

	Nordisk Sikkerhet AS
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	Ref.: Supply of vehicle for radiation monitoring and post-detection activities
	Project title: "Post-detection equipment and training for Lisichansk unit of Luhansk border detachment, SBGS, Ukraine"

Addendum No. 1

Questions and Answers No. 1

**Supply of vehicle for radiation monitoring
and post-detection activities
(mobile radiological complex)**

14th February 2022
Bærums Verk, Norway

The following questions have been sent to Nordisk Sikkerhet concerning the tender.
The questions and Nordisk Sikkerhet's answers are presented below.

Vehicle, Section 1

Q1: Should there be a roof (top) box for the entire roof area?

A1: No. It is requested by Specifications to cover the entire area of the roof with the luggage rack. The rooftop rack can cover a part of the roof or the entire roof of the vehicle. This question should be at the tenderer's discretion.

Q2: Does the air conditioner in the laboratory compartment have the ability to work autonomously with the car engine turned off?

Q2: Yes

Q3: GPS tracking system:

Q3.1: Should GPS only transmit location and speed?

A3.1: GPS tracking system shall transmit as minimum time, location and speed of the vehicle in the world coordinate system WGS 84.

Q3.2: Should we put only a GPS tracker on the vehicle or the entire software and hardware system to display information to the Border Detachment Head (tablet or additional PC)?

A3.2: Only GPS tracker shall be installed on the vehicle of Mobile Radiological Complex in the framework of the contract for the supply of vehicle for radiation monitoring and post-detection activities.

The provision of any software and hardware for the Border Detachment Head is not required.

Q3.3: For the system to work in the GPS tracker, you need to install seven cards from one of the mobile operators. Who has to provide seven cards for the system to work? If Contractor, then for how long should the system be supported to work properly?

A3.3: SIM-cards are not included in scope of the tender. SIM-cards of the national operator will be provided by the SBGS of Ukraine after the commissioning of the Mobile radiological complex.

3.4: Does the Customer consider it possible to use cloud-based vehicle tracking services that do not require payment for one vehicle?

A3.4: No, cloud services cannot be used. The SBGS of Ukraine is planned to deploy a departmental service for the GPS-monitoring of vehicles.

Radio stations, Section 1

Q4: It is indicated that it is necessary to supply 1 fixed (stationary) and 5 portable radio stations (UHF and VHF frequency range) within the COMPLEX kit.

Questions & Answers

Q4.1: Is it possible to offer one of the specified frequency ranges for all radio stations, if not, please indicate how to distribute these frequencies among radio stations?

A4.1: to be defined by the tenderer

Q4.2: Do you need an AES encryption function?

A4.2: Yes

Q4.3: For portable radios, please clarify:

With or without a keyboard? - To be defined by the tenderer.

With or without a display? - Yes, LCD.

What should it be compatible with?

The radio station shall support audio accessory and data communication device.

What frequency should radio stations be operated on - UHF or VHF?

Both, UHF and VHF

What should be the power of the radio, standard or high?

Stationary radio station: transmitter power of 25-45 W,

5 portable radios stations: power 1-5 W.

What does that mean - "active headphones with a headset"? Please see the picture below:



Q4.3: Concerning portable antenna, please clarify what equipment it is for and what frequency should it be designed for?

A4.4: Portable antenna spike which is intended for digital radios (for 136-174 MHz) and able to receive GPS signals.

Air cleaning system, Section 1

Q5: By what value should the pressure inside the vehicle exceed the outdoor pressure when the air purification system is operating?

A5: To be defined by the tenderer. It should be sufficient to support the increased air pressure inside the vehicle (in the driver's cabin and laboratory compartment) compared to outdoor air pressure.

Personal protective equipment (PPE), Section 4

Q6.1: Is it possible to supply protective boots 10 pairs, instead of specified within SOW - 100 pairs?

A6.1: No. As indicated in Specifications, Section 4, item "Protective suits/components", the personal protective equipment (PPE) must contain:

- Protective boots (10 pairs),
- Protective overboots (100 pairs).

Q6.2: Can we offer boots made of nitrile or the same material as capes?

A6.2: As stated in the Specifications, protective boots must be made of butyl rubber or equivalent material.

Q6.3: Please indicate the sizes of suits to be supplied, or distribute these sizes among ten suits. Possible sizes: S, M, L.

A6.3: Size M - 5 pcs., size L - 5 pcs.

System for automatic radiation monitoring of the environment, Section 5

Q7.1: Two detectors are declared in the radiation monitoring system, one of which must have an identification function. Which of the detectors does the Customer plan to use to measure ground pollution, either with or without an identification function?

A7.1: Both detectors, as two detectors have different measurement range.

Q7.2: Another detector that measures the radiation situation around the vehicle should be installed on the roof outside the vehicle, can it be hidden inside the vehicle under the roof? Please specify where do customer need to install detectors (for example “dose rate detector outside vehicle, spectrometric detector in collimator at floor of vehicle” etc.)

