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|  | **Agreement for Performance of Work[[1]](#footnote-1)**Services |

**Terms of Reference**

This Agreement for Performance of Work (APW) is requested by:

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| --- | --- | --- | --- |
| Initiator: | Mr. Alexei Ceban | Reg.#: |  |
| Country: | Country Office in Moldova | Cluster / Dpt.: | N/A |

1. **\*Purpose of the APW**

To carry out procurement of two Refrigerated Vehicles for vaccine distribution in the country in order to ensure deployment of vaccines according to WHO Pre-qualification of cold chain-related products under the PQS system.

1. **\*Background**

Refrigerated vehicles are able to carry a higher volume of heat-sensitive vaccines compared to same-sized vehicles carrying cold boxes. Refrigerated vehicles are specially adapted to carry vaccines and pharmaceuticals at temperatures between 2°C and 8°C can be important elements of cold chain systems. Due to weekly distribution of COVID-19 vaccines and routine vaccines, there is a need of strengthening the vaccine distribution in a safe mode according to cold chain requirements.

The first goal of the national deployment and vaccination plant is to ensure the fundamental aspects related to the logistics and distribution of available vaccines. This action is conducted by National Agency for Public of Health (NAPH).

NAPH has an auto-refrigerator for distributing vaccines from national vaccine warehouse to regional/district level. The vaccine is transported in isothermal conditions that ensure the optimum vaccine storage temperature. The transport is provided with temperature monitoring equipment throughout the transportation with auto refrigerator.

The distribution is done to 37 administrative territories on the right bank of the Nistru and 7 administrative territories on the left bank of the Nistru. NAPH distributes the vaccines only by one auto refrigerator, this vehicle has to distribute vaccine to all district warehouses in 44 districts, including Transnistria region with more than 8.082 km for one distribution.

In order to optimize the distribution of vaccines in a centralized way, NAPH under MoH sent a request for support in procurement of two auto refrigerator, to be enable to distribute vaccine in cold chain requirements in three strategic direction in one day (North, Center and South).

1. **\*Planned timelines** (subject to confirmation)

November – December 2021

1. **\*Requirements - Work to be performed**

Objective 1: To ensure the fundamental aspects related to the logistics and distribution of available vaccines in Republic of Moldova to the vaccine warehouses district level.

Object 2: To carry out procurement of two Refrigerated Vehicles for vaccine distribution in the country in order to ensure deployment of vaccines according to WHO Pre-qualification of cold chain-related products under the PQS system.

