

**Project Fiche - 2009 IPA Horizontal Programme
on Nuclear Safety and Radiation Protection**

1. Basic information

1.1 CRIS Number: 2009/021-640
1.2 Title: Upgrading of Radiation Protection and Safety Monitoring
1.3 ELARG Statistical code: 03.64 - Nuclear Safety
1.4 Location: Tirana - Albania

Implementing arrangements:

1.5 Contracting Authority:

The European Community represented by the Commission of the European Communities for and on behalf of Albania.

1.6 Implementing Agency:

Not applicable.

1.7 Beneficiaries:

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Financing

1.8 Overall cost (VAT excluded)¹: EUR 115 000
1.9 EC contribution: EUR 110 000
1.10 Final date for contracting: 2 years following the date of conclusion of the financing agreement
1.11 Final date for execution of contracts: 2 years following the end date for contracting
1.12 Final date for disbursements: 1 year following the end date for execution of contracts

¹ The total cost of the project should be net of VAT and/or other taxes. Should this not be the case, the amount of VAT and the reasons why it should be considered eligible should be clearly indicated

2. Overall Objective

2.1 Overall Objective:

To decrease exposure to ionising radiation in both the medical and industry sectors and be in line with the Community *acquis* in the field of nuclear safety and radiation protection.

2.2 Project purpose:

To upgrade the current technical evaluation of ionising radiation devices used in medical centres and industrial companies of Albania in order to reduce patient and occupational exposure, and to provide training on radiation protection.

2.3 Link with AP/NPAA/EP/SAA

The sectoral policies of the European/Accession Partnerships with Albania in the field of environment mention the strengthening of the administrative capacity and alignment to the *acquis*. The 2007 and 2008 Progress Report of the European Commission on Albania stated that the situation in the field of nuclear safety and radiation requires significant improvement in terms of coordination and organisation of the activities.

2.4 Link with MIPD

The IPA Multi-beneficiary Multi-annual indicative Planning Document (MIPD) 2009-2011², *section 2.3.3.11 - Nuclear Safety and Radiation Protection*, mentions that "All IPA eligible beneficiaries are facing radiological issues that are connected with the use of radionuclides for industrial and medical applications. Moreover management of radioactive waste in hospitals may require investments and training of the personnel". Therefore this project proposal which deals with the reduction patient and occupational exposures in medical centres and industrial companies, including the management of the resulting radioactive waste, is fully in line with the MIPD activities.

2.5 Link with National Development Plan

Not applicable.

2.6 Link with national / sectoral investment plans

Not applicable.

3. Description of project

3.1 Background and justification:

Presently, there are imaging departments or services in several hospitals in Albania that use conventional radiography, fluoroscopy, mammography and Computerized Tomography (CT). Most of them are located in the main urban areas: Tirana, Durrës, Shkodra, Korça and Vlora, namely:

- University Hospital Centre “Mother Tereza”, Tirana,
- National Trauma Centre, Tirana

² Include reference

- Diagnostic Centre “IKEDA”, Tirana
- Regional Hospital, Durrës
- Regional Hospital, Shkodra
- Regional Hospital, Korça
- Regional Hospital, Vlora

Simultaneously, many industrial companies use sealed radioactive sources for different applications in oil and petroleum exploration and industrial procedures:

- SERVCOM, Fier, Albanian Company
- ATLAS, Fier, British Company
- Harry LENA Group, Agro-alimentary Albanian Company

Several X Rays Units in hospitals and medical establishments spread over the country perform a number of radiological examinations for diagnostic purposes. These units use deficient and old equipments for diagnostic, continuously exposing patients and medical staff to danger of radiation. For this reason, it is essential that the existing equipments are regularly checked and evaluated to protect patients and operators in medical establishments.

The use of new radiation techniques and devices (diagnostic and therapeutic) and the application of radionuclides should become increasingly significant during the next years. Therefore, particular attention should be paid to radiation protection of the public, patients and personnel working in the respective imaging, nuclear medicine and radiotherapy departments and services in hospitals.

Moreover, the industry is gradually using more radiation equipment and radioactive gauges for characterisation of technological procedures and characterisation of materials. Actually some companies have foreseen the use of strong radioactive sources for irradiation of materials and non-destructive testing methods (X-ray and Gamma radiation).

