

Elements of National Law and Decommissioning

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Definition of Nuclear Law

“Nuclear law is the body of special legal norms created to regulate the conduct of legal or natural persons engaged in activities related to fissionable materials and ionizing radiation.”

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The Concept of Nuclear Energy Law

Risks and Benefits

- **Nuclear energy poses special risks to the health and safety of persons and the environment that must be carefully managed**
- **Nuclear materials and technology have significant benefits in a variety of human fields (e.g., medicine, agriculture, electric power and industrial uses)**
- **Nuclear energy law focuses on dual aspect of weighing risks and benefits**

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The Objective of Nuclear Energy Law

“To provide a legal framework for conducting activities related to nuclear energy and ionizing radiation, in a manner that adequately protects individuals, property and the environment.”

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Definition of Decommissioning

“Decommissioning. Administrative and technical actions taken to allow the removal of some or all of the regulatory controls from a facility (except for a repository, which is ‘closed’ and not ‘decommissioned’).

IAEA Document No. WS-R-2. Safety Requirements. Predisposal Management of Radioactive Waste, Including Decommissioning

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Objective of Decommissioning

The objective of decommissioning is the reduction of risk ultimately leading to unrestricted use of the site in a safe and cost effective manner.

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Characteristics of Nuclear Energy Law

- 1—Safety Principle (Prevention, Protection, and Precautionary Principles)**
- 2—Security Principle**
- 3—Responsibility Principle**
- 4—Permission Principle**
- 5—Continuous Control Principle**
- 6—Compensation Principle**
- 7—Sustainable Development Principle**
- 8—Compliance Principle**
- 9—Independence Principle**
- 10—Transparency Principle**
- 11—International Cooperation Principle**

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Safety Principle

Safety is the primary requisite for the use of nuclear energy and applications of ionizing radiation

- Prevention Principle—Given special character of risks, the primary objective of nuclear energy law must be to exercise caution and foresight to prevent damage and to minimize adverse effects of radioactive materials**
- Protection Principle—where the risk of an activity outweighs its benefits, priority must be given to protecting the public health , safety, security and the environment**
- Precautionary Principle—measures should be taken to prevent foreseeable harm**

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Security Principle

- **Nuclear materials and technologies pose security, as well as safety and health risks**
- **Lost or abandoned sources can cause injury**
- **Stolen or diverted materials could be used for terrorist or criminal acts involving nuclear explosives or radiological dispersal devices**
- **Legal measures needed to protect against both accidental or intentional diversion from legitimate uses**
- **Physical protection, material accounting and control, safeguards, transport protection and emergency preparedness all support the security principle**

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Responsibility Principle

- **The use of nuclear energy typically involves many parties (e.g., R&D organizations, material processors, manufacturers, medical practitioners, architect-engineering firms, construction companies, operators of nuclear installations, financial institutions, regulatory bodies, and many more)**
- **Of these, the operator or licensee possessing the authority to conduct specific activities involving nuclear energy or ionizing radiation is primarily responsible for ensuring safety and security**

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Permission Principle

- **Typically, activities not specifically prohibited may be conducted without official authorization**
- **The special risks of nuclear technology require that prior permission be obtained for activities involving fissionable materials and radio-isotopes**
- **Where the regulatory body has found the risks of a specific activity to be so low that they are “below regulatory concern”, prior authorization can be given in the form of exemptions published in regulations or official announcements**

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Continuous Control Principle

- **The regulator must be able to continually monitor nuclear activities to be certain that they are carried out safely and securely, consistent with the terms of the authorization**
- **Free access by regulatory inspectors to all premises using nuclear materials must be reflected in national legislation**
- **For a decommissioned facility, relinquishment of regulatory control requires review and assessment of all factors relevant to ensuring public health, safety and environmental protection**

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Compensation Principle

- **Depending on various factors, the use of nuclear energy poses the risk of significant damage to persons, property and the environment**
- **Because preventive measures cannot absolutely exclude the potential for such damage, nuclear energy law requires that States adopt measures to provide adequate compensation for damage resulting from a nuclear accident or incident**

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Sustainable Development Principle

- **Environmental law has identified a duty for each generation not to impose undue burdens on future generations**
- **Economic and social development can only be “sustainable” if the environment is protected**
- **Some radioactive materials can pose health, safety and environmental risks for very long time periods, making it difficult to determine measures needed to adequately protect future generations**
- **Decommissioning must be conducted with particular attention to this long-lived aspect of nuclear energy**

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Compliance Principle

- **Nuclear energy has the potential for trans-boundary damage to States other than the one in which an activity is being conducted**
- **A growing body of nuclear law is emerging from various international instruments that impose obligations in using the technology, some of which are relevant to decommissioning**
- **States adhering to such instruments must reflect their obligations in nuclear legislation (unless they are self-executing under national law)**

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Independence Principle

- **Nuclear energy law places particular emphasis on the establishment of a regulatory authority whose decisions on safety issues are not subject to interference from other entities involved in the development or promotion of nuclear energy**
- **Given the significant risks of nuclear technology, other interests must defer to the regulator's independent, expert judgment in cases where safety issues are involved**

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Transparency Principle

- **Nuclear energy's initial development was conducted in military programs, largely in secret**
- **Public understanding and confidence in the peaceful uses of nuclear energy requires informing relevant stake-holders about the risks and benefits of the technology**
- **Both promoters and regulators must make available relevant information concerning the use of nuclear energy, particularly concerning accidents or incidents that could impact the public health, safety and environment**

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International Cooperation Principle

The safe and secure use of nuclear energy can benefit from harmonized policies and actions

