 14. The roof should have slightly sloped to avoid accumulation of any rain water on its top. 15. Corners of the Vaccine storage compartment should be smooth without sharp edges. 16. Outer body should be painted white to reflect Sun light.
Outer panel – roof and side walls	<ol style="list-style-type: none"> 1. Suitable / SS / GRP Aluminium or CR sheets with quality PUF insulation to meet the pay load requirement and general wear and tear abuses. 2. Reinforcements / columns / sections must be used everywhere to maintain structural strength and integrity so as to support racks, ducts, fans, people movement, straps and hooks etc. 3. Refrigeration unit with DG Set must be supported on outer enclosure, properly reinforced, with adequate protection of the unit from natural elements. 4. Outer body should be totally leak-proof, to protect insulation and payload. 5. Refrigerator unit and DG set enclosure must have provision to drain rain water, any fuel leakage etc.
Inner panel – side wall and ceiling	<ol style="list-style-type: none"> 1. Suitable SS/GRP Aluminium or CR sheets with minimum 6 mm marine grade ply wood on walls. 2. All joints should be sealed with good quality durable sealants and fastened with SS screws adequate reinforcement of the inner walls to support air blower / duct network running along ceiling to provide uniform cooling in the cargo chamber.
Floor	<ol style="list-style-type: none"> 1. Floor must be of minimum 5 mm slip proof aluminum checkered plate, fastened on 19mm solid marine grade wood. 2. It should rest on reinforcements filled/ covered with PUF, over strong, steel / GRP/ wooden outer base. 3. Shelf to shelf walking way of the floor should be covered with the perforated non-slip rubber mat of minimum 20 mm thickness.



Door	<ol style="list-style-type: none"> Two leaves with outer and inner panels with thermal insulation identical to the rest of the compartment walls. It should be completely air sealed with FRP section and suitable PVC outer/ EPDM rubber inner profile. Both leaves should have multiple hinges (minimum 3). The door design should be in such a way that it should provide complete insulation from outside. The hinge and lock structure should lock the door at the bottom and top using latch bar cam lock. Doors should be connected to outer enclosure, suitably reinforced with steel / GRP / Aluminium or SS sections.
Door opening	<ol style="list-style-type: none"> Opening angle Minimum 270° There should be adequate mechanism to block the door in its open position. The opening must also be fitted internally with a clear plastic flexible strip curtain There should be a clear plastic flexible strip curtain at the extreme end of the vaccine compartment towards the door to minimize exchange / loss of refrigerated atmosphere when the door/s are opened for loading and unloading of vaccines.
Insulation	<ol style="list-style-type: none"> The insulated material should be poly urethane foam (PUF) Minimum foam density of 30 kg /cubic meter, with suitable wall and floor thickness 10.3 Thermal Conductivity: Maximum 0.025w/m⁰K for PUF /0.6 W/m²0K for cargo chamber at 10°C.
Hold Over Time	<ol style="list-style-type: none"> The vaccine storage compartment should hold the inside temperature below 10 degree Centigrade at least for 3 Hours at the ambient temperature of 43°C when it is not opened.
Refrigeration unit	<ol style="list-style-type: none"> The refrigerant must comply with the Montreal Protocol. It must be CFC-free and preferably HCFC-free. It is preferable to use a refrigerant that has low or 0 GWP. The refrigeration equipment should be independently diesel powered. There should be an automatic start-up and shut- down mechanism through electronic temperature control unit as defined in 17.
Unit installation	<ol style="list-style-type: none"> The refrigeration unit is installed on the body above the drivers' cabin of the vehicle. It should have suitable sized compressor, evaporator and control switches along with voltage stabilizer to maintain the temperature as defined in Para 3.0
Power supply	<ol style="list-style-type: none"> An inbuilt DG set integrated with refrigeration system should be provided with a by-pass arrangement for the Motor.
Stand by motor	<ol style="list-style-type: none"> A standby electric motor should be provided to drive the compressor of the refrigeration unit and maintain the internal temperature of the compartment at the desired level for pre-cooling the vaccine storage compartment or during Extended stops. A selector switch should be provided to select power option between diesel generator supply or 220 V single phase grid supply. An extension lead of 20 meters 3 core cable capable of carrying 15 amperes. (2.5 Sq.mm multi strand Copper conductor each) should be provided to connect the grid supply to the electric motor. The cable connection should be of the type 20970 / 16 A. There should be adequate provision, preferably. On the door of the vaccine storage chamber to roll the long electric cable in a manner to facilitate its storage and transport when not in use.
Temperature Control	
Temperature Monitoring	<ol style="list-style-type: none"> Effective air temperature monitoring with a minimum of two fixed sensors in the vaccine storage compartment. One sensor should be positioned below the cooling unit to measure return air temperature.



