



Annex “Specifications”

	Nordisk Sikkerhet AS
	Tender title: Supply of RN material hand-held detectors and personal dosimeters
	Project title: “RN material detection, protection, dosimetry equipment and training for Zhytomyrskiy Border Detachment, SBGS, Ukraine”

Specifications

Supply of RN material hand-held detectors and
personal dosimeters

Contracting Authority: Nordisk Sikkerhet AS

Recipient: Zhytomyrskiy Border Detachment of SBGS

Tenderer's name: _____

Contents

1.	LOT 1: GAMMA AND NEUTRON HAND-HELD DETECTORS	2
2.	LOT 2: PERSONAL ELECTRONIC DOSIMETERS.....	4
3.	DOCUMENTATION.....	5
4.	DELIVERY TERMS AND CONDITIONS.....	5
5.	TRAINING COURSE: OPERATION, MAINTENANCE AND REPAIR	6
6.	WARRANTY AND POST-WARRANTY SERVICES.....	7
7.	TIME SCHEDULE.....	8

Annex “Specifications”

NOTE

The Tenderer shall fill in the Annex “Specifications” in the format given below. The Tenderer’s proposed supplies should be manufactured and certified in accordance with the technical regulations and standards of Ukraine. The complete table should be submitted to the Contracting Authority along with the required tender documents. On the front page of the Annex “Specifications”, the Tenderer shall indicate its name. After the completion of this document, it should be signed and dated by the Tenderer-authorized person.

1. LOT 1: GAMMA AND NEUTRON HAND-HELD DETECTORS

	Contracting Authority’s Requirements	Tenderer’s Offer
Manufacturer	—	
Model	—	
Scope of supply	50 pcs	
TECHNICAL SPECIFICATIONS		
Detection channels	Gamma, neutron independent channels	
Energy range of detected gamma radiation	From 60 keV to 3 MeV or better	
Energy range of detected neutron radiation	From 0.025 eV to 14 MeV or better	
Measurement range of individual dose equivalent rate Hp(10)	From 0.01 µSv/h to 70 µSv/h or better	
Uncertainty of measuring individual dose equivalent rate Hp(10) when calibrated for ¹³⁷ Cs, no more than	± 30%	
Setup time of operating mode, no more than	2 min	
Measurement time, no more than	2 sec	
Alarm indication	Visual and audible alarms when thresholds are exceeded. Haptic alarm is an advantage.	

Annex “Specifications”

	Contracting Authority's Requirements	Tenderer's Offer
Functions	<ul style="list-style-type: none"> - Indication of measured values on the built-in display; - Adjustable thresholds for alarm; - Recording the measurements in the non-volatile memory. 	
Battery and battery life	Battery life should be greater than 40 hours under no alarm conditions for instruments with non-rechargeable batteries and greater than 12 hours for units with rechargeable batteries.	
Weight, no more than	1.0 kg	
Physical dimensions	Compact, suitable for handheld use. Comfortable carrying handle and attachment to clothing is an advantage.	
Shockproof	Yes	
Waterproof, no less than	IP54	
Mean time between failures, no less than	4000 hours	
Service life, no less than	6 years	
ENVIRONMENTAL REQUIREMENTS		
Ambient temperatures	From -30 to +45 °C	
Relative humidity	Up to 95% at ambient temperature of 35°C and lower, without condensation of moisture	
PRESERVATION AND PACKAGING		
Packaging	Protection for transportation, handling and reliable storage without re-preservation within 1 year upon delivery.	
OTHER REQUIREMENTS		
Certified for use in Ukraine	Yes	
Visibility of Norwegian financing	Any equipment delivered under the contract should be clearly identified and should have metallic plates or indelible labels containing the flag of Norway and the phrase “Provided with support from the Government of Norway” in Ukrainian and in English.	

Annex “Specifications”

2. LOT 2: PERSONAL ELECTRONIC DOSIMETERS

	Contracting Authority's Requirements	Tenderer's Offer
Manufacturer	—	
Model	—	
Scope of supply	1. Personal electronic dosimeters – 50 pcs. 2. Spare parts for 3 years of operation (accumulator batteries) – 1 set (to be defined by the tenderer)	
TECHNICAL SPECIFICATIONS		
Energy range of registered gamma radiation	From 60 keV to 3.0 MeV or better	
Measurement range of individual dose equivalent rate $H_p(10)$	From 0.1 $\mu\text{Sv/h}$ to 1 Sv/h or better	
Measurement range of individual dose equivalent $H_p(10)$	From 1 μSv to 9.9 Sv or better	
Weight, no more than	0.15 kg	
Dimensions	Compact, suitable to be worn on a belt or to be carried in a pocket for hands free operations	
Alarm indication	Visual and audible alarms when thresholds are exceeded. Haptic alarm is an advantage.	
Functions	- Indication of measured values on the built-in display; - Adjustable thresholds for alarm; - Recording of dose accumulation history in the non-volatile memory.	
Battery and battery life	Rechargeable battery shall provide more than 12 hours of continuous operation. Alternatively, a battery shall provide more than 800 hours of continuous operation	
Shockproof	Yes	
Waterproof, no less than	IP54 or more	
False alarm rate, less than	1 false signal in a 12-hour period for background dose rates of up to 0.2 $\mu\text{Sv/h}$	
Mean time between failures, no less than	4000 hours	
Service life, no less than	6 years	

