



Annex “Specifications”

	Nordisk Sikkerhet AS
	Tender title: Supply of Isotope identification devices
	Project title: “RN material detection, protection, dosimetry equipment and training for Zhytomyrskyi Border Detachment, SBGS, Ukraine”

Specifications

Supply of isotope identification devices
(gamma spectrometers)

Contracting Authority: Nordisk Sikkerhet AS

Recipient: Zhytomyrskiy Border Detachment of SBGS

Tenderer's name: _____

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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. ISOTOPE IDENTIFICATION DEVICE

	Contracting Authority’s Requirements	Tenderer’s Offer
Manufacturer	—	
Model	—	
Scope of supply	1. Isotope identification device - 5 pcs. 2. Calibration/reference sources for routine operation (in case if there is no built-in reference source) – 5 pcs.	
TECHNICAL SPECIFICATIONS		
Type	Handheld device	
Ionizing radiation	Gamma	
Detector type	Spectrometric scintillation detector	
Energy range of detected gamma radiation	From 50 keV to 3 MeV or better	
Relative energy resolution for line of 662 keV (^{137}Cs), no less than	8 %	
Automatic identification of radionuclides	- Nuclear materials: ^{233}U , ^{235}U , ^{239}Pu ; - Medical radionuclides: ^{18}F , ^{67}Ga , $^{99\text{m}}\text{Tc}$, ^{111}In , ^{123}I , ^{125}I , ^{131}I , ^{133}Xe , ^{192}Ir , ^{201}Tl ; - Naturally occurring radioactive materials: ^{40}K , ^{226}Ra , ^{232}Th , ^{238}U ; - Industrial radionuclides: ^{57}Co , ^{60}Co , ^{133}Ba , ^{137}Cs , ^{192}Ir , ^{226}Ra , ^{241}Am .	
Measurement of individual dose equivalent rate Hp(10)	From 0.01 $\mu\text{Sv/h}$ to 0.5 mSv/h or better	
Channels of amplitude gamma spectrum, no less than	1024	
Built-in radiation source for automatic calibration	Not required, but advantageous to have	
Recording gamma spectra in a non-	Yes	

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	Contracting Authority's Requirements	Tenderer's Offer
volatile memory		
Functions	<ul style="list-style-type: none"> - Automated identification of gamma-emitting radionuclides; - Measurement of individual dose equivalent rate; - Indication of measured values on the built-in display; - Storing spectra in a non-volatile memory and transferring to the PC; - Radiation safety alarm; - Assistance to energy calibration of the spectrometer (would be an advantage). 	
Power supply	From integrated accumulators	
Time of continuous operation at gamma background (not more than 0.5μSv/h) under non-alarm conditions, no less than	8 hours	
Total weight of all the components, no more than	3.5 kg	
Physical dimensions	Compact, portable, suitable for hand-held use	
Waterproof, no less than	IP54	
Mean time between failures, no more than	4000 hours	
Service life, no less than	6 years	
ENVIRONMENTAL REQUIREMENTS		
Ambient temperatures	From -20 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	

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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.	
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2. 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	

3. DELIVERY TERMS AND CONDITIONS

	Contracting Authority's Requirements	Tenderer's Offer
DELIVERY TERMS AND CONDITIONS		
Terms of Delivery	DDP, Incoterms 2010	
Place of Delivery	125 S. Paradzhanova St., 10025, Zhytomyr, Ukraine	
Delivery Time	≤ 90 calendar days after the date of contract signature	

4. 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: 55A T. Shevchenko St., Ovruch City, 11101, Zhytomyr region, Ukraine	

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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, - Fundamentals of gamma-ray spectrometry, - Radioactive sources and nuclear materials to be detected using the isotope identification device, - 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	
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	
Results of test after training should be delivered to the Contracting Authority and Recipient	Yes	

5. 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	

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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.	

6. 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 90 calendar days after the signing of Contract	
5.	Training of personnel	Within 90* calendar days after the signing of Contract	

Note: *) The personnel training must be carried out not later than within ninety (90) 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.

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Authorized person on behalf of the Tenderer:

Name: _____

Title: _____

Signature: _____

Date: _____