



Safe Decommissioning R²D²P Manila 15-19 Sep

Decommissioning of Nuclear Facilities

Regulatory Requirements

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Objectives

- 1. Discuss the Regulatory framework that should be in place to support the decommissioning process**
- 2. Understand the responsibilities of the different involved parties.**
- 3. The Spanish regulatory system**
- 4. Another example: the U.K system**



Decommissioning Regulatory Framework

- Require establishment of a legislative and statutory framework to regulate safety of nuclear facilities and all activities.
- Establish radiation protection standards.
- Establish a waste management programme to include disposal.
- Provide guidance on the removal of material from regulatory control.
- Include provisions for decommissioning.
- Require establishment of decommissioning funding mechanism.



Responsibilities of the Member State

- Establish and implement a legal framework for the regulation of all aspects of decommissioning.
- Define clearly the role of the regulatory body and the operator.
- Ensure continuity of responsibilities and provisions for adequate financial, human and technical resources
- Ensure that regulatory body has independent perspective on activities



Responsibilities of Regulatory Body - General

- Provide full governmental control with regard to health, safety & environmental protection
- Must have a proper organization and resources
- The Authority regulating operation normally regulates decommissioning
- Empowered to enforce legislation and regulations
- Provide general guidance on decommissioning
- Communicate with internal and external organizations



Responsibilities of Regulatory Body – Specific

- Assist in developing legislation and policies regarding decommissioning
- Establish safety criteria for decommissioning including decisions on acceptable end point conditions
- Develop regulations and guides required to implement the national policy on decommissioning
- Review the selected strategy and approve plans and submissions
- Issue licenses or permissions for decommissioning



Responsibilities of Regulatory Body – Specific

- Assure compliance with regulatory requirements through **inspections**
- Ensure that decommissioning activities which generate waste will not be started unless there is a **waste management strategy** in place
- Establish limits and conditions for the **removal of material from regulatory control**
- Ensure maintenance of long term **records** concerning clearance of facilities
- Ensure adequate **training** is provided for those involved with decommissioning activities



Responsibilities of Operator or Owner - General

- Responsible for the **safe decommissioning** of the facility including actions of contractors
- Submit a **decommissioning plan** to the regulatory body for review and/or approval
- No decommissioning activity shall begin without the appropriate approval of the regulatory body



THE NUCLEAR SAFETY AUTHORITY (CSN)





Legal Basis

- 25/1964 Nuclear Energy Law

Regulation 1836/1999 On Nuclear & Radioactive Facilities

Regulation 783/2001 On Sanitary protection Against Ion. Rad.

- 15/1980 CSN Creation LAW

Regulation 1157/1982 CSN Statute



THE NUCLEAR SAFETY AUTHORITY

MISSION

To protect the workers, the public and the environment against the harmful effects of ionising radiations, ensuring that nuclear and radioactive facilities are operated safely by the licensees and establishing prevention and correction measures for radiological emergencies, regardless of their origin.





The Nuclear Safety Authority

- The only Spanish institution competent in nuclear safety and radiological protection
- Founded in 1980
- Independent of the Central State Administration
- Own resources acquired from tax revenues

