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IAEA Requirements for Governmental, Legal and Regulatory Framework for Safety GSR Part 1

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IAEA Requirements for Governmental, Legal and Regulatory Framework for Safety, GSR Part 1

IAEA/ICPT School of Nuclear Energy Management

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1. Background

IAEA guidance for NPP construction

IAEA statute Article III, A.1 “To encourage and assist research on, and development and practical application of, atomic energy for peaceful uses throughout the world; …”

IAEA provides the core engineering, technological and management support to interested Member States in the field of nuclear power

IAEA statute Article III, A.6, “To establish or adopt, in consultation …, standards of safety for protection of health and minimization of danger to life and property …and to provide for the application of these standards ”

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2. Governmental, Legal and Regulatory Framework

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Need for a Legal and Governmental Infrastructure

- The decision to launch or expand a nuclear power programme implies a commitment at national and international levels.
- This requires in particular the establishment of an appropriate and comprehensive legal and governmental infrastructure

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Why the need for a legal and governmental infrastructure?

- To ensure control over nuclear material, facilities and any other radioactive material
- To ensure that nuclear energy and its applications are exclusively used for peaceful uses
- **To ensure that nuclear facilities, nuclear materials and any other radioactive material are handled and operated safely and securely through a system of regulatory control**

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Why the need for a legal and governmental infrastructure?

- To ensure that compensation mechanisms are in place in case of nuclear damage
- To define responsibilities, obligations and rights of parties
- To ensure confidence building in the use of nuclear power at national and international levels

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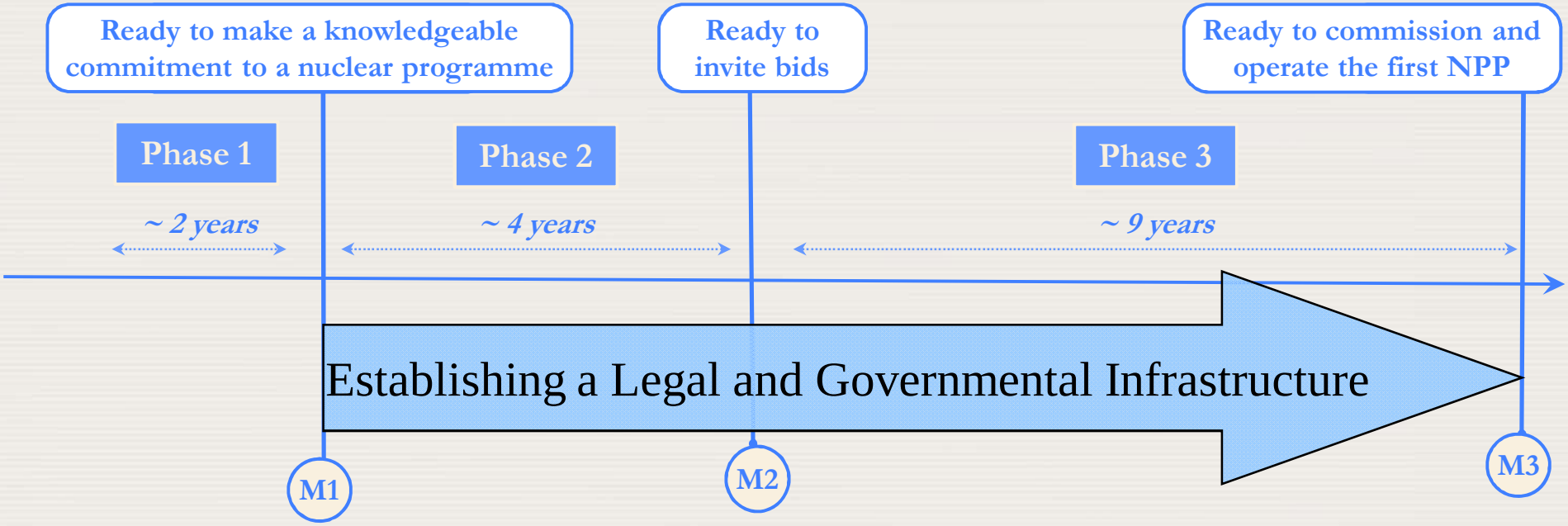
How to achieve these goals?



