4. Regulatory Infrastructure for the Security of Radioactive Sources
Outline

• Basic Regulatory Elements
• Safety Infrastructure
• Security Regime
• Safety and Security Interfaces
• Model Regulations
• Summary
Safety and Security Infrastructures

- Responsibilities for safety and security may be assigned to a single or different competent authorities
- Safety and Security share a common regulatory approach
The Basics as Reflected in the Code of Conduct and GS-R-1

- Legislative and statutory framework
- Independent regulatory body with authorities and resources
  - Authorization (licensing)
  - Establishment of regulations and guidance documents
  - Review and assessment
  - Compliance assurance (inspection and enforcement)
  - Organizational capacity (staffing, training, financial resources)
- Additional elements specific to source security
  - Categorization
  - National registry of sources
  - National threat definition/vulnerability assessment
Legislative and Statutory Framework

Legislation should provide for effective control of radioactive sources, for both safety and security, through a “hierarchy” of regulatory documents:

- Law
- Regulations
- Guidance Documents
- Facility/User Licenses and Plans
Basic Regulatory Elements Common to Safety and Security

• Legislation and Regulation
• Authorization
• Inspection
• Enforcement
Governmental, Legal and Regulatory Framework for Safety (GS-R-1)

- National policy and strategy
- Establishment of a framework for safety
- Establishment of a regulatory body
- Independence of the regulatory body
- Compliance and Responsibility for safety
- Coordination of different authorities with responsibilities for safety within the regulatory framework
- Emergency preparedness and response
- Organizational structure of the regulatory body and allocation of resources
- Interfaces with nuclear security and with the State system of accounting for and control of nuclear material
- Graded Approach for review and assessment
- Regulations and guides
- Communication and consultation with interested parties
Regulatory Control of Radiation Sources (GS-G-1.5)

- Legal Framework
- Organization of the Regulatory Body
- Principal functions and activities of the Regulatory Body
  - Development of Regulations and Guides
  - Notification and Authorization
  - Inspection and Enforcement
  - Investigation of Accidents
  - Dissemination of Information
  - Principles of Quality Management
PRINCIPLES AND FUNDAMENTAL OBJECTIVES

“The Standards are based . . . on the presumption that a national infrastructure is in place enabling the Government to discharge its responsibilities for radiation protection and safety. . . .

Full and proper implementation of the Standards requires that a Regulatory Authority be established by the Government to regulate the introduction and conduct of any practice involving sources of radiation. Such a Regulatory Authority must be provided with sufficient powers and resources for effective regulation and should be independent . . . .”
Inventories and Records

- Inventories conducted at specified intervals; when sources are received, transferred, or become disused; when key parameters change
- Records of inventories maintained and protected
  - Location
  - Radionuclide
  - Radioactivity on a specified date
  - Serial number or unique identifier
  - Physical form
  - Source use history
  - Receipt, transfer or disposal of the source
  - Assigned source categorization
Other Relevant Safety Guides

- RS-G-1.7 Application of the Concepts of Exclusion, Exemption and Clearance
- RS-G-1.9 Categorization of Radioactive Sources
- RS-G-1.10 Safety of Radiation Generators and Sealed Radioactive Sources
Nuclear Security Series - Scope

➢ Security Fundamentals
  • identifies an overall Nuclear Security Objective that national nuclear security regimes aim at meeting and twelve Essential Elements of nuclear security that States take into account

➢ Recommendations on Security of Radioactive Material and Associated Facilities
  • applies to the security of radioactive material under regulatory control, and associated facility and transport, for the prevention of malicious acts intended to cause harmful radiological consequences.

➢ Recommendations on Detection and Response
  • covers the detection of and response to criminal or unauthorized acts involving material that has been reported out of regulatory control as well as for that which has not been reported (unknown material).
Nuclear Security Regime
Security Fundamentals

- State Responsibilities
- Assignment of Nuclear Security Responsibilities
- Legislative and Regulatory Framework and Administrative Measures
- Import, Export and Trans-shipment of Nuclear Material and Other Radioactive Material
- Criminalization and Combating Offences
- International Cooperation and Assistance
- Target Identification and Assessment of Potential Consequences
- Identification and Assessment of Nuclear Security Threats
- Risk-Based Nuclear Security Measures and Functions
- Detection of Nuclear Security Events
- Planning and Preparedness for, and Response to, Nuclear Security Events
- Commitment to Sustaining the Nuclear Security Regime
Nuclear Security Regime - Security of Radioactive Material and Associated Facilities

State Responsibilities

- Establish a nuclear security regime for radioactive material throughout its life cycle.
- Evaluate its national threat for radioactive material.
- Ensure coordination between competent authorities responsible for security, safety and radiation protection.
- Establish requirements to ensure appropriate protection of specific or detailed security-related information.
- Ensure effective overall cooperation and relevant information sharing between the competent authority and other security-related parts of the Government.
- Establish measures to assure the trustworthiness of persons with authorized access to sensitive information.
- Promote nuclear security culture.
Process to Development Security Measures for Radioactive Sources

- Threat Assessment
- Graded Approach
- Categorization
- Regulatory Approach
- Security Measures
Nuclear Security Regime
Detection and Response Recommendations

– State Responsibilities

• Perform a national threat assessment and use it as a basis for determining the detection and response measures.