Proposals for action
Mandatory and binding
reports



Ministry of Industry, Tourism
and Commerce

Reports, resolutions,
appearances



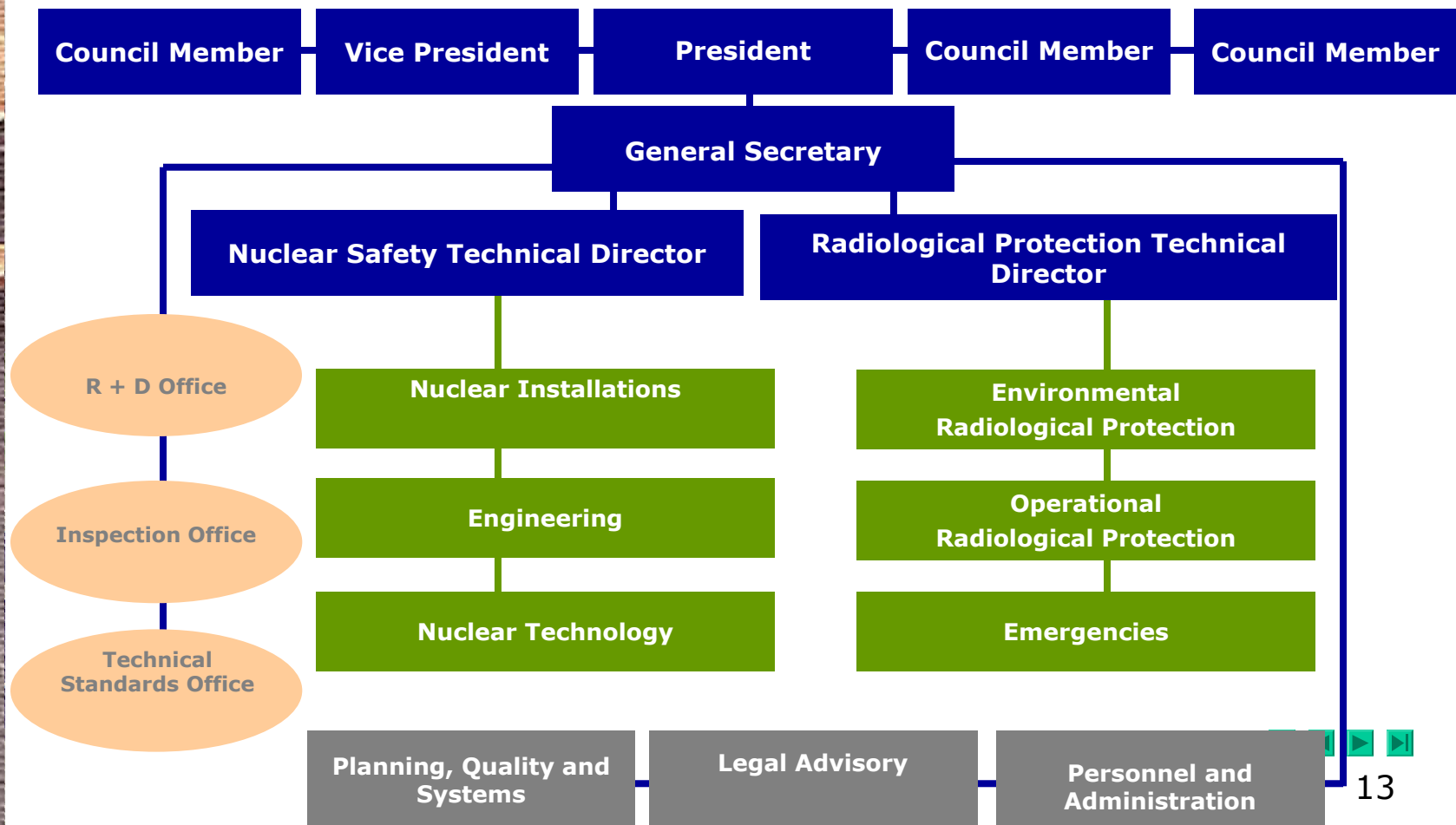
Parliament





CSN Organization

Associative Body comprised of 5 members, appointed by Parliament for a 6 year term (cannot be removed)





The CSN functions and responsibilities (1)

Main functions and responsibilities of CSN

- Propose Regulations to the Government.
- Issue reports to the Ministry of Industry on all sort of authorizations to nuclear installations.
- Assess, grant personnel licensees for operators, supervisors, and radiation protection experts.
- Inspect, control and enforce operation of authorized installations



The CSN functions and responsibilities (2)

- Provide technical support in nuclear or radioactive emergencies, and preparation of the emergency plans.
- Inform to the public and stakeholders.
- Co-operate with the Administration in whatever related with nuclear safety, radiological protection Promote R+D, participate at international forums.