In Albania, most of the hospitals, medical centres and companies have a license issued from the Radiation Protection Commission. However, in several institutions in particular public institutions the situation is rather weak regarding the respect of procedures and regulations on radiation protection and nuclear safety.

For this reason, the project intends to perform an overview of the main institutions of Albania (hospitals, medical centres and industrial companies) that are using radionuclides and later on to assist these institutions in the improvement of the technical parameters of radiation equipment, and finally to recommend further steps for the full application of safety and security standards.

In Albania there are institutions, which carry out activities in the field of nuclear safety and radiation protection. The Regulatory Body is represented by the Radiation Protection Commission, headed by Minister of Health and its activity is related to licensing, authorisation, import – export, and enforcement.

From 2007 the Albanian Government has put into practice a new structure related to education and research in the nuclear area, where research institutes are now part of the university system and the staff of research centres / institutes was reduced by 60%. In this context, the Centre of Applied Nuclear Physics is now part of the University of Tirana and carries out activities that are related to radiological emergencies, dosimetry control, calibration of radiation monitoring equipments, management of radioactive waste and monitoring of the radioactivity into the environment. The Institute of Geosciences is part of the Polytechnic University of Tirana and the Geophysical

Department performs monitoring activities that are related to radon measurement and NORM.

The Institute of Radiation is a new non governmental organisation which carries out activities in the field of new radiation techniques and methods, radiation protection and safety from ionising radiations, and physical protection and security of radioactive sources. The Institute of Radiation has the competence to give advice concerning radiation techniques and methods, to develop expertise, to participate in different projects, and to give recommendations. The efforts of the Institute staff are focused in the calculation of shielding to protect public and professional staff from ionising radiations, the evaluation of safety procedures, the physical protection and security of radioactive sources. The activities of the Institute of Radiation are fully complementary to those performed by public institutions and until now it is cooperating with medical centres and industrial companies for the evaluation of shielding, radiation protection and safety, security of radioactive materials, and training of the operators.

At present, although occupational exposure is controlled partially by personal thermo luminescent dosimeter, in many centres and companies there is a lack of safety and security culture and often the equipment that generates ionising radiation is not under the permanent technical control of the staff. As a result, this project intends to upgrade the situation and to recommend through administrative channel the application of EU Council Directives and recommendations of the International Agency for Atomic Energy.

3.2 Assessment of project impact, catalytic effect, sustainability and cross border impact

The project will contribute to reduce patient and occupational exposure in the diagnostic departments of the medical centres and hospitals, and in industrial companies using sealed radioactive sources in Albania.

It will impact on the approximation of the Albanian regulations with EURATOM Council Directives in the field of radiation protection and in particular with the Directives 96/29 and 97/43.

It will also enable a better control and security of radioactive sources and thereby will contribute to prevent illicit trafficking of radiation sources in the Western Balkans.

To become sustainable this project should also comprise a training component of the personnel that is using ionising radiation equipments/sources.

There is no cross border impact of this project other than preventing illicit trafficking of radiation sources.

3.3 Results and measurable indicators:

Results in relation with activity 1:

- 1.1. Current situation in the country regarding radiation protection of users of devices generating ionised radiation assessed;
- 1.2. Procedures to be applied recommended;
- 1.3. Strategy for the improvement of radiation protection and safety in medical centres and industrial companies in Albania drawn up;

- 1.4. Needs for technical assistance for different devices generating ionising radiation assessed;
- 1.5. Technical parameters and exposure to ionising radiation in the departments and services of the institutions listed in section 3.1 assessed.
- 1.6. Re-assessment of radiation protection in the Albanian organisations, institutions and companies that are using devices generating ionising radiation with the equipment delivered.
- 1.7. Specific regulations on radiation protection may be drafted.

Results in relation with activity 2:

- 2.1. Appropriate equipment in line with the recommendations of activity 1 purchased and delivered;
- 2.2. Training courses organised.

Results in relation with activity 3:

- 3.1. Dissemination of the project results through the organisation of a round table and publications;
- 3.2. Presentation of an Action Plan for further upgrading of the facilities where devices generating ionising radiation are used.

