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International Atomic Energy Agency

Regulatory Framework and Regulatory Approaches

[M04.L01]

International Training Course on Regulatory Functions for Security of Nuclear Material, Nuclear Facilities and Associated Activities

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Division of Nuclear Security
Department of Nuclear Safety and Security

Learning Objectives



Upon completion of this lesson, participants should be able to:

1. Describe the main components of regulatory framework
2. Identify different regulatory approaches

Introduction

It is important to recognize that:

- Legal systems differ from State to State
- The legislative and regulatory framework for nuclear security is part of a State's overall legal system
- Any regulations on nuclear security, therefore, must be established in accordance with that system



Participants together with staff of the IAEA at the National Seminar on Nuclear Law and International Legal Instruments, held in Dakar, Senegal.

[ARSN / IAEA.org](http://ARSN/IAEA.org)

International Instruments

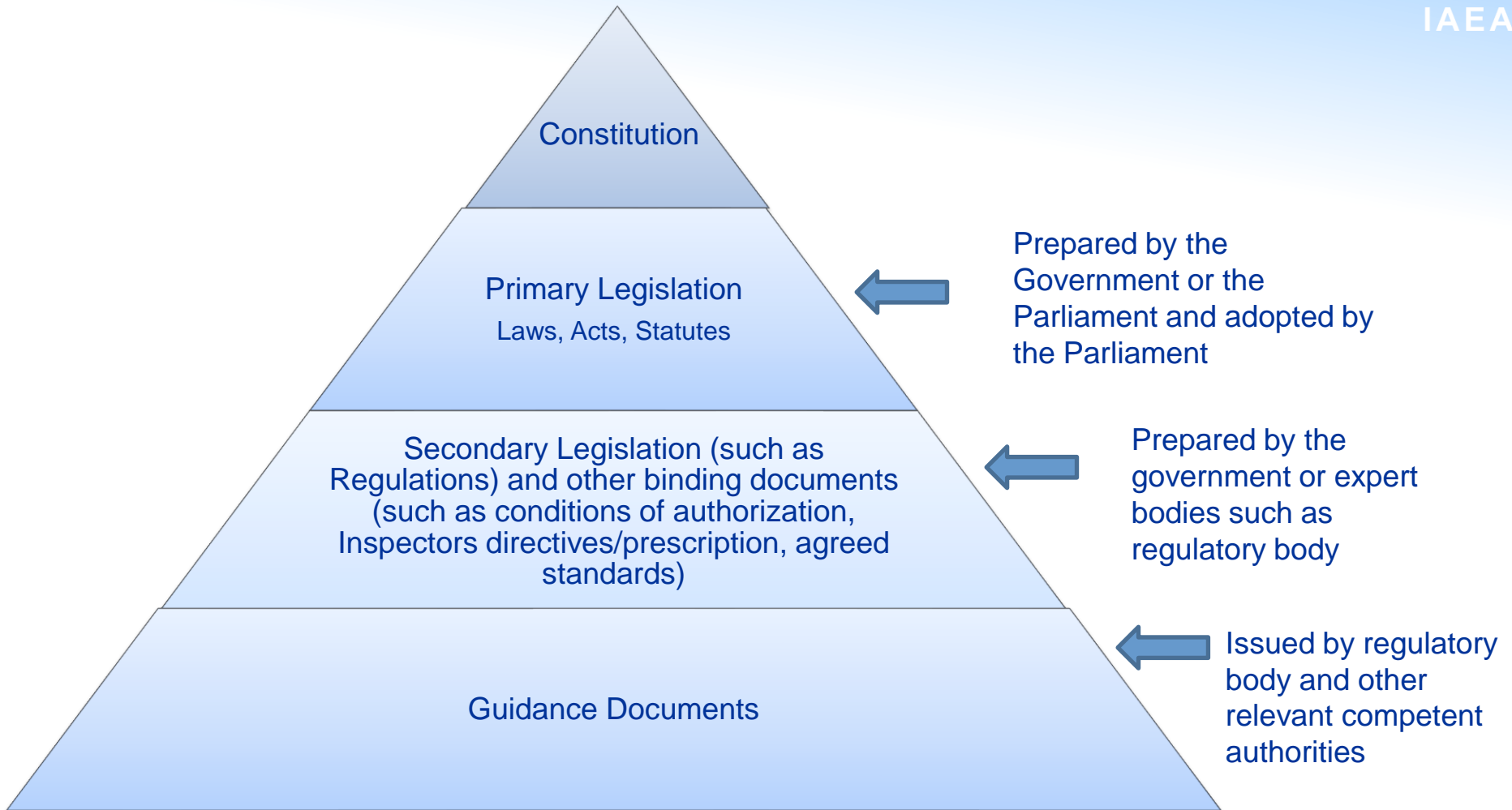


National Legislation



Implementing Regulations

Legal Hierarchy



A State's legislative / regulatory framework for nuclear security is part of its general legal system

Primary Legislation (1/2)

May address nuclear energy (and nuclear security) in a single comprehensive nuclear law, or in several laws – typically:

