



RPC



Radiation protection, safety and security infrastructure in Albania

Rustem PACI



Zyra e Mbrojtjes nga Rrezatimet

Vienna 19-20 March 2009



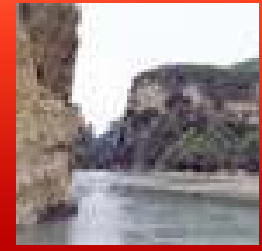
Content of Presentation



1. Promulgation of radiation protection laws and adoption of relevant regulations
2. Establishment of a national Regulatory Authority
3. RPC and RPO profile
4. Authorizations , inspection and enforcement



Content of Presentation



5-Control of Occupational Radiation Exposures

6-Control of Public Exposures

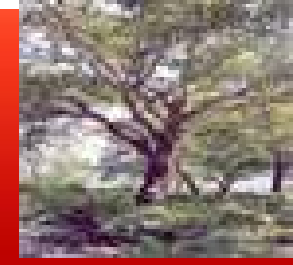
7-Medical exposure control

8-Transport safety

9.National plan for preparedness and response
radiological emergencies



Mission Statement



“ to provide for the **safe and secure use** of radiation sources and to **protect** people and the environment against potential harmful effects , simultaneously ensuring to community the **maximum benefit** from use of radiation sources ”



1. Promulgation of radiation protection law & regulations



1972 First law

1992 Proposal and recommendations

1995 New framework Law No 8025

1996 July Established Radiation Protection Office

2008 Amendments to the Law 9973

2002 Decision of council of ministers on

Control of import export of radioactive material

2004 Review of Control of Import export procedures
based to Code of Conduct



1. Promulgation of radiation protection law & regulations



1997 Safe handling of Radiation Sources

2000/2004/2008 No3918 Date 3/Nov/2004

1997 Licensing and Inspection

2000/2004/2008 No 3918 Date3/Nov/2004

1998 New form of Application for Notification and Authorizations

2000/2005/2008 Reviewed



1. Promulgation of radiation protection law & regulations



2004 Safe transport of radioactive material

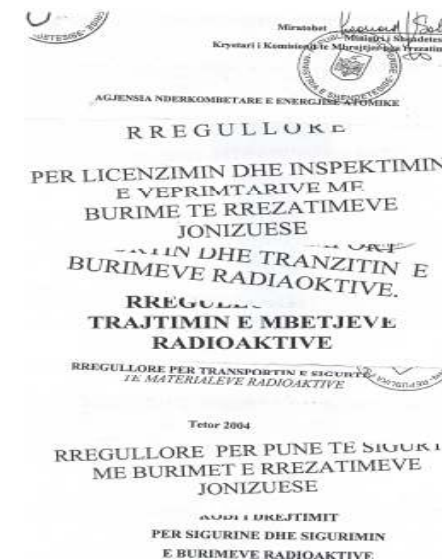
Nr 3918 date 3/11/2004

2004/2008 Radioactive Waste management

Nr 3918 date 3/11/2004

2004 Code of Conduct on

Safety and Security of Radioactive Sources
IAEA No 1388 14/04/2004





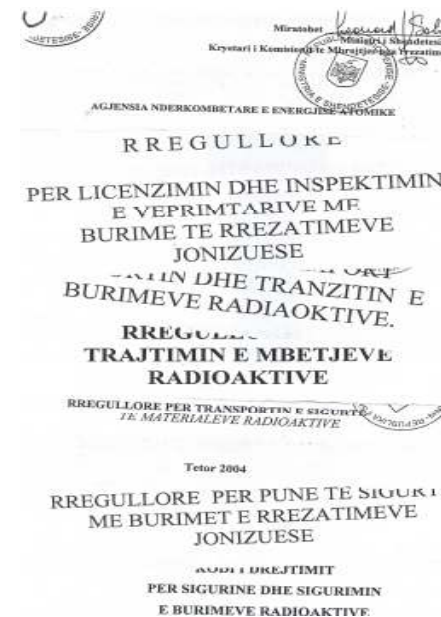
1.Promulgation of radiation protection law & regulations