Indicators:

1. New regulations on radiation protection drafted
2. Quantification of the devices generating ionising radiation that need to be re-calibrated;
3. Specifications of the equipment to be purchased;
4. Procurement procedure launched;
5. Attendance certificates for at least three Albanian experts;
6. Workshop (round table);
7. Publication of results.

3.4 Activities:

Activity 1: One service contract that should cover the following sub-activities:

- 1.1. Assessment of the current situation in the country regarding radiation protection of users of devices generating ionised radiation. It should consist of establishing a methodology to perform the assessment in close cooperation with the Albanian organisations dealing with nuclear safety and radiation protection. All relevant Albanian organisations and companies that should be assessed will be listed.
- 1.2. Application of the methodology to assess the proper functioning of devices generating ionising radiation as well as the exposure of workers and the members of the public in the selected Albanian organisations and companies. Elaboration of procedures to be applied in order to reduce the exposure.

- 1.3. Drawing up of a strategy in order to improve radiation protection, safety and security in the Albanian organisations, institutions and companies that are using devices generating ionising radiation.
- 1.4. Determination of the technical specifications of the equipment needed to improve the quality of the assessment of the exposure of members of the public and workers in Albanian organisations, institutions and companies using devices generating ionising radiation.
- 1.5. Assessment on the public/ workers exposure from the use of devices generating ionising radiation.
- 1.6. Based on the assessment, specific regulations on radiation protection may be drafted.

Activity 2: One supply contract for:

The delivery of the following pieces of equipment upon the condition that their need is confirmed by the implementation of activity 1. It will also include the organisation of training courses for proper use of the equipment (three Albanian experts for one week).

- X-ray monitoring and dose measurement device (2 pieces)
- X ray Test device for Radiography, Fluoroscopy, CT, mammography (2 pieces)
- Gamma radiation identification and dose rate measurement – Hand held device
- Alpha – Beta contamination monitoring
- Ionizing chamber and electrometer
- Personal electronic dosimeters (4 pieces)
- Computer, printer, projector and screen

Activity 3: One service contract fully financed by the beneficiary organisation, for the dissemination of the results of the project, i.e. the organisation of a round table with the stakeholders of the Albanian organisations, institutions and companies that are confronted with radiation protection issues, and publication of the results of the discussions.

3.5 Conditionality and sequencing

The implementation of this project requires that the regulations of licensing, safe use of radioactive sources and other regulations, which have been prepared and approved by the Radiation Protection Commission - as the Regulatory Body - are approved by the Albanian Government for implementation in all centres, companies and institutes in Albania. Activities no 1, 2 and 3 will be implemented one after the other.

3.6 Linked activities

Not applicable.

3.7 Lessons learned

The 2007 IPA horizontal programme on nuclear safety and radiation protection in which Albania participates has barely started. There is no relevant information available yet on the transposition of the Council Directives Euratom by the IPA eligible countries. For already several years, the International Atomic Energy Agency has been providing support to the Albanian organisations dealing with radiation protection. This support mainly consists in technical assistance and supply of equipment. One of the main difficulties encountered lies in the relatively small number of persons having nuclear expertise in this country.

4. Indicative Budget (amounts in EUR)

			SOURCES OF FUNDING									
			TOTAL EXP.RE	IPA COMMUNITY CONTRIBUTION		NATIONAL CONTRIBUTION					PRIVATE CONTRIBUTION	
ACTIVITIES	IB (1)	INV (1)	EUR (a)=(b)+(c)+(d)	EUR (b)	%(2)	Total EUR (c)=(x)+(y)+(z)	%(2)	Central EUR (x)	Regional/ Local EUR (y)	IFIs EUR (z)	EUR (d)	%(2)
Activity 1	x		42 000	42 000	100							-
Contract 1 - Service	x		42 000	42 000	100							-
Activity 2		x	68 000	68 000	100							-
Contract 2 - Supply		x	68 000	68 000	100							-
Activity 3	x		5 000								5 000	100
Round table	x		5 000								5 000	-
TOTAL IB			47 000	42 000	89						5 000	11
TOTAL INV			68 000	68 000	100							
TOTAL PROJECT			115 000	110 000	96						5 000	4