- Establishes an independent regulatory body, with its functions, responsibilities, and powers (including licensing, inspection and enforcement)
- Includes fundamental requirements for nuclear security
- Establishes prohibitions and associated offenses and penalties

Primary Legislation (2/2)

- Other relevant primary legislation may include laws pertaining to:
 - National security
 - Export / import control
 - Emergency preparedness and response
 - Transport of dangerous goods
 - Protection of confidential information
 - Penal/criminal code or criminal law

Regulations (1/2)

- Are based on primary legislation, which:
 - Confers the authority for their development and adoption
 - May limit subject matter and scope
 - May define key terms
- Establish enforceable requirements
- Generally prepared by regulatory body or other competent authority
- Depending on the State, adopted by government, by parliament, or by the regulatory body or other competent authority that prepared them
- May be referred as orders, decrees, rules, by-laws or norms, depending on the legal system of the State in question

Regulations (2/2)

- Are usually more detailed and specific than primary legislation
- May be drafted in a number of ways that have tended to be described as “prescriptive”, “performance based” or a combination of the two
- Are usually more amenable to amendment or revision than primary legislation, and are typically updated and revised more often than primary legislation
- May have a variety of other names including decrees, by-laws, rules, ordinances

Agreements (Binding or Non-binding)

- In addition to regulations, an effective nuclear security regime depends on agreements among competent authorities
- These may be referred to as
 - Memoranda of understanding (MoUs);
 - Inter-agency agreements; and
 - Other State-specific terms
- The purpose of such agreements is typically to ensure coordination and cooperation among competent authorities
- Agreements may / may not be legally binding, depending on the parties concerned and the provisions of the agreement.
- Bilateral / multilateral agreements may also be concluded among competent authorities of different States in some areas

Associated Administrative Measures (1/2)



- In addition to regulations and agreements, the nuclear security regime may also require the development of associated administrative measures such as:
 - Policies
 - Strategies
 - Guidance documents
 - Plans
 - Management systems
 - Administrative procedures and protocols
- Generally not legally binding but provide important information related to the implementation of the legislative and regulatory framework
- Should always be consistent with applicable laws and regulations

Associated Administrative Measures (2/2)



- Associated administrative measures may include regulatory guidance
 - Provides direction from the regulatory body as to how an authorized person may demonstrate compliance with particular requirements
 - Generally optional, but typically provides a mechanism to fulfil the regulations/requirements
- Contents of some administrative measures for nuclear security may themselves be subject to information protection based on their classification
- Like regulations and agreements, associated administrative measures should be regularly reviewed and updated

Regulatory Approaches



- There are three distinct approaches to specifying requirements within the regulatory framework to address the threat.
 - Performance based approach
 - Prescriptive approach
 - Approach combining elements of the prescriptive and performance based approaches

Prescriptive Approach

Requirements provide details on what and how security measures should be implemented.

Example: “A double fence should be built around the nuclear facility at external perimeter with height not less than 2.5 meters...”

Prescriptive Approach

Advantages

- Easier to implement – control measures detailed
- Easier to check for compliance by inspector (checklist)
- Can establish a known threshold among multiple licenses

Disadvantages

- Does not necessarily address a unique and evolving threat environment
- May need to be updated more frequently to maintain a high level of assurance for rapidly evolving threat environment
- Might be redundant or not sufficient for specific facilities/conditions
- The respective nuclear security system may be in compliance with regulations and requirements, but not effective based on the threat

Performance-Based Approach

Requirements set performance indicators, or objectives to be achieved.

Example: “The effectiveness of the physical protection system should be not less than 0.95 for vital areas...”

Performance-Based Approach

Advantages

- More adaptive to changing threats and specific conditions
- More efficient and/or cost-effective implementation
- Expected to meet objectives/performance indicators based on the threat as currently understood

Disadvantages

- Methods for evaluation must be developed and used
- Requires that the owner/operator has a high level of competency and awareness for conducting threat analysis, risk analysis and implementing relevant security measures
- Harder to verify that objectives are met (inspector should also have a high level of competency and be able to verify that the nuclear security system meets goals and indicators)

Combined Approach

Requirements set specific performance indicators, or objectives to be achieved, while specifying some element capabilities.

- This is most common used approach

Example: “The intrusion detection system should provide effective detection in all conditions. There should be at least two detection sensors based on different physical principles...”

Combined Approach

Advantages

- Provides prescriptive as well as performance objective requirements;
- Check-list can be used, including checks for satisfying performance objectives.

Disadvantages

- Methods for evaluation still must be developed and used;
- Requires that both owners/operators and inspectors have appropriate competency for evaluation of performance indicators;
- Need to keep balance between prescriptive measures and performance requirements.

Summary – Key Points and Discussion



- Regulations are part of the legal hierarchy applicable in the State
- Development of regulations requires the necessary legal authority to be conferred through primary legislation
- Agreements typically provide for coordination and cooperation between competent authorities
- Associated administrative measures may be used to provide further detail in the implementation of laws, regulations, and agreements
- Prescriptive, performance based and combined regulatory approaches may be adopted based on national practices and requirements



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Thank you!