2006 Categorization of
Radioactive sources

2007 Guidance on Import export
Of radioactive sources cat 1 and 2

2008 Decision of CoM on Import
export No158 13/02/2008





1. Promulgation of radiation protection law & regulations



2007 Reg on Medical exposure control 2269/1

2007Reg on Public exposure control 2269/3

2007Reg on occupational exposure control 2269/2

2008 Reg on Physical Protection 2518

2008 Decision of CoM on Import export 158

2007 Lists of exclusions 2269/4

2007 List of limits 2269/5



1. Promulgation of radiation protection law & regulations



2001/2004 Code of Practice in Radiology

No804/1 date 15/03/2005

2001/2005 Code of Practice in Nuclear
Medicine No804/1 date 15/03/2005

2001/2004 Code of Practice in Radiotherapy

Order of Minister of Health on reconstruction and
Licensing No 78 & 79 27/03/2002



1. Promulgation of radiation protection law & regulations



2001/2005 Checklist in Radiology

2001/2005 Checklist in Nuclear medicine

2001/2005 Checklist in Radiotherapy

2001/2005 Checklist for sealed sources

Approved April 2005



1.Promulgation of radiation protection law & regulations



2001 Layout and shielding of x ray room area
National Safety Standard(Acceptance Tests)

Greet your Friends with
great Albanian views ...

e-Cards





2. Establishment of a National Regulatory Authority



Radiation Protection Commission
(Regulatory Body)
Radiation Protection Office
(Executive Body)
Structure



Radiation Protection Commission



- Prepare regulations, guides and codes of practices for radiation protection and nuclear safety, which are obligatory for enforcement by all legal and physical persons.
- Oversees the enforcement of the provisions related with radiation protection.
- Issues the licences for all subjects which perform activities foreseen in article 3 of this law. (in amending process)



Radiation Protection Commission



- Performs technical management of all national and local authorities for immediate enforcement of necessary manners for the mitigation of nuclear accidents effects
- Makes the recommendations and proposals for the improvement of the forced radiation protection legislation



Radiation Protection Commission



- Approves the Basic Safety Standards for radiation protection
- Co-operates with national and international organisations for radiation protection issues
- Performs the commitment of research institutions of the country for solving of national issues in radiation protection area



Radiation Protection Commission



- Defines the structure of the Radiation Protection Office
- Performs nomination and dismissing of the Chairman of RPO
- Co-operates with State Labour Inspectorate



Radiation Protection Office



Represent in RPC for approval the legal acts for radiation protection activities

Oversees the enforcement of legal acts in radiation protection practical area

Performs the inspection of radiation installations



Radiation Protection Office



Collect information and performs necessary analysis and measurements for radiation protection control

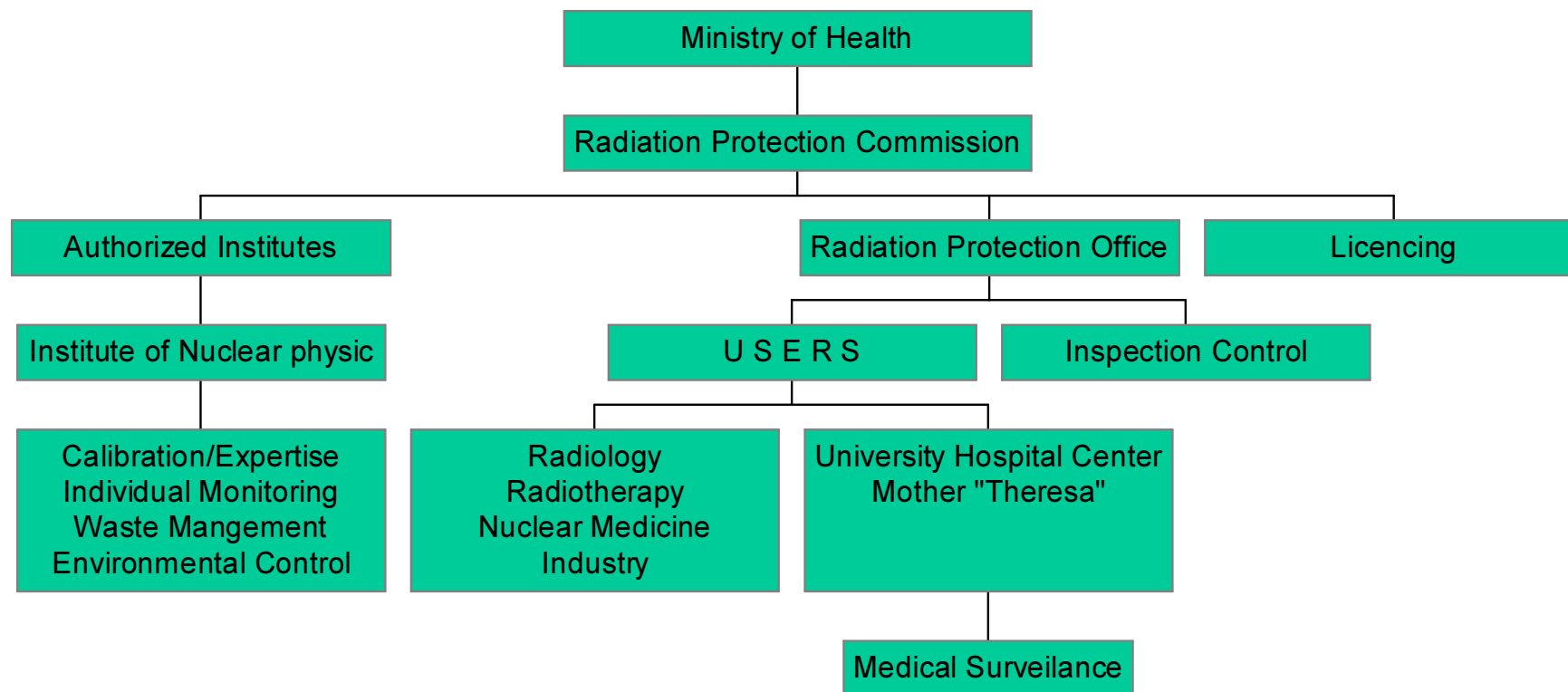
Prepare the files for giving, suspension and abolition of licences and represents them to the RPC for approval