	<ol style="list-style-type: none"> 3. In the case of a cooling unit, which does not use forced air, the air temperature should be measured above and below the load, to take into account the likely vertical temperature gradients. 4. Sensors must be connected to a suitable recording instrument, permanently mounted in the vehicle cab. 5. In addition to temperature recorder, the truck should be fitted with an instantaneous digital temperature display on the driver's dashboard. 6. It should have visual as well as acoustic alarm system. As soon as the vaccine temperature crosses the safe range alarms alerts the driver. 7. GSM based location tracker should also be provided with cloud based/internet browser based monitoring, using free software to ensure that maximum permitted driving periods are not exceeded.
Digital Control unit	<p>A digital, programmable controller should allow auto & manual control of :</p> <ol style="list-style-type: none"> 1. air humidity, 2. Temperature control, 3. Defrost feature. <p>The control unit should provide visual indication of the following :</p> <ol style="list-style-type: none"> 1. Power on / off 2. Compressor on, 3. Return air temperature, 4. Supply air temperature. 5. Temperature of return air fan, 6. Defrost operations. <p>The diesel level of DG set fuel tank should be visible at the dash board of the driver.</p>
Additional Accessories	<ol style="list-style-type: none"> 1. A suitable size folding ladder should be provided. 2. Footsteps and hand grips at the back for climbing in the cargo box should be provided. 3. A hook for holding the cable of stand by motor at the inner side of the door should be provided. 4. The vehicle, doors of the refrigerated body and all fuel cap should be fitted with security deadlocks
Base Vehicle specifications	
Engine	<ol style="list-style-type: none"> 1. Diesel Engine 2. Direct Injection, 3. Turbo charged 4. Inter-cooled.
No. of Cylinder	1. In Line 6 Cylinder 4 Stroke direct ignition
Capacity	1. 5600 CC and above
Minimum KW/RPM	1. Minimum 90 KW @ 2400 rpm
Transmission	1. 5-4 Forward, 1 Reverse with power assisted steering mechanism.
Clutch	1. Dry single Plate
Brakes	1. Full Air S-Cam Brake
Frame Section	1. Rectangular
Cooling	1. Water Cooled
Voltage	1. Suitable : 12 / 24 Volts
Battery	1. Suitable of reputed and easily available brand
Fuel Tank	1. Minimum: 150 Liters.
Suspension	1. Semi Elliptical Leaf Spring.



Wheel Base	1. Minimum 4300 mm
Weight Carrying capacity	1. 1000-2500 Kgs or more
Ground Clearance	1. Minimum 160mm under maximum load
Wheel Drive	1. 2 Wheel Drive
Gross vehicle weight	2. Min. 11000 Kg.
Turning radius	3. Max. 9.0 meters
Emission norms	1. As per prevailing norms of Government of India and CPCB guidelines at the time of supply be BS-6 emissions norms.
Standard tool Kit	1. Standard tool kit such as lifting jack, Wheel spanner, screw drivers etc. should be provided with each vehicle.
Air tightness test of the doors	1. 0.5 cum per hour or less
Temperature Mapping	1. Maximum difference between any 2 points of the storage compartment is less or equal to 2 degree Centigrade. 2. The minimum should never be below 0 degree Centigrade, and the maximum should never be above 10 degree Centigrade. When the average is respectively 2 and 8 degree Centigrade.
Heat Leakage test	1. Once stabilized, temperature should not rise above 10 degree Centigrade in 3hours at 50 deg. Centigrade outside weather
Certificates of testing	1. All above mentioned test should be conducted through an approved laboratory by the Government of India and the equipment should be supplied along with roadworthiness certificate from ARAI / other NABL bodies. 2. The temperature monitoring device should be supplied with a traceable certificate of calibration which must be renewed annually. 3. The certificate should be valid for the range of temperatures (+ 2 to +8 Degree Centigrade) that the device normally measures.
Spare parts	1. A list of in country dealer network should be provided which holds the spare parts for the Vehicle as well as for refrigeration unit. 2. Provide a list of most commonly required spares along with cost.
Workshop and operating manuals:	Provide the following manuals in English: 1. User's operation manual for the refrigeration unit 2. Maintenance with trouble shooting manual for refrigeration unit 3. User's manual for the vehicle 4. Service and repair manual for vehicle with details of periodic maintenance

- The above price is including GST and other terms such as Technical support from purchase of goods from Feb 2020 up to Feb 2025.
- **Warranty:** Warranty against manufacturing defects for 12 months from the date of installation
- **GST, Loading, Unloading, Transportation, Installation time staying and food arrangements:** GST, Loading, Unloading and Transportation Inclusive in the quotation. Installation time staying and food arrangements vendors Scope.
- **Transit Insurance & Transport Charges Inclusive:** All equipment and materials to be supplied against Vendors risk. So, transit insurance, it is extra charges to be borne by Vendor. I.e. Transit Insurance.
- **Installation & Commissioning:** For Room Erection, Refrigeration units fitting, copper tubing, Insulation and cabling, Electrical Wiring is in Vendors Scope.
- **Place of Delivery:** CENTER OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTION BY ROBOTS, DRONES and AGVs. Vasantrao Naik



Marathwada Krishi Vidyapeeth Parbhani.