- Adoption of a comprehensive nuclear law: Safety, security, safeguards and liability for nuclear damage
- Establishment of an independent regulatory body
- Implementation of international obligations of the State

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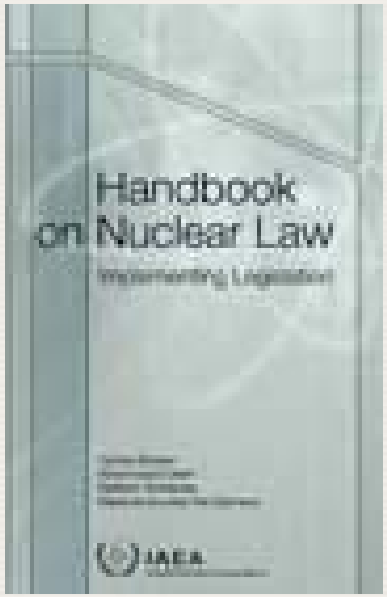
IAEA Assistance with Nuclear Law



- Use of Regional TC Projects to provide all support related to Nuclear Law

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Ensuring an appropriate system of regulatory control

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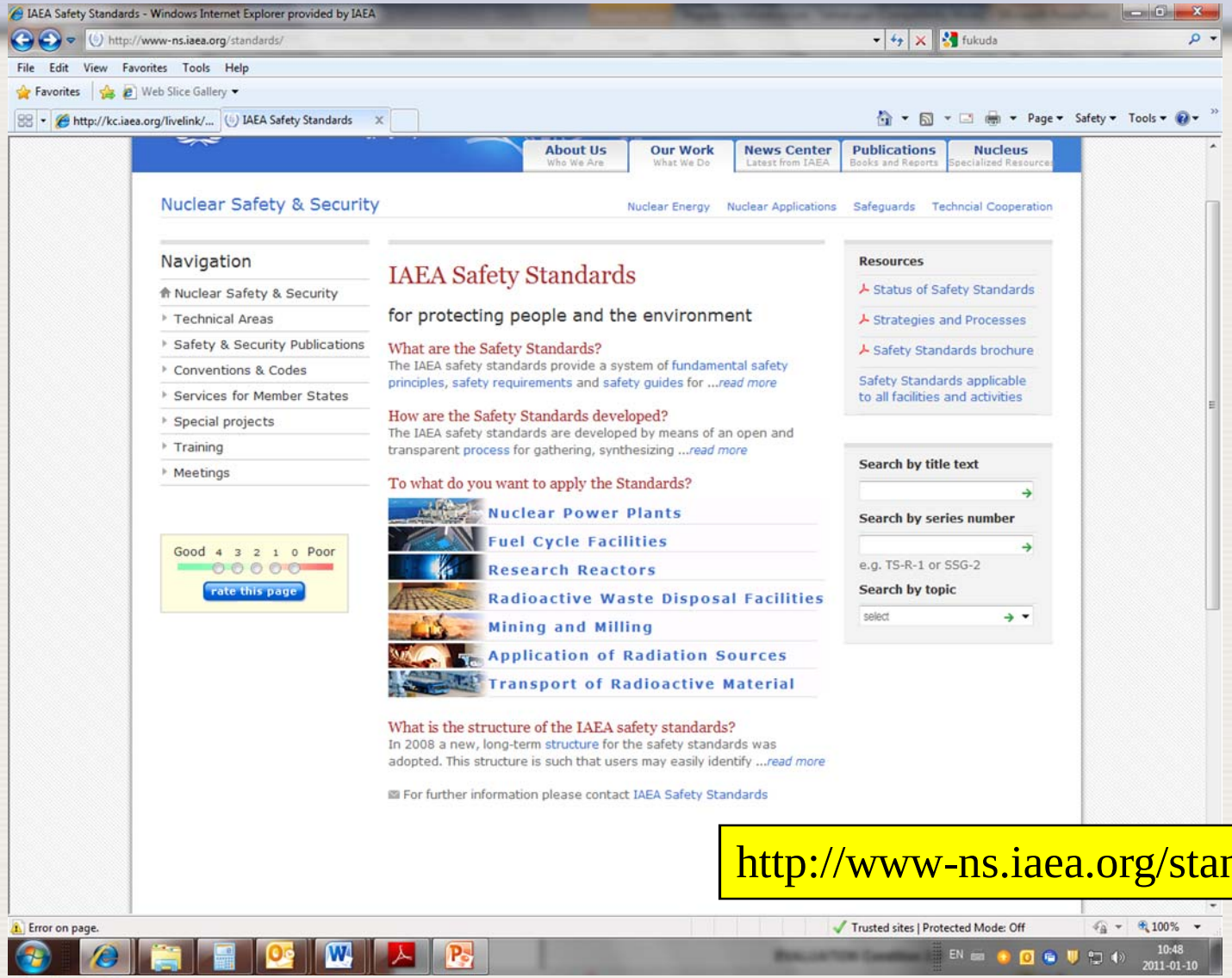
IAEA Safety Standards