Annex “Specifications”

ENVIRONMENTAL REQUIREMENTS		
Ambient temperatures	From -10 to +45 °C	
Relative humidity	Up to 95% at ambient temperature of 35°C and lower, without condensation of moisture	
PRESERVATION AND PACKAGING		
Packaging	Protection for transportation, handling and reliable storage without re-preservation within 1 year upon delivery.	
OTHER REQUIREMENTS		
Certified for use in Ukraine	Yes	
Visibility of Norwegian financing	Any equipment delivered under the contract should be clearly identified and should have metallic plates or indelible labels containing the flag of Norway and the phrase “Provided with support from the Government of Norway” in Ukrainian and in English.	

3. DOCUMENTATION

	Contracting Authority's Requirements	Tenderer's Offer
DOCUMENTATION		
Technical specifications	In Ukrainian/Russian	
Operator's manual	In Ukrainian/Russian	
Passports for technical means	In Ukrainian/Russian	
Certificate of primary metrological verification	In Ukrainian/Russian	
Pattern approval certificate or equivalent document attesting certification of measurement instrument in Ukraine	In Ukrainian/Russian	
Training documentation	In Ukrainian/Russian	
Transportation documentation	In English and Ukrainian	

4. DELIVERY TERMS AND CONDITIONS

	Contracting Authority's Requirements	Tenderer's Offer
DELIVERY TERMS AND CONDITIONS		
Terms of Delivery	DDP, Incoterms 2010	
Place of Delivery	Zhytomyr, Ukraine	
Delivery Time	≤ 120 calendar days after the date of contract signature	

Annex “Specifications”

5. TRAINING COURSE: OPERATION, MAINTENANCE AND REPAIR

	Contracting Authority's Requirements	Tenderer's Offer
Place of training (training room to be provided by the Recipient)	Zhytomyrskiy Border Detachment of SBGS, Ukraine	
Duration of training course	2 days	
Language of training course	Ukrainian or English	
Number of trainees, up to	50 persons	
Themes to be covered	<ul style="list-style-type: none"> - Nature of ionizing radiation, - Interaction of ionizing radiation with matter, - Radioactive sources and nuclear materials to be detected using the supplied measuring instruments, - Operating principles of measuring instruments, - Detailed analysis of algorithms and features of operation, - Use of measuring instrument, - Setting-up procedures, - Procedures of calibration and measurements, - Maintenance, - Minor repairs, - Specialized software: installation and operation. 	
Theoretical part duration, no less than	1 day: - 4 h for gamma and neutron handheld detectors, - 4 h for personal electronic dosimeters.	
Practical part duration, no less than	1 day: practical training at Recipient's training room and/or at border check point	
Instructional video	Optional	
Verification	Test, written form	
TRAINING COURSE DOCUMENTATION		
One certificate per trainee	In Ukrainian and English	
List of materials to provide per trainee	<ul style="list-style-type: none"> - Set of training materials; - User's documentation; - Training materials on one CD/DVD. 	
Training materials language	In Ukrainian/Russian	

Annex “Specifications”

	Contracting Authority's Requirements	Tenderer's Offer
Results of test after training should be delivered to the Contracting Authority and Recipient	Yes	

6. WARRANTY AND POST-WARRANTY SERVICES

	Contracting Authority's Requirements	Tenderer's Offer
WARRANTY AND POST-WARRANTY SERVICES		
Duration of warranty period	≥ 24 months	
Place of warranty repairs and maintenance	Ukraine	
Presence of official representative of the manufacturer or authorised service centre in Ukraine	Yes	
Technical support during warranty and post-warranty period	Technical support by email or telephone in Ukrainian/English to solve any technical problems (software failure, anomalous behaviour, minor improvements concerning process, functional capabilities of data processing, etc.) and rectify any system-disabled state	
After-sales service	Compulsory after-sales service to be provided under a separate agreement with the Recipient shall include the following: - Maintenance and post warranty repair of the Equipment on the territory of Ukraine; - Rapid provision of spare parts and consumables.	

Annex "Specifications"

7. TIME SCHEDULE

No.	Action	Period of completion	Tenderer's Offer
1.	Submission of documents: - Technical specifications.	Within 45 calendar days after the signing of Contract	
2.	Submission of documents: - Operator's manual, - Passports/logbooks for technical means, - Certificate of primary metrological verification, - Pattern approval certificate or equivalent document attesting certification of measurement instrument in Ukraine, - Transportation documentation.	2 weeks before the scheduled shipment and supplied with equipment	
3.	Submission of documents: - Training course documentation.	2 weeks before the scheduled training	
4.	Equipment delivery	Within 120 calendar days after the signing of Contract	
5.	Training of personnel	Within 120* calendar days after the signing of Contract	

Note: *) The personnel training must be carried out not later than within one hundred and twenty (120) calendar days after the signing of Contract. The actual dates of training shall be confirmed by the Recipient and Contracting Authority no later than ten (10) days before the training course.

Authorized person on behalf of the Tenderer:

Name: _____

Title: _____

Signature: _____

Date: _____