Prepare the materials of Commission meetings as well as the commended reports

Keep national inventory of sources



Radiation Protection Infrastructure





3-RPC and RPO profile



RPC consist to 7 non permanent members
selected by CoM different Organizations

(Independence)

Chairman of RPC is

Minister of Health

(His role just a vote)

Secretary of RPC is

and Chairman of RPO





3-RPC and RPO profile



RPO 5 members in January 2009

3 offices

Equipped through projects
with X- Ray test device ,

Dose rate meters, Multichanel
anlayser, Field spec , Dosimeter
different types , Phantomes Etc





3-RPC and RPO profile



Staff trained in Albania and Abroad

To be expanded
with new legislations



There is no independence to the budget



Coordination



-Memorandum of Understanding
with Mother Theresa Hospital
concerning Medical Surveillance

-Memorandum of Understanding
with INP for expertise ,

Personal Dosimetry ,Waste management , calibrations
and environmental control

Memorandum of Understanding with Custom and State
Police





International Cooperation



IAEA Conventions

Physical Protection of Nuclear Materials

Early Notification of a Nuclear Accident

Assistance in the Case of a Nuclear Accident

Agreement on IAEA privilege and immunities

Comprehensive Nuclear Test Ban Treaty

Additional Protocol to Safeguard Agreements between IAEA and Albania

GOA Upgrading Security of radioactive sources and orphans sources study



4. Authorizations , inspection and enforcement



181 Licenses (Every 2 years)

Jan 2009

Import permits

Export permits

Transport Permits





Inventory of the ionizing radiation sources



- RPO is in charge for Inventory
- RPC is using RAIS.
- Accelerator in science 1
- X-ray machine for checking of cargo
- X-ray machine in dental practices more



Inventory of the ionizing radiation sources



- Around 200 X-ray machine in radiology



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Inventory of the ionizing radiation sources



- Coronarography system
- CT
- Nuclear Medicine Centers
- Tc-99m ,I-125, I-131
- Wide use of radiation sources in Industry, medicine , research and educations