1. **\*Requirements**

**Technical specifications of the Refrigerated Vehicles**

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| **Number** | **SPECIFICATION REQUIREMENTS** | **TYPE OF SPECIFICATION (Mandatory , Variable)**  |
| **A** | **B** | **C** |
|  |  |  |
| **I** | **VEHICLE** |  |
| **1.00** | **Functional**  |  |
| 1.01 | Intended for service in the harshest environments. 2020 or the latest model, Purpose: For transportation of vaccines within the temperature range of +2°C to +8°C  | Mandatory |
| 1.02 | Base Vehicle: A fixed refrigerated body fitted into cab chassis. | Mandatory |
| 1.03 | Payload: Minimum payload 800kg and Max 1,200kg (Pay load is defined as Gross Vehicle Weight minus Kerb Weight. Kerb Weight is the empty vehicle's weight including water, oils, tool box, jack, full fuel tank, cargo box including the backup diesel generator,if applicable, spare wheel and 75 kg driver). | Mandatory |
| 1.04 | Gross vehicle weight minimum 3,200 kgPlease indicate Gross Vehicle Weight and Kerb Weight | Mandatory |
| 1.05 | Lleft hand drive, diesel engine  | Mandatory |
| 1.06 | Emission standard: in compliance with Emission Standard EURO 6 | Mandatory |
| 1.07 | Diesel Engine: Normal aspiration or turbo charged, water cooled and direct injection type  | Mandatory |
| 1.08 | Vehicle's ambient operable temperature range -20ºC to +40ºC. | Mandatory |
| 1.09 | Vehicles to be provided in uniform white RAL9016 or similar color | Mandatory |
| 1.10 | Body with separate cabin for one row of seats (driver plus minimum one passenger)  | Mandatory |
| **2.00** | **Mobility**  |  |
| 2.01 | 4x4 drive capability | Variable |
| 2.02 | Hi-Low range gearbox | Variable |
| 2.03 | min 5 speed manual transmission (gearbox) | Variable |
| 2.04 | Principal fuel tank for diesel variants, minimum 500 km autonomy, calculated as fuel tank capacity (L) to Combined cycle fuel consumption\* (L/100 km) ratio. | Mandatory |
| 2.05 | Full size mounted spare wheel tire  | Mandatory |
| 2.06 | Steel or alloy off road wheels with weight ratings suitable for maximum Gross Vehicle Weight | Variable |
| 2.07 | Steel belt radial tires all terrain tubeless type | Variable |
| 2.08 | Wheel base minimum: 3180mm  | Mandatory |
| 2.09 | Ground Clearance minimum 215 mm | Mandatory |
| **3.00** | **Safety**  |  |
| 3.01 | 3 point seatbelts for driver and co-driver seat/s | Mandatory |
| 3.02 | Front air-bags to be fitted to both driver and passenger sides.  | Variable |
| 3.03 | Power assisted steering | Mandatory |
| 3.04 | Front towing hook. | Mandatory |
| 3.05 | Rear cargo door with key access | Mandatory |
| 3.06 | Cab air conditioning | Mandatory |
| 3.07 | All Vehicle Controls, Instrumentation and signs to be in English with metric graduation | Mandatory |
| 3.08 | Cloud-based GPS/satellite vehicle tachograph.   | Variable |
| 3.09 | Auxiliary coolant heater for a quickly cold engine starts, and preheated inside cabin. | Mandatory |
| 3.10 | Programmable vehicle speed limiter. | Mandatory |
| **4.00** | **Tools and spare parts** |  |
| 4.01 | A lockable range of tools, a jack for vehicle, a reflecting warning triangle plus special tools needed for vehicle service. Lockable doors to body, lockable fuel cap | Variable |
| 4.02 | A portable fire extinguisher securely mounted in the cab with a minimum total capacity of 4 kg suitable extinguishing agent | Mandatory |
| 4.03 | Spare parts for the vehicle to be supplied with the refrigerated vehicle to be supplied for minimum 3 years or 100.000km acording to warantySpare parts should be available for at least 10 years from receipt of the vehicle. | Mandatory |
| **II** | **REFRIGERATION SYSTEM**  |   |
| **II.A.**  |  **REFRIGERATED BODY** |  |
| **5.00** | **Refrigerated body- insulation and dimensions** |   |
| 5.01 | Refrigerated body fitted into cab chassis, internal gross volume of refrigerated body 10**-20m3**. Internal and external dimensions (length, width and height including door’s size to be specified by supplier). ( Specify Make, Model and Country of origin)Refrigerated vehicles – Performance specifications E002/RV01.3 - complience  | Mandatory |
| 5.02 | The body should be insulated to 0.4W/m2/°C (ATP heavily insulated specification), or better. The wall (front, side walls), floor, roof and door thickness to be specified by supplier.  | Mandatory |
| 5.03 | For use in ambient temperatures of +50°C & -20 °C and maintain the internal temperature of the refrigerated body within +2°C to +8°C OR -15 to -25°C with full load of vaccines. | Mandatory |
| 5.04 | Body structure to be rigid and capable of withstanding vibrations and shocks from rough roads while keeping the load fully secured when the vehicle is not fully loaded.  | Variable |
| 5.05 | All walls and roof panels (internal and external), sub-frames, main-frames and chassis must be anti-corrosive treated.  | Mandatory |
| 5.06 | The external surface of the body must be of a highly reflective finish (e.g. white) or more heat-reflective finish if available.  | Mandatory |
| **6.00** | **Refrigerated Body -Materials**  |   |
| 6.01 | Refrigerant: CFC- and HCFC-free to comply with the requirements of the most recent Montreal Protocol. such as R600a or other gases with global warming potential (GWP) ≤ 11 and zero ozone-depletion potential (ODP) are required. The casing and/or the compressor body of each refrigeration unit must carry a permanent label clearly identifying the refrigerant used, and in letters not less than 10 mm high.  | Mandatory |
| 6.02 | Thermal insulation foaming agents: CFC- and HCFC-free and complying with the limitations and deadlines set by the Montreal Protocol on the elimination of ozone-depleting chemicals.  | Mandatory |
| 6.03 | Other restricted materials: The product and its constituent components, excluding batteries, must not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated biphenyl ethers (PBDE).  | Mandatory |
| **7.00** | **Refrigerated Body Interior** |   |
| 7.01 | Interior to have LED lighting for loading operated by a micro-switch on the loading doors.  | Variable |
| 7.02 | Reinforced non-slip level flooring with no obstructions, such as wheel arches for example.  | Variable |
| 7.03 | Refrigerated body to have four drains with U bend or rubber fishtail for release of water – one in each corner of the body.  | Variable |
| **8.00** | **Refrigerated Body Door** |   |
| 8.01 | Box body type with two insulated doors insulated to 0.4W/m2/°C (ATP heavily insulated specification) or better at the rear for full width opening with at least three hinges per door. Hinges and closing mechanism must be of a robust design.  | Mandatory |
| 8.02 | There must be a mechanism from the inside to disconnect the outside lock so that exit must be possible from the inside of the refrigerated compartment.. | Variable |
| 8.03 | Mechanism required latching the door in open position, when swung open by 270 degrees against the side panels of the vehicle.  | Mandatory |
| 8.04 | Cold strip curtain fitted behind the doors.  | Mandatory |
| 8.05 | Foldable steps to be provided to rear doors and to side door if fitted. | Variable |
| **II.B.** | **REFRIGERATION UNIT**  |  |
| **9.00** | **Performance** |   |
| 9.01 | For use in ambient temperatures of +40°C & -20 °C and internal temperature of +2oC to +8°C heat extraction capacity to be at least 2.25 times the heat flowing though the insulation. Please indicate additionally make, model and model code of offered refrigeration unit and attach its brochure and specifications | Mandatory |
| 9.02 |  The temperature-controlled compartment needs to be maintained within +2oC to +8°C . Therefore, a heating capacity is required to provide low temperature protection | Mandatory |
| 9.03 | Refrigerant: CFC- and HCFC-free | Mandatory |
| **10.00** | **Power requirement** |   |
| 10.01 | Power backups (local grid or generator) to be available in case of failure of the primary source of power for the refrigeration unit: | Mandatory |
| 10.01.1. | For when the loaded vehicle is parked without access to mains electricity. Provision shall be made to allow the refrigeration unit to run for at least 48 hours on full vaccine load.  | Mandatory |
| 10.01.2. | For when the loaded vehicle is parked close to a source of mains electricity. Provision shall be made to power the refrigeration unit through an extension cable of at least 20 metres.NB: Mostly the mains power available in the field is 220-240V/50Hz-single phase | Mandatory |
| 10.02 | Vehicle needing 3-phase-powered cooling unit to be supplied with a single phase to three phase converter.  | Variable |
| 10.03 | Auto and manual defrost of the evaporator to be available | Mandatory |
| **11.00** | **Temperature monitoring and control** |   |
| 11.01 | Temperature sensor system with readout of minimum and maximum temperatures in the body visible to the driver with an audible alarm for temperature excursions colder than +2°C and warmer than +8°C OR if out of recommended range -15 to -25°C. Temperature sampling to include measurement at least every 5 minutes. | Mandatory |
| 11.02 | Temperatures to be electronically recorded and downloadable | Mandatory |
| 11.03 | Temperature controller, programmable by a specialist technician, that allows both auto and manual control of temperature and defrost status inside the body. | Variable |
| 11.04 | At least two sensors to be fitted, one below the cooling unit (warmest returning air), the other located close to where the vaccine load will be closest to the cold air exit. Please indicate the type of sensor (wireless or wired) | Variable |
| **III** | **Warranty, services and manuals** | Mandatory |
| **12.00** | **Warranty** |   |
| 12.01 | The refrigerated vehicle to be covered with warranty in the event of any component failure arising from defective design, materials or workmanship for a period of at least three year or 100,000km which ever comes first from the time the refrigerated vehicle is put into operation | Mandatory |
| 12.02 | Bidders to include contact details for service and maintenance of the vehicle and refrigeration system in Republic of Moldova | Variable |
| 12.01 |  Manuals: User instructions, service manuals, brochures, safety instructions and related documnents should be offered in En, Ru/Ro, for the vehicle and refrigeration syustem.Manufacturer and client to agree training for vehicle operators and maintenance technicians. | Mandatory |

