IAEA Activities on Licensing

Stephen Koenick

Division of Nuclear Installation Safety
Department of Nuclear Safety and Security
Outline

- IAEA Safety Standards
- Training Materials
- Review Services
- Challenges
Requirements from GS-R Part 1

• “Authorization by the regulatory body, including specification of the conditions necessary for safety, shall be a prerequisite for those facilities and activities that are not explicitly exempted or approved by a notification process” (Requirement 23).

• “The applicant shall be required to submit an adequate demonstration of safety in support of an application for authorization” (Requirement 24).

• “Where different authorities have responsibilities in the regulatory framework for safety, the government shall provide for the effective coordination of their regulatory functions, to avoid any omissions or undue duplication and to avoid conflicting requirements being placed on authorized parties” (Requirement 7).
License 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.

License = Permit = Certificate
Licensing Process... DS416

• 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 resolve 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
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
Contents of a License (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
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 license;

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 license;

The license may refer to the “Operational Limits and Conditions”
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 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
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
Safety Infrastructure Guide DS424

- Why a guide on safety infrastructure?
  - The demand from “newcomer countries” for practical guidance on how to develop a nuclear safety infrastructure is increasing.
  - New guide (DS 424) constitutes a “Road-map” to apply the entire suite of IAEA Safety Standards progressively during the early phases of the implementation of a nuclear power programme.
Establishing the Safety Infrastructure for a Nuclear Power Programme (DS424)

- **DS 424** - 20 safety elements and **200 actions**
- **11 modules** defined for delivering assistance in phases 1-3
- **Safety packages** to be developed by responsible IAEA sections for each module
- Modules contain tutorial material based on **safety standards**
- Assistance oriented to the implementation of actions identified in DS 424
DS-424 Modular Development

Module 1: Governmental, Legal and Regulatory Framework for Safety

Module 2: Human Resources Development

Module 3: Leadership and Management for Safety, Safety in the Operating Organization & Preparation for Commissioning

Module 4: Radiation Protection

Module 5: Site Survey, Site Selection & Site Evaluation

Module 6: Safety of Radioactive Waste, Spent Fuel and Decommissioning

Module 7: Emergency Preparedness and Response

Module 8: External Support Organizations & Contractors

Module 9: Design Safety, Safety Assessment and Research for Safety and Regulatory Purposes

Module 10: Transport Safety

Module 11: Interfaces with Nuclear Security

DS 424
Establishing a safety infrastructure for a national nuclear power programme
Development of Safety Packages

http://www-ns.iaea.org/tech-areas/safety-infrastructure/default.htm
Expert Missions and Training

- IAEA promotes harmonization of licensing process through issuance of IAEA Standards, expert missions, and training.
  - Integrated Regulatory Review Service (IRRS) Missions and other review services
  - National and Regional Technical Cooperation Projects to provide support developing safety and regulatory infrastructure for countries embarking on nuclear power
Challenges (1)

• No one size fits all solution –
• Developing regulatory infrastructure in timeframe to support aggressive nuclear power projects
  • How best to prioritize developing competencies and infrastructure to support phases of nuclear power plant project development (DS 424)
• Project Finance Models including Build, Own, Operate (BOO) and BOO, Transfer (BOOT)
  • How does the different finance models influence the regulatory infrastructure and licensing process
Challenges (2)

- **Vendor Country’s Regulatory Infrastructure**
  - How best to determine deltas and impacts on embarking country’s selection of regulatory approach
- **Global Supply Chain – SSCs and workers**
  - How does the existing regulatory infrastructure and licensing process accommodate this
- **For mature countries expanding their nuclear program**
  - Determine how much of existing regulatory infrastructure and licensing processes are still applicable
THANK YOU