** Quantity of work may be varies.

* Where ISI certification marked Goods are available in market, procurement should generally be limited to goods with those or equivalent marketing only.

2. Government of India has received a financing from the International Bank for Reconstruction and Development World Bank towards the cost of the National Agricultural Higher Education Project NAHEP (CAAST DFSRDA, VNMKV, Parbhani) and intends to apply part of the proceeds of this loan to eligible payments under the contract for which this invitation for quotations is issued.

3. Bid Price

- a) The contract shall be for the full quantity as described above. Corrections, if any, shall be by made by crossing out, initialing, dating and re writing.
- b) All duties, taxes and other levies payable on the raw materials and components shall be included in the total price.
- c) Sales tax in connection with the sale shall be shown separately.
- d) The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- e) The prices shall be quoted in Indian Rupees only.

4. Each bidder shall submit only one quotation.

5. Validity of Quotation

Quotation shall remain valid for a period not less than 15 days after deadline date specified for submission.

6. Evaluation of Quotations

The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

- a) are properly signed; and
- b) conform to the terms and conditions, and specifications.

The quotations would be evaluated for all the item together/ would be evaluated separately for each item. [*Select one of the options.*]

Sales tax in connection with sale of goods shall not be taken into account in evaluation.

7. Award of contract

The purchaser will award the contract to be bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation prices.

7.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process the reject all quotations at any time prior to the award of contract.

7.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the supply/ purchase order.

8. Part payment or part supply orders will not be accepted. The payment will be made immediately after delivery of goods/setup/installation/training/assignment as per signed up/award of contract.



9. The necessary catalogue, leaf lets, operational manual or any other printed material related to goods/material should be provided during completion of contract.
10. Normal commercial warranty/ guarantee shall be applicable to the supplied goods.
11. The rates/prices should be FOR, VNMKV, Parbhani (MS) India. All leakages-breakage and losses in transit including shortages, if any will be borne by the firm/supplier. Offer should clearly mention the locations for which rates are quoted.
12. The firm should provide proof of GST registration no. / Tin no. / PAN no. and all legislative documents required as per world bank/ICAR New Delhi procedure.
13. **Onsite installation with technical demonstration and training** to core team member and technical staff should be provided by the supplier in consultation with expert team member of NAHEP-CAAST DFSRDA, VNMKV, Parbhani office.
14. In case, any holiday is declared by the Government on the day of opening, the bids will be opened on the next working day at the same time. The Principal Investigator, NAHEP - CAAST DFSRD reserves the right to accept or reject any or all the bids.
15. The bids of firm (s) which have either been black-listed by VNMKV, Parbhani or any other Govt. organization will not be accepted. In this regards, the firm has to give an undertaking on the enclosed format.
16. You are requested to provide your offer latest by **05 .00 PM on or before 24 /02 /2020 in the name of Principal Investigator, NAHEP-CAAST-DFSRDA, VNMKV, Parbhani – 431 402**. The bids will be opened on the last day of submission at the same time. All suppliers/firms are requested to be present in the chamber of undersigned.
17. Write the title “Quotation for supply of **REFRIGRATED VAN**” on top line of envelopment.
18. We look forward to receiving your quotations and thank you for your interest in this project.

Principal Investigator
National Agricultural Higher Education Project
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FORMAT OF QUOTATION FOR SUPPLIER

Sr. No.	Description Goods	Specifications	Qty.	Unit	Quoted Unit Rate in Rs.	Total Amount	
						Rupees	
TOTAL	In Figures						
	In Words						
GST							

Gross Total Cost: Rs.

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. (Amount in figure) Rs. (Amount in words) within the period specified in the Invitation for Quotation.

We also confirm that the normal commercial warrantee/ guarantee of Months shall apply to the offered goods.

We hereby certify that we have neither black-listed by VNMKV, Parbhani nor any other Govt. organization.

We hereby certify that we have no "Conflict of Interest" with NAHEP-CAAST DFSRDA, VNMKV, Parbhani office or staff. We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in corrupt, fraudulent, collusive, or obstructive practices (as defined in the prevailing World Bank's sanction procedures) in competing for or in performing the Contract.

Signature of Supplier

*** Supplier should also mention the discount offered.**