The role of other different parties ⁽¹⁾

Main actors of the Regulatory system in Spain are:

- Ministry of Industry
- Nuclear Safety Council (CSN)

Besides co-operation in specific issues takes place with other administrative organizations, mainly:

- Ministry of Internal Affairs
- Ministry of Environment



The role of the different parties ⁽²⁾

- **The Ministry of Industry**
 - # Grant the authorizations of dismantling and decommissioning, considering all aspects of the project.
- **CSN**
 - # Assessment and inspection of all nuclear safety and radioactive issues.
 - # Advice on nuclear safety & radiation protection as well as co-operation exist with Ministry of Internal Affaires and Ministry of Environment related to:
 - Offsite emergency
 - Environmental surveillance/protection
 - Security
- **National RADIACTIVE WASTE AGENCY** is the in charge of D&D activities



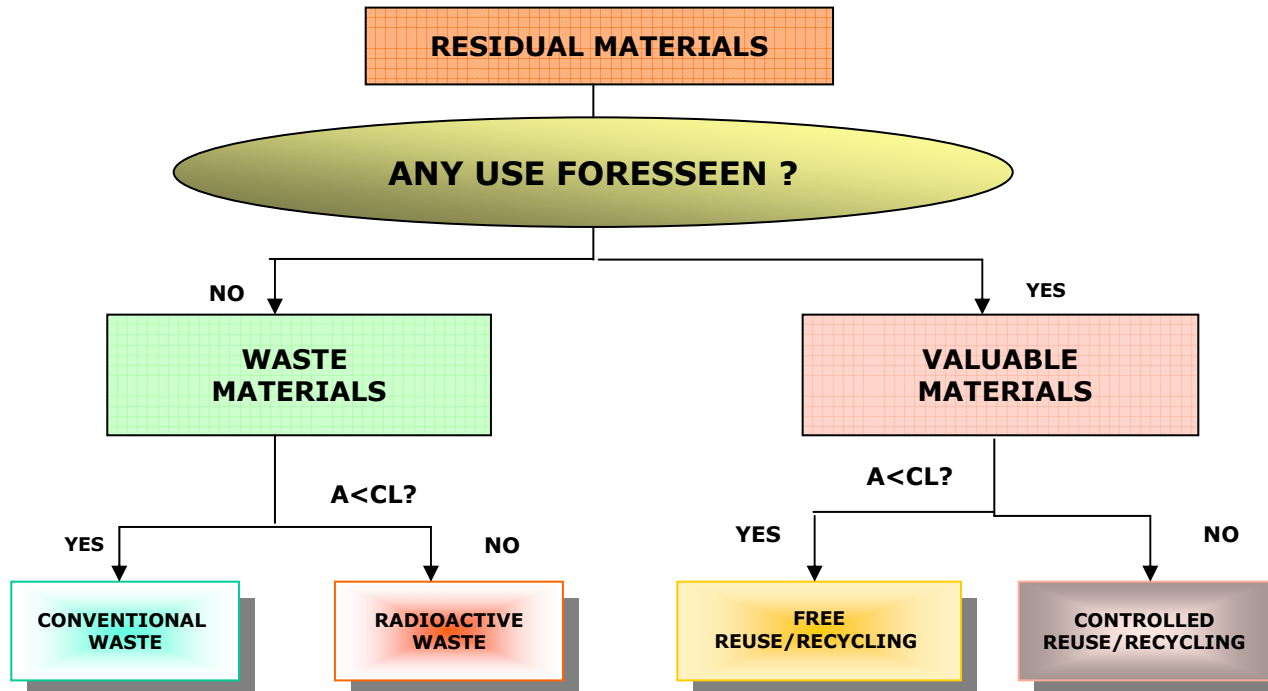
National Radioactive Waste Agency (ENRESA)