Inventory of the ionizing radiation sources

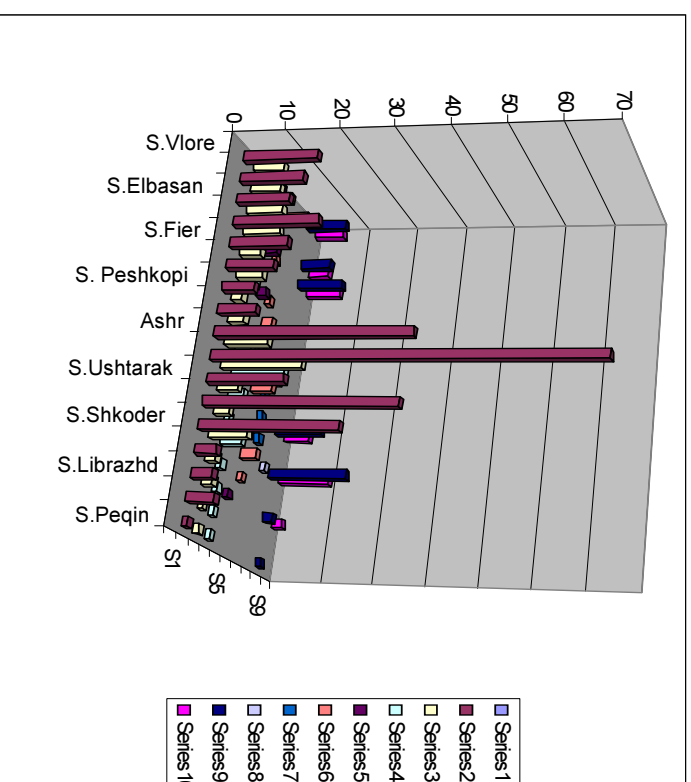
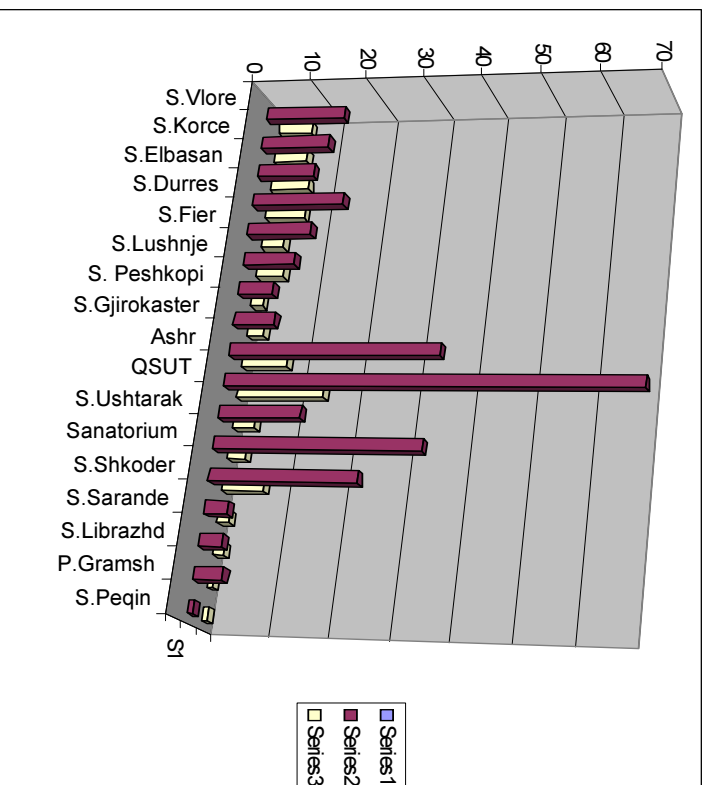


- Oncology center
- Teletherapy
- Brakitherapy system
- X-ray machine for treating skin cancer
- Research Center INP
- Irradiator
- (x-ray machine + source) in Industrial Radiography





Distribution of x rays generators and workers





4. Authorizations , inspection and enforcement



- 2000 was established system of Licensing and Inspection
- Inspection is performed every year to each users
- Up to now are Licensed about 181 Legal Users
- Additional inspections to scrap yards



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Inspection



Duties and responsibilities of the inspector (legal and technical).

- Pre-inspection preparation. Who to contact.

User Role. Entrance and exit briefings.

- Conduct of the inspection focusing on the main elements for each type of licence. e.g. Radiology, Nuclear

Medecine, Radithotherapy etc



- Reviewing ,verifying ,interviewing key personnel,discuss, explain,give guidance,invite question .Preparation and approval of the inspection report.

- Formal written feedback to the licensee. Directions to take corrective actions within a specified time-frame



Enforcement



- Article 10 Law No 8025
- There are clear procedures to enforce regulatory requirements
- Clear enforcement action based on the nature of non compliance and implications for safety , instructions , sanctions , fines ,suspensions
- No cooperation with other national Bodies



5-Control of Occupational Exposures



Individual monitoring

Number of Workers around 600

Number of monitored workers 370

Types of dosimeters TLD-100

The calibration is made by INP, (SSDL in process of accreditation)

INP provides individual monitoring

Workplace monitoring :

By users





5-Control of Occupational Exposures



Dosimetry service is available to the INP but could not perform direct and indirect measurements for dose intake.

- Independently established by INP structure

- There are no many studies and system to control exposure from natural sources radiation

- INP is in charge to keep the central dose records



6-Control of Public Exposures



- Control of waste discharges
- Control of Environmental Radiation Levels.

Geophysical Center have prepared the Albanian Map of natural gamma dose rate.