http://www-ns.iaea.org/standards/

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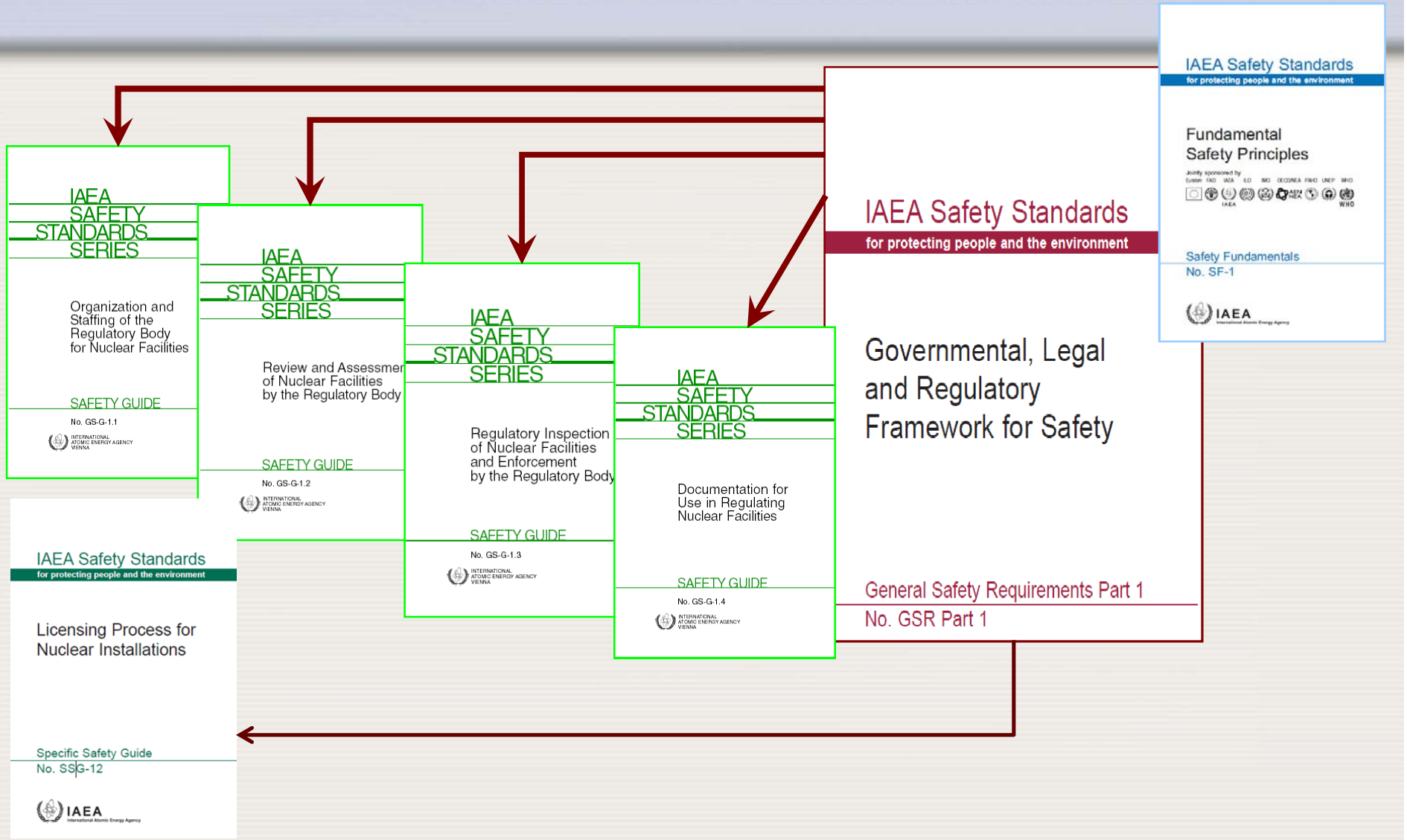
IAEA Safety Standards



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Fundamental Safety Principles

Extract from DG's 2008 General Conference speech:

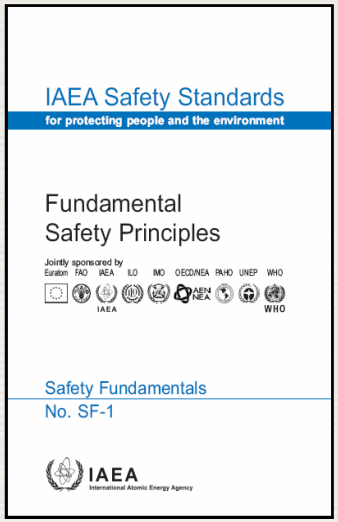
"Every country has the right to introduce nuclear power, as well as the responsibility to do it right."