- Public company to undertake the management of the radioactive wastes generated in Spain and the dismantling of nuclear power plants.
- Financial resources: funds of the General Radioactive Waste Plan.
 - Taxes in the electricity receipt
 - Direct charge to the radioactive installations
- Responsibilities
 - Setting up of LILW waste acceptance criteria (WAC)
 - Testing of waste forms to verify WAC accomplishment.
 - Design, construction and operation of interim storages for SF and radioactive wastes disposal facilities.
 - Proposal to the government of radioactive waste management plan.
 - Decommissioning of installations



Radioactive waste definition (Law 54/97)

Residual material for which no use is foreseen that contains radioactivity above certain levels defined by MITYC with a previous CSN report.





Radioactive waste classification in Spain

- **No legal classification of radwaste.**
- **Based on the disposal option planned or applied to radwaste:**
 - # **LILW and VLLW : Suitable for disposal in El Cabril surface facility.**
 - # **Clearable waste: Suitable for conventional management. (Applied).**
 - # **HLW and SF: All wastes that are not open to disposal at El Cabril facility**



Spanish regulatory framework (1)

Regulation on nuclear and radioactive installations

RD 1836/1999

Section II Regarding nuclear installations

Chapter VI Authorisation for dismantling and decommissioning statement

- **Final shutdown statement**
 - Planned or unforeseen cessation of operations needs an Official Statement by the Ministry of Industry, Tourism and Trade
- **Pre-dismantling activities**
 - Responsibility of the plant operator
 - Spent fuel unloading and approved management plan
 - Operational waste conditioning
- **Transfer of trusteeship for decommissioning**
 - ENRESA in charge of decommissioning activities
 - Funds transferred to ENRESA during operating lifetime





WPDD Topical Session

"Emerging issues and trend in regulatory practices during the decommissioning and dismantling of nuclear power plant"

Spanish regulatory framework (2)

Two basic ministerial authorisations

- **Authorisation for dismantling**
 - Issued at the same time of the title transfer
 - Allows the new licensee (ENRESA) to initiate activities
 - Defines information submission requirements
 - Issued simultaneously with the Environmental Impact Statement consent
- **Decommission Statement**
 - Releases the facility from regulatory control
 - Relieve the licensee from responsibilities
 - Property returns to the original owner
 - » (Institutional control, if required)





Spanish regulatory framework (3)