A7.2: For measurements, detectors should be placed outside the vehicle or a technical solution should be provided to ensure maximum sensitivity and accuracy of measurements (for example, detectors can be pulled out of the car, a special “window” can be opened, a very thin wall can be arranged in front of the detector, etc.).

7.3: The declared crystal size is D60x60 mm. Is it possible to offer a smaller crystal size D51x70 mm, if its other characteristics fully meet the requirements?

A7.3: Yes. This is acceptable as the proposed detection has the equivalent total volume of crystal NaI(Tl) and other technical characteristics meet or exceed the minimal requirements of Specifications.

Q7.4: Requirement: Visual and audible alarm unit – 1 pc,

Q7.4.1: It's separate unit or information can be on PC, were indicated all information?

A7.4.1: It must be a separate alarm device in accordance with Specifications. Besides, alarm signal should appear on the screen of workstation (PC) when alarm threshold is exceeded (for the purpose of double redundancy).

Q7.4.2: Which detector shall be start alarm – dose?

A7.4.2: Both detectors

Q7.5: Is it possible not to supply the data processing unit and the signaling unit if these functions will be performed by the software installed on one of the computers of the complex?

Questions & Answers

A7.5: It is not mandatory to supply a data processing unit in case if the data processing is carried out by the intellectual detection unit or by the computer (at the operator's workplace).

A separate alarm unit (with visual and audible signaling) must be supplied by the tenderer. Please see the Answer A7.4 above.

Q7.6: Requirement: Fixing elements to attach the detection units and collimator(s) to the vehicle

Questions:

Q7.6.1: System supplied as (A) a part of laboratory and shall be installed as fixed or (B) this is removable system and can be taken out if necessary?

A7.6.1: The system should be a mounted on/in the vehicle.

Q7.6.2: If answer at question 1) above is (A) – why need separate “Fixing elements...”?

A7.6.2: The system shall allow to fix both (2) detectors for the ground gamma survey in order to increase the efficiency of soil control.

The system must solve the following two tasks:

- a) Automated radiation monitoring of the environment (gamma radiation background),
- b) Automated radiation monitoring of the radioactive contamination of soil (ground gamma survey).

In its technical proposal the tenderer shall foresee the design solution to reconnect 2 detectors from the position “monitoring of gamma radiation background (measuring the ambient dose equivalent)” to the position “ground gamma survey (monitoring of soil contamination)”.

Therefore, demountable fixing elements for the ground gamma survey will be needed, they should ensure fast deployment of the system.

For the delivery, only one detector for the monitoring of gamma radiation background can be mounted on the vehicle and connected.

Weather Station, Section 6

Q8.1: Should the weather station be installed permanently on the roof of the vehicle or be able to be dismantled?

A8.1: It shall be a system which allows dismantling.

Q8.2: Should it be possible to receive data from the weather station while the vehicle is moving? If yes, then it will not be possible to dismantle it.

A8.2: The weather station will be used while the Mobile radiological complex is stationary.

Q8.3: Can the weather station be wired, given that it is permanently installed on the vehicle?

A8.3: Yes.

Q8.4: Can the weather station be mounted on a vehicle roof (top) box?

A8.4: Yes.

Questions & Answers

Q8.5: Usually the data from the weather station is displayed on a special monitor from the weather station manufacturer, which is installed in the operator's work area. In this case, should the information be duplicated on the operator's computer?

When choosing a weather station, can we offer only one of the options for displaying data from the weather station? On PC or on screen.

A8.5: For the SBGS of Ukraine the most convenient option is the output of weather data on the PC that allows SBGS to process information received by weather station by means of other computing programs.

But if a separate weather station monitor is installed in the operator's work area, it is acceptable too.

Isotope identification device, Section 7

Q9.1: The specified detector is cylindrical in shape and D30x30 in size, giving a detector volume of 21206 mm. Is it possible to offer devices with a detector of a different shape, but with the same or larger detector volume?

A9.1: Yes. This is acceptable, if the proposed detector has the equivalent or larger total volume of crystal NaI(Tl) and other technical characteristics meet or exceed the minimal requirements of Specifications.

Q9.2: Requirement: Ionizing radiation: Gamma and neutron

Question: No one requirements more in technical or functional characteristics – may be this is mistake in name and this requirement? And neutron channel never using for identification.

A9.2: As stated in the Specifications, the Isotope identification device must register gamma and neutron radiation. It is important to have additionally neutron measurements in the Isotope Identification Device, it may be independent neutron channel or simultaneous gamma-neutron measurements at the tenderer's discretion.

Q9.3: Requirement: Measurement of individual dose equivalent rate Hp(10)

Question: spectrometer is a separate NOT close to body device – this requirements for individual or personal dosimeters (which in a list of scope of supply in an amount 6 pieces). Can be deleted this incorrect requirements "individual"?

A9.3: In this case, measurement of Hp(10) is not required, the Isotope Identification Device must be able to perform measurements of ambient equivalent dose rate.

Q9.4: Requirement: Functions - Measurement of individual dose equivalent rate

Question: the requirement "individual dose equivalent rate" is a characteristic for individual dosimeters. Can be deleted this incorrect requirement "individual"?