- **Lessons learned in one State can help others enhance the safety of their own nuclear programs**
- **Security risks posed by terrorists or criminal elements involving nuclear materials can only be successfully addressed through international cooperation**
- **Multinational character of the nuclear industry requires cooperative approaches to commerce and regulation**

National nuclear legislation should encourage relevant entities to participate in international cooperative activities to enhance nuclear safety and security

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Cost Effectiveness: Practical Application of the Principles in Decommissioning

- **The need to assure adequate funding for decommissioning activities that may be needed many years in the future requires special legal and institutional arrangements**
- **In addition to assessment of laws dealing with traditional nuclear regulatory issues (radiation protection, safety, security, environmental protection, waste management) consideration of economic, business and financial laws are needed**
- **Applying the principles of nuclear law outlined previously can help ensure that necessary activities are both economically sound and adequate to protect health, safety and the environment**

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National Legal Hierarchy

Nuclear law is part of a State's general legal system

- **Constitutional level**
- **Statutory level (generally applicable laws)**
- **Regulations, ordinances or decrees**
- **Non-mandatory guidance documents**

A nuclear law must be consistent with a State's national legal and political traditions, institutions, economic circumstances and cultural values.

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Implementing the Hierarchy of Legal Instruments

- **Legislation set forth general principles and institutional arrangements, including authorization for funding and penalties for non-compliance [in National Laws promulgated by Parliament or Congress]**
- **Regulations provide detailed technical standards and procedures [promulgated by Regulatory Body]**
- **Guidance documents provide options for meeting legislative or regulatory requirements**

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BASIC STRUCTURE OF NATIONAL NUCLEAR LAW

- **BASIC REGULATORY FUNCTIONS (E.G., LICENSING, INSPECTION, ENFORCEMENT) OR REQUIREMENTS ARE TYPICALLY CONTAINED IN GENERAL NUCLEAR LEGISLATION**
- **LEGISLATION SHOULD SET FORTH BROAD INSTITUTIONAL RESPONSIBILITIES AND REQUIREMENTS**
- **DETAILED REQUIREMENTS ARE APPROPRIATELY SET FORTH IN REGULATIONS OR GUIDANCE DOCUMENTS**

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FUNDAMENTAL ELEMENTS OF DECOMMISSIONING LEGISLATION

- **ROLE OF REGULATORY BODY IN
DECOMMISSIONING**
- **BASIC REQUIREMENT FOR AND STRUCTURE
AND CONTENTS OF THE DECOMMISSIONING
PLAN**
- **RESPONSIBILITIES OF THE OPERATOR IN
DECOMMISSIONING**
- **FINANCIAL REQUIREMENTS FOR
DECOMMISSIONING**

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LEGISLATIVE ELEMENTS ON THE ROLE OF THE REGULATORY BODY (1)

- **IDENTIFICATION OF THE REGULATORY BODY**
- **KEY FUNCTIONS RELATING TO
DECOMMISSIONING**
 - **SAFETY & ENVIRONMENTAL CRITERIA**
 - **LIMITS & CONDITIONS FOR REMOVING REGULATORY
CONTROL**
 - **CLEARANCE CRITERIA FOLLOWING
DECOMMISSIONING**
- **REQUIREMENT FOR A BASELINE SURVERY**
- **DOCUMENTATION AND RECORD-KEEPING**

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LEGISLATIVE ELEMENTS ON THE ROLE OF THE REGULATORY BODY (2)

- **CRITERIA FOR PERMANENT SHUTDOWN**
- **EVALUATION AT END STATE TO ENSURE REGULATORY REQUIREMENTS ARE MET**
- **PROHIBITION AGAINST RELEASE FROM REGULATORY CONTROL UNTIL END STATE OF DECOMMISSIONING PLAN & ANY OTHER REQUIREMENTS ARE MET**

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LEGISLATIVE ELEMENTS ON THE DECOMMISSIONING PLAN

- **REQUIREMENT FOR DECOMMISSIONING PLAN AT THE DESIGN STAGE**
- **PARTICIPATION BY STAKEHOLDERS**
- **PERIODIC REVIEWS AND UPDATES**
- **REVISION AND UPDATING IN RESPONSE TO CHANGED CIRCUMSTANCES**
- **SCHEDULE FOR SUBMITTING PLAN (DATES)**
- **COMPLIANCE WITH ANY REQUIREMENTS RELEVANT FOR DECOMMISSIONED SITES**

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LEGISLATIVE ELEMENTS ON OPERATOR RESPONSIBILITIES

- **PRIMARY RESPONSIBILITY FOR SAFETY, SECURITY AND ENVIRONMENTAL PROTECTION**
- **PREPARATION OF ASSESSMENTS AND DECOMMISSIONING PLAN**
- **DESIGN CONSIDERATIONS FOR EVENTUAL DECOMMISSIONING**
- **BASELINE SURVEY**
- **JUSTIFICATION OF UNTRIED METHODS**
- **INFORMATION TO REGULATORY BODY**
- **MANAGEMENT ORGANIZATION AND RESOURCES**
- **EMERGENCY PLANNING ARRANGEMENTS**
- **ADEQUATE FINANCIAL ARRANGEMENTS**

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LEGISLATIVE ELEMENTS ON FINANCING OF DECOMMISSIONING

- **REQUIREMENT FOR ASSURANCE OF ADEQUATE FINANCIAL RESOURCES FOR DECOMMISSIONING WHEN NEEDED**
- **IDENTIFICATION OF ENTITY (OR ENTITIES) RESPONSIBLE FOR ARRANGING FINANCIAL ASSURANCE**
- **ADEQUATE FINANCIAL ASSURANCE TO BE IN PLACE PRIOR TO AUTHORIZING OPERATION**
- **REVIEW AND UPDATING OF FINANCIAL PLANS AS REQUIRED BY THE REGULATORY BODY**

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