1. **Inputs**

The overall activity shall be coordinated with inputs from the WHO the Requesting Officer from WHO CO, Ministry of Health and National Agency for Public Health.

1. **\*Activity Coordination & Reporting**

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| **Technical Officer:**  | **NPO, Alexei Ceban** | **Email:** | **cebana@who.int** |
| For the purpose of: | Technical supervision and instructions - Reporting |
| **Administrative Officer:** | **Project assistant, Anastasia Andronachi** | **Email:** | **andronachia@who.int** |
| For the purpose of: | Contractual and financial management of the contract |

1. **\*Characteristics of the Provider**

Supplier should ensure that all required quantity of items is made available from the local market in Moldova. Experience in developing and producing similar type of equipment with positive previous experience working with national authorities or other organizations will be an asset.

The supplier shall ensure that its procedures for awarding contracts and for the procurement of goods and services under this Agreement safeguard the principles of awards being made on an assessment of competitive quotations or bids. The supplier shall procure any such goods and services for the Project in accordance with internationally accepted standards, in compliance with the principles of transparency, proportionality, sound financial management, equal treatment and non-discrimination, with care being taken to avoid any conflict of interests, and taking account of the principles of quality, economy and efficiency. The supplier shall procure from entities that meet the standards established by WHO. The supplier shall retain all records relating to goods or services procured by it during the course of implementation of the Project for a period of at least five (5) years after the end date of the Project, and in accordance with the supplier’s procedures. Notwithstanding any contracts concluded by the supplier for the procurement of goods and services, the supplier shall be and remain fully responsible vis-à-vis WHO for the satisfactory and timely implementation of the Project, including any subcontracted work.

1. **\*Place of assignment**

The activity will include distribution of the equipment for National Agency for Public Health, National Vaccine Warehouse.

1. This template is only to be used for APWs granted to Companies, and not for APWs granted to Individuals. [↑](#footnote-ref-1)