A9.4: Please see the Answer A9.3 above.

Q9.5: Requirement: Power supply: From integrated accumulators

Question: can't be replaceable accumulator(s)? Why this restriction – only "integrated"?

A9.5: Yes, replaceable accumulator batteries are acceptable too. Non-rechargeable batteries are not accepted.

Multi-purpose survey meter, Section 8

Q10.1: Requirement: Scope of supply: Marinelli vessel – 1 pc and

Measurement range of specific (volumetric) activity for ^{137}Cs in the geometry of Marinelli vessel: From 100 to 105 Bq/kg (Bq/l) or better

Question: this is a specify requirements for radiometers, not for dosimeters – so using alpha, beta, gamma and neutron detectors and in the same time using device as radiometer is reduced the possible proposed model to one specific or zero. May be these requirements be deleted or may be proposed separate unit for measurement volumetric activity for ^{137}Cs in the geometry of Marinelli vessel?

A10.1: The term “Survey meter” means “Radiometer”. The Multi-purpose survey meter to be supplied under this tender shall be a dosimeter-radiometer according to Ukrainian classification.

Please refer to the list of functions given in Specifications, Section 8, item “technical specifications/functions”.

A separate unit for measurement of volumetric activity in the geometry of Marinelli vessel may be proposed by the tenderer.

Backpack for radionuclide identification and source location, Section 10

Q11.1: In order to expand the range of equipment that can be supplied as part of the COMPLEX, can we change the following parameters:

- detector resolution parameter from 7.5% or better to 8.5% or better;
- eliminate the requirement to have independent gamma and neutron channels. This will allow us to offer an innovative NaIL detector that measures both gamma and neutron channels simultaneously;
- remove the built-in cartography function, use GPS only to indicate the place of alarms or measurements;
- lower the energy range for the neutron channel for the upper level from 14 MeV to 10 MeV;
- delete the requirement "Assistance to localization of multiple RN materials (radiation sources) via user interface (incl. the calculation of estimated location for radiation source(s));"

A11.1: No, the technical requirements shall not be altered by the tenderer. The minimal technical requirement to the Backpack for Radionuclide Identification must be as stated in Specifications.

The Tenderer’s technical proposal should meet or exceed the technical requirements of the Specifications.

Q11.2: Requirements: Measurement range of individual dose equivalent rate Hp(10) and

Uncertainty of measuring individual dose equivalent rate Hp(10) when calibrated for ^{137}Cs , no more than

Question: the requirement “individual dose equivalent rate” is a characteristic for individual dosimeters. Can be deleted this incorrect requirement ““individual””?

Questions & Answers

A11.2: Please see the Answer A9.3 above. In this case, measurement of Hp(10) is not required, the Backpack for radionuclide identification must be able to perform measurements of ambient equivalent dose rate. Other parameters remain the same.

Other sections of Specifications

Q12: Within SOW [Specifications] it is specified the necessity to supply COMPLEX within 270 days from the date of signing the contract. Today, unfortunately, the automotive industry has been hit hard by the semiconductor manufacturing crisis. The situation on the market is such that a vehicle with the configuration specified in SOW should be expected for about a year from the date of placing the order.

Shall this statement be reworded as follows: "Delivery time for COMPLEX to the Customer within 90 days from the date of documented receipt of the vehicle by the Contractor."

A12: The Contracting Authority has extended the delivery period for the Mobile radiological complex from 150 day to 270 days (~ 9 months).

According to Section 30 of Invitation to tender the tenderers may request the Contracting Authority to consider minor deviations, objections or reservations from the requirements of the tender documents provided that such deviations are substantially justified.

The tenderer must clearly specify the proposed exact term for the delivery of the Mobile radiological complex to the Recipient, State Border Guard Service of Ukraine, in his tender offer, in the List of Deviations.

Any minor reservation or deviation from any requirements, provisions or specifications in any of the procurement documents shall be clearly and expressly stated in the List of deviations. Please Ref. to Clauses 30.1, 30.2 and Clause 27.1 (bullet 6) to Invitation to tender.

Contracting Authority reserves the right to accept or reject any deviations.

Q13: Would the end user be staunchly opposed to equipment of Belarusian origin offered as part of the Complex?

A13: Any proposed equipment can be manufactured in Belarus and in other countries mentioned in Clause 5.1 of Invitation to tender.

At the same time, in accordance with Section 17 of Specifications and Clause 13 of Tentative contract the tenderer shall guarantee the warranty and post-warranty repairs on the territory of Ukraine by an official representative of the manufacturer or authorized service centre for vehicle and radiation monitoring instruments included in the scope of supply.

Thus, to be eligible for tender, an official representative of the manufacturer or authorized service centre must be available in Ukraine.

Final notes

Specifications to tender documents define the minimum technical requirements to equipment to be the supplied. The Tenderer's technical proposal should meet or exceed the technical requirements of the Specifications.

Other parameters which are not prescribed by the Specifications are to be defined by the tenderer at his own discretion, taking into account the purpose of this contract.