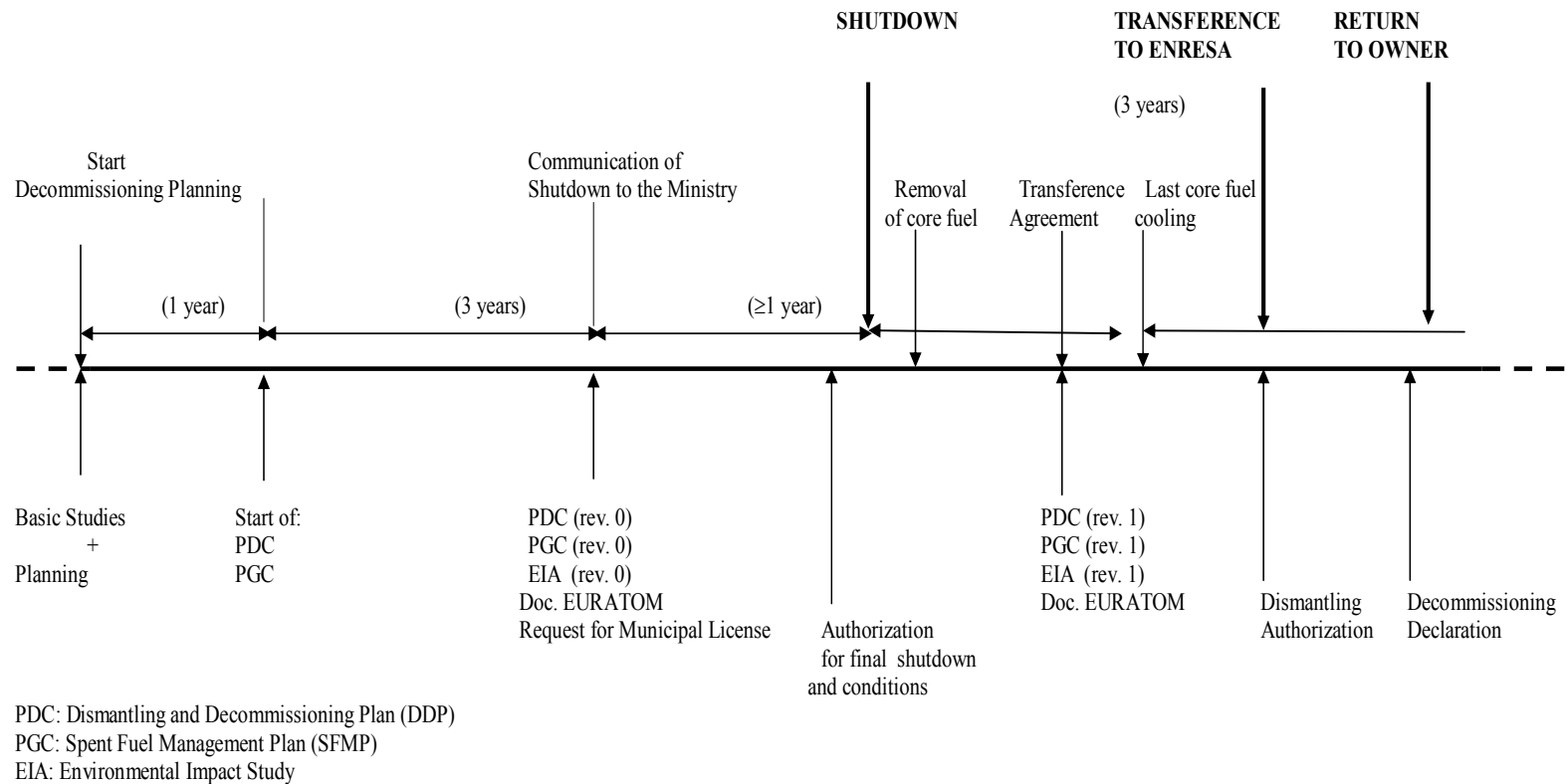
Dismantling authorisation documentation

- # **Safety study**
- # **Operating regulation**
- # **Technical specifications**
- # **Quality assurance manual**
- # **Radiation protection manual**
- # **Site emergency plan**
- # **Radioactive waste management plan**
- # **Cleanace materials control plan**
- # **Site restoration plan**
- # **Financial study**

Environmental impact statement document



Spanish decommissioning strategy





United Kingdom system

The role of the different bodies

- **Health and Safety Executive (HSE)**
- **Nuclear Installations Inspectorate (NII)**
- **Relevant Environment Agencies**
- **Nuclear Decommissioning Authority (NDA)**



United Kingdom system

The regulatory framework

- **Flexible and non-prescriptive nature licensing regime**
- **Health and Safety at work Act 1974 (HSWA74)**
- **Nuclear installations Act 1965 (As amended) (NIA65)**
 - 36 standard license conditions**
 - # **Safety cases**
 - # **Specific License conditions for each license**
- **Conditions are legally binding**
- **The Ionizing Radiations Regulations (Enforce)**



United Kingdom system

Decommissioning Expectations:

- # **As soon as reasonably practicable**
- # **Reduce the hazards**
- # **Routes for radioactive waste**
- # **Passively safe state for interim storage**



United Kingdom system The Nuclear Decommissioning Authority

- **Non –departmental Public Body**
- **Established by Energy act 2004**
- **Responsible for:**
 - Decommissioning and clean-up of the designated sites
 - Developing the