Amounts net of VAT

- (1) In the Activity row use "X" to identify whether IB or INV
- (2) Expressed in % of the **Total** Expenditure (column (a))

5. Indicative Implementation Schedule (periods broken down per quarter)

Contracts	Start of Tendering	Signature of Contract	Project Completion
Contract 1-Service	Q2 2010	Q3 2010	Q4 2011
Contract 2-Supply	Q1 2011	Q1 2011	Q4 2011
Contract 3-Service	Q3 2011	Q4 2011	Q4 2011

6. Cross cutting issues

6.1 Equal Opportunity

The project will benefit both women and men through improvements in radiation protection in the medical sector and the industry. On all activities, both men and women will have equal opportunities to compete for contracts and to work on any related activities.

6.2 Environment

The assessment of the current situation regarding radiation protection, the supply of equipment and the training courses in medical establishments and industrial companies that currently use ionising radiation devices in Albania will have a major impact on the radiation exposure of the public/workers. Upgrading safety and security standards will reduce the risk of environmental contamination.

6.1 Minorities

Considering that the project will contribute to the overall development of the society through better use of devices generating ionised radiation, it is expected that access of disabled and minorities groups (including Roma) to medical services or to industrial activities would be improved.

ANNEXES

- I- Logical framework matrix in standard format
- II- Amounts (in EUR) contracted and disbursed per quarter over the full duration of the project
- III- Description of Institutional Framework
- IV - Reference to laws, regulations and strategic documents:
- V- Details per EC funded contract (where applicable)

ANNEX I: Logical framework matrix in standard format

LOG FRAME PLANNING MATRIX FOR Project Fiche	Programme name and number: 2009 IPA Horizontal Programme on Nuclear Safety and Radiation Protection	
	Contracting period expires: 2 years following the date of conclusion of the financing agreement	Disbursement period expires : 1 year following the end date for execution of contracts
	Total budget : EUR 115 000	IPA budget: EUR 110 000

Overall objective	Objectively verifiable indicators	Sources of Verification	
To decrease exposure to ionising radiation in both the medical and industry sectors and be in line with the Community acquis in the field of nuclear safety and radiation protection			
Project purpose	Objectively verifiable indicators	Sources of Verification	Assumptions
To upgrade the current technical evaluation of ionising radiation devices used in medical centres and industrial companies of Albania in order to reduce patient and occupational exposure, and to provide training on radiation protection.	Procurement Procedure Attendance certificates	Medical centres and industrial companies, Radiation Protection Commission – RPC, European Commission HQs European Commission HQs Progress reports Medical centers and industrial companies, European Commission HQs	
Results	Objectively verifiable indicators	Sources of Verification	Assumptions
Current situation in the country regarding radiation protection of users of devices generating ionised radiation assessed; Procedures to be applied recommended; Strategy for the improvement of radiation protection and safety in medical centres and industrial companies in Albania drawn up; Needs for technical assistance for different devices generating ionising radiation assessed; Technical parameters and exposure to ionising radiation in the departments and services of the institutions listed in section 3.1 assessed. Re-assessment of radiation protection in the Albanian organisations, institutions and companies that are using devices generating ionising radiation with the equipment delivered. Specific regulations on radiation protection drafted Appropriate equipment in line with the recommendations of activity 1 purchased and delivered; Training courses organised.	Specifications of the equipment to be purchased New regulations on radiation protection drafted Number of devices that should be re-calibrated Procurement procedure launched. Attendance certificates for at least three Albanian experts. Publication of the results	Visit of the European Commission HQs Progress Report Progress Report Progress Report Progress Report Medical centers and industrial companies, RPC, Progress Report Medical centers and industrial companies, RPC, Progress report Medical centers and industrial companies, RPC, Progress Report Progress Report Radiation Protection Commission & Radiation Protection Office Progress report Premises of the Institute of radiation Progress Report	Activity depends on the approval of the latest regulations on radiation protection by the Albanian government Delivery in time of equipment. Contract awarded Appropriate technical specifications of the equipment defined. Availability of sufficient number of trainees. Suitable specifications of the Job Training