Responsibility for Safety

Role of Government

Leadership and Management for Safety

Justification of Facilities and Activities



Optimization of Protection

Limitation of Risks to Individuals

Protective Actions to Reduce Existing Or Unregulated Radiation Risks

Emergency Preparedness and Response

Prevention of Accidents

Protection of Present and Future Generations

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Principle 1: Responsibility for Safety

- The prime responsibility for safety must rest with the person or organization responsible for facilities and activities that give rise to radiation risks.

  - The licensee retains the prime responsibility for safety throughout the lifetime of facilities and activities, and this responsibility cannot be delegated. Other groups, such as designers, manufacturers and constructors, employers, contractors, and consignors and carriers, also have legal, professional or functional responsibilities with regard to safety.
  - Since radioactive waste management can span many human generations … Provision must also be made for the continuity of responsibilities and the fulfilment of funding requirements in the long term.

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Principle 2: Role of government

- An effective legal and governmental framework for safety, including an independent regulatory body, must be established and maintained.

> "The government is responsible for the adoption within its national legal system of such legislation, regulations, and other standards and measures as may be necessary to fulfil all its national responsibilities and international obligations effectively, and for the establishment of an independent regulatory body."

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RESPONSIBILITIES AND FUNCTIONS OF THE REGULATORY BODY

- Establish, promote or adopt regulations and guides
- Review and assess the operator's submissions (prior to authorization, periodically)
- Issues, amend, suspend or revoke authorization with conditions
- Perform regulatory inspections
- Require corrective actions if unsafe conditions occurred
- Take enforcement actions if safety conditions were violated

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ORGANIZATION OF THE REGULATORY BODY

- Influenced by many factors - no single model
- Structure should correspond to the extent and scope of the regulated activities
- Effectiveness and efficiency
- Resources, authority, independence, communication lines
- If the regulatory body consists of more authorities (definition of responsibilities, co-ordination)
- Outside technical support (technical support organization, university, private consultant, expertise, independence)

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ACTIVITIES OF THE REGULATORY BODY (1)

- Authorization (also called licensing)
  - Safety has to be demonstrated
  - Graded approach (registration - multi-stage authorization process)
  - Guidance on format and content of the documents

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ACTIVITIES OF THE REGULATORY BODY (2)

- **Review and assessment**
  - Principles and criteria being used should be available to the operators
  - Information - complete, accurate, verifiable
  - Programme of review and assessment
  - Periodic safety re-assessment

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ACTIVITIES OF THE REGULATORY BODY (3)

- **Inspection and enforcement**
  - Cover all areas of regulatory responsibility
    - Facilities, equipment
    - Documents
    - Persons
  - Timely identification and correction of deficiencies/deviations
  - Distribution of lessons learned – feedback process

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ACTIVITIES OF THE REGULATORY BODY (4)

- **Inspection**
  - Systematic programme
  - Planned, reactive
  - Inspection report
- Enforcement
  - graded approach: warning letter, withdrawal of license
- All enforcement decisions are in written form

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ACTIVITIES OF THE REGULATORY BODY (5)

- **Development of regulations and guides**
  - Domestic legal system
  - Nature and extent of regulated activities
  - Regulatory approach selected

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3. Licensing Process

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Definitions

- **Licence** is a legal document issued by the regulatory body granting authorization to create a nuclear installation and/or to perform specified activities

- **Licensing process** is often used for nuclear installations; it includes all licensing and/or authorization processes for a nuclear installation and its activities

- **Licensee** is the holder of a current and valid licence. The licensee is the person or the organization having overall responsibility for a nuclear installation and its activities and who is in possession of all necessary licences for the installation and its activities

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Basic Principles

- Licensing process must be well-defined, clear, transparent and traceable
- Two major players:
  - Regulatory Body
    - Defines the safety criteria, requirements, guidelines and documents to be provided by the applicant (operating organization)
    - Establish a mechanism to solve safety issues with the applicant
  - Operating Organization
    - Prepare and submit the required documentation
    - Be prepared to respond to the requests of the regulatory body
- The public should be given an opportunity to provide their views during certain steps of the licensing process