INP telemetric system for online measurements in 5 stations

- Control of Foodstuffs and selected Commodities

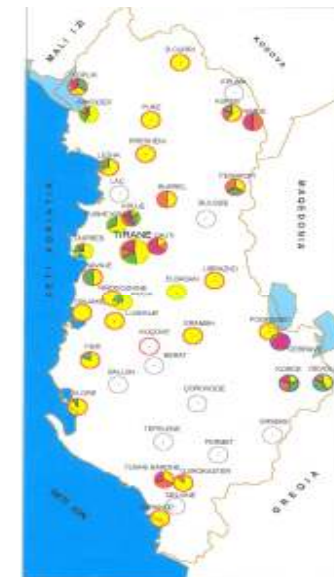
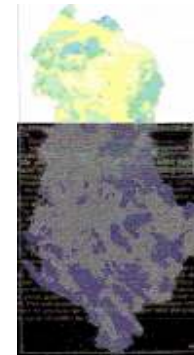
In Tirana and Durrës is performed by INP

- Control of Exposure to Radon

INP and Geophysical Centre.

RPC has approved norms

Nr 804/1 Date 15/03/2005





6-Control of Public Exposures



Public Dose limits 1 mSv/year

The legal person shall ensure:

-Optimization, Security and safety, trained personnel, monitoring equipment and take into account :
contribution from different sources ,
control of discharges.





6-Control of Public Exposures



- New program for radiation monitoring in water , air ,food etc.
- New facility for radioactive waste management
- Contract with INP or producer for spent sources
- Project Study on the orphan radioactive sources supported USA



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Staff Protection



- Duties and responsibilities of licensee to ensure proper control of the radiation environment. ?
- Assessment of work place conditions, evaluation of occupational exposures (RPO INP)?
- The characteristics, functions and uses of personal monitoring and protective devices. ?
- Potential risks associated with diagnostic and Interventional radiology procedures. ?

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Design and Shielding



- Regulations on Design of a diagnostic and interventional radiology facility ?
- An overview of the methods and techniques used to determine adequate shielding for staff and persons in adjacent area, based on the principles of radiation protection ?
- Aspects of dose constraints related to the future increase of patient workload and the probability that other x-ray equipment could be installed ?

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7-Medical exposure control



1. Patient Protection



2. Quality Management





Patient Protection



Risk perception, assessment and evaluation of diagnostic and interventional procedures ?

- Precaution and measures used to protect the pregnant or potentially pregnant patient ?
- An overview of the methods and techniques that should be adopted to reduce patient dose ?
- The establishment of Guidance Levels ?
- Optimization and justification to applicable practice ?
- Procedural aspects for communicating and reporting incident and accidents ?
- The quality of Equipment





Quality Management



The role and responsibilities of management, staff and other professionals involved in the implementation of a quality assurance program ?

Assessment of internal and external quality audits, regular updating, methods of evaluation, reporting and recommendations. ?

Clear and implemented fully for RPO



8-Transport safety



2004 Safe transport of radioactive material Nr 3918 date 3/11/2004

- Cooperation at National level
- Article 2 gives A1 and A2 of basic radionuclides values (IAEA TS-R-1, 1996) for each radionuclide
- The Competent Authority for Safety and security transport of radioactive material is the Radiation Protection Commission





9-Emergency reparedness



- 1999 Approve the emergency plan
- Exercise Sep 2002/April 2003
- Review 2004 in compliance with new Government structures.
- No 3918 Date 3/11/2004
- Good coordination's
- from different ministries





9-Emergency preparedness



- Every user has to perform local emergency plan
- Nation Center of Emergency , MLAD is appointed as contact point.
- Emergency Plan is in
- in compliance with national
- plan of Emergencies
- Detailed plan and tested
- RPC responsible for
- public informations





Training



■ National courses





Training



- 2001 INP National Center for Albanian workers of ionizing radiation
- Participation at IAEA courses ,Fellowships and
- Scientific Visits.





SWOT Analysis



Strength

- System of Rad Prot in place
- Reg Body in place effectively independent
- **Functioning, Regulations approved by CoM**
- Authorization
- Inspection, sanctions
- Etc



SWOT Analysis



Weaknesses

No independent budget

No strong support to RPO

Not enough staff

There are no Reg in Norm and Tenorm and not clear support for Enviromental monitoring

Problems on implementation sppecialy with state users



SWOT Analysis



Opportunities

Increase of staff

Approximate to EU legislations

Training

etc



SWOT Analysis



Threats

Budget