Dissemination of the project results through the organisation of a round table and publications. Presentation of an Action Plan for further upgrading of the facilities where devices generating ionising radiation are used.		Medical centers and industrial companies, RPC, Reports to be produced by the Radiation Protection Office	
Activities	Means	Costs	Assumptions
<u>Activity 1</u> will cover the following sub-activities: 1.1. Assessment of the current situation in the country regarding radiation protection of users of devices generating ionised radiation. It should consist of establishing a methodology to perform the assessment in close cooperation with the Albanian organisations protection. All relevant Albanian organisations and companies that should be assessed will be listed. 1.2 Application of the methodology to assess the proper functioning of devices generating ionising radiation as well as the exposure of workers and the members of the public in the selected Albanian organisations and companies. Elaboration of procedures to be applied in order to reduce the exposure. 1.3 Drawing up of a strategy in order to improve radiation protection, safety and security in the Albanian organisations, institutions and companies that are using devices generating ionising radiation. 1.4 Determination of the technical specifications of the equipment needed to improve the quality of the assessment of the exposure of members of the public and workers in Albanian organisations, institutions and companies using devices generating ionising radiation. 1.5 Assessment on the public/workers exposure from the use	Technical assistance – service contract	EUR 42 000	

of devices generating ionising radiation. 1.6 Based on the assessment, specific regulations on radiation protection may be drafted. <u>Activity 2</u> will cover: The delivery of the following pieces of equipment upon the condition that their need is confirmed by the implementation of activity 1. It will also include the organisation of training courses for proper use of the equipment X-ray monitoring and dose measurement device (2 pieces) X ray Test device for Radiography, Fluoroscopy, CT, mammography (2 pieces) Gamma radiation identification and dose rate measurement – Hand held device Alpha – Beta contamination monitoring Ionizing chamber and electrometer Personal electronic dosimeters (4 pieces) Computer, printer, projector and screen <u>Activity 3:</u> One service contract to be let for the dissemination of the results of the project, i.e. the organisation of a round table with the stakeholders of the Albanian organisations, institutions and companies that are confronted with radiation protection issues, and publication of the results of the discussions. Fully financed by the beneficiary organisation	Supply contract	EUR 68 000	
	Publication and Workshop	EUR 5 000	

ANNEX II: Amounts (EUR) contracted and disbursed per quarter over the full duration of the project

Contracted	Q3 2010	Q4 2010	Q1 2011	Q2 2011	Q3 2011	Q4 2011
Contract 1 - Service	42 000					
Contract 2 - Supply			68 000			
Cumulated	42 000	42 000	110 000	110 000	110 000	110 000
Disbursed						
Contract 1 - Service	38 000					4 000
Contract 2 - Supply			61 000			7 000
Cumulated	38 000	38 000	99 000	99 000	99 000	110 000

Annex III: Description of Institutional Framework

The Institute of Radiation is a non governmental organisation that carries out activities in the field of new radiation techniques and methods, radiation protection and safety from ionising radiations physical protection and security of radioactive sources. The activities of the Institute of Radiation are fully complementary to those performed by public institutions and until now the Institute is cooperating with medical centres and industrial companies for the evaluation of shielding, radiation protection and safety, security of radioactive materials, and training of the operators.

Annex IV: Reference to laws, regulations and strategic documents:

- Nuclear Safety and Radiation Protection action of the Multi-beneficiary MIPD 2009-2011.
- The Law on Radiation Protection from Ionizing Radiation
- The Regulation approved by Radiation Protection Commission in Albania

Annex V: Details per EU funded contract

Contract 1: A service contract for an amount of EUR 42 000 will be concluded following a tender that will be launched in Q2 2010. The Contractor is expected to fulfil all the sub-activities listed in section 3.4 for activity 1 with the support of the local companies and/or relevant organizations established in Albania. The Contractor will prepare all technical specifications for the subsequent supply contract to be launched.

Contract 2: A supply contract for an amount of EUR 68 000 will be concluded following a tender that will be launched in Q1 2011.

Activities 1 and 2 of the project will be tendered, awarded and implemented in accordance with the PRAG.

Contract 3: A service contract for an estimated amount of EUR 5 000, fully financed by the beneficiary organisation will be launched in Q3 2011 (parallel co-financing).