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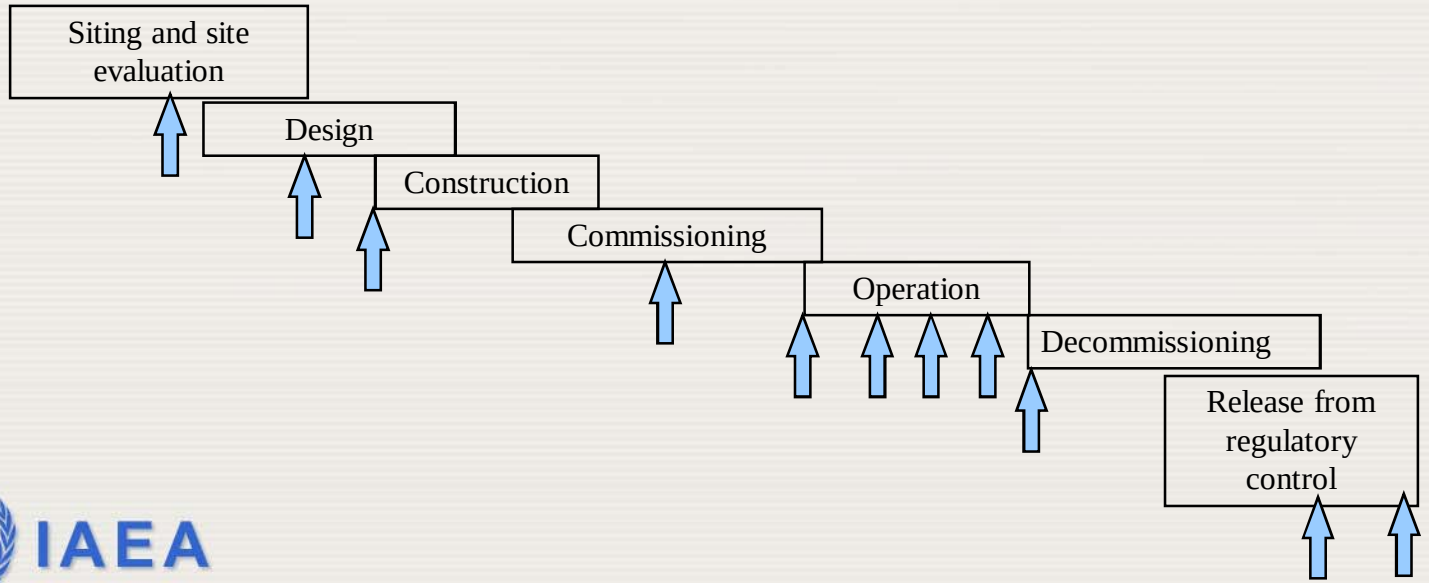
Steps of the Licensing Process

- Depends on national legislation but often covers:
  - siting and site evaluation (which may include the environmental impact assessment),
  - design,
  - construction,
  - commissioning,
  - operation,
  - decommissioning and
  - release from regulatory control



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Contents of a Licence (1)

Includes:

- A sufficiently detailed description of the nuclear installation, its location and its activities, including a description of the site boundaries
- The maximum allowable inventories of sources covered by authorizations;
- The requirements for notifying the regulatory body of any modifications that are significant to safety;
- Any limits on operation and use (such as dose and discharge limits)
- The requirements for reporting events and incidents at the installation;
- The requirements for providing routine reports to the regulatory body

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Contents of a Licence (2)

- The requirements for retention of records by the person or organization responsible for the nuclear installation and its activities, including the time periods for which records should be retained;
- The requirements for arrangements for emergency preparedness;
- The means and procedures for changing any information stated in the licence;
- The documentary basis: the documents in support of the application and those prepared and/or used by the regulatory body in the review and assessment process, which together form the basis for issuing the licence;

The licence may refer to the
"**Operational Limits and Conditions**"

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Examples of Licensing Documents (1)

- A draft plan for the project, including phases and anticipated schedule
- A site evaluation report, which may include a report on the environmental radiation monitoring
- Reports on the use of cooling sources and discharges to the environment and the and a report on the environmental impact assessment
- Public inquiry strategy plans and reports according to each State's framework and practices
- A report on the management and organization of the design and construction project, including responsibilities and a list of contractors

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Examples of Licensing Documents (2)

- A report on the acquisition programme, including a list of the structures, systems and components important to safety
- A preliminary safety analysis report before authorization to begin construction
- Probabilistic safety assessment
- Technical design documents
- Physical protection plans, which are prepared using design related threat analyses
- Fire protection plans
- Plans for accounting and control of nuclear material
- Training and qualification plans for operations personnel;
- Commissioning programmes and reports

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Thank you for your attention

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