• Ensure effective coordination among the different levels and jurisdictions of federal, state, and local authorities.

• Define the conducts which they consider to be criminal or unauthorized.

• Ensure that the competent authorities have the necessary resources to deal with the management of alarms/alerts and nuclear security events.

• Ensure effective cooperation with other States and with the relevant international organizations.
Safety and Security Interfaces

• Responsibilities for safety and security may be assigned to a single or different competent authorities
• Safety and Security share a common regulatory approach
• Both safety and security have the same aim in protecting the public and the environment from harmful effects of radiation
• A consultation and coordination mechanism is required between authorities to ensure efficient protection of radioactive material and to manage regulatory requirements that may be contradictory
• Balancing safety and security should be recognized throughout the nuclear security regime.
• Major decisions regarding safety and security enhancements should require the consultation of each discipline on a continuous basis.
• Safety and security issues should be evaluated on mutually supporting and reinforcing terms.
• Security measures should be defined by taking into account those established for safety.
Safeguards: Non-Proliferation Agreements and Additional Protocols

Safety: Int’l Safety Standards And Conventions

Security: Physical Protection, Detection and Response, Information; Conventions and Recommendations

Promotes the Peaceful, Safe and Secure use of Nuclear Technology

SYNERGY

CULTURE
Legislative Assistance Programme

• The Office of Legal Affairs (OLA) has provided legislative assistance to Member States since the Agency’s inception.

• Legislative assistance has been provided, however, in a more systematic manner since 1997 when the first Technical Co-operation project (TC project) was established for this purpose.

• Legislative assistance has been provided so far to more than 100 Member States.

• Appreciation is reflected in annual GC resolutions.

• The Legislative Assistance Programme covers all areas of nuclear law i.e. nuclear safety, security, safeguards and liability for nuclear damage.
Objectives of the Legislative Assistance Programme

• To create awareness in Member States of international instruments in the nuclear field

• To enable Member States to comply with their international obligations

• To enable Member States to establish national laws for the safe and peaceful uses of nuclear energy which implement the international obligations

• To transfer relevant knowledge to Member States (sustainability)
IAEA is undertaking an effort to develop a "Model Legal Framework for the Use of Radiation Sources and for the Management of the Associated Radioactive Waste"

- The objective is to provide States with advice on the nature of an appropriate legal framework covering all aspects (both safety and security)
- Framework includes 1) Model Laws, 2) Model Safety Regulations, and 3) Model Security Regulations
Model Security Regulations

- Model Security Regulations are available for use by States
- Assume that the State has established a national legislative and regulatory infrastructure.
- It is recognized that the Model Regulations may need to be adapted to suit the actual organization and legal structure within a particular State.
- Model Regulations use IAEA Security Guidance as basis, which has been adapted into a Regulation format
Model Security Regulations

Arranged into

• Preliminaries
• Security Design and Evaluation
• General Security Measures
• Responsibilities
• Guidelines for Specific Security Measures
• Guidelines for Specific Security Measures for Import and Export
• Guidelines for Specific Security Measures for Transport
Typical Gaps in Regulatory Infrastructure for the Security of Radioactive Sources

- Basic nuclear law (or radiation protection law) does not clearly authorize source security regulation
- Categorization scheme is not in place
- Source registry is incomplete and/or information system is inadequate
- National threat definition has not been done
- Regulatory staff (and users) are unfamiliar with security principles and may not understand the security risk associated with sources
- Existing regulations do not address security
- Law does not provide adequate enforcement authority
- Coordination is needed with other governmental bodies, such as Customs, Transport Ministry, Police, etc.
An effective regulatory infrastructure is important for several reasons that include meeting international guidance.

Regulatory infrastructures consist of several key elements:

- Legislative and statutory framework
- Independent regulatory body with necessary authorities and resources
- Additional elements specific to radioactive sources
  - Categorization
  - National registry of sources
  - National threat definition/vulnerability assessment

A Member State’s regulatory infrastructure for safety should be integrated or harmonized with the regulatory infrastructure for security.
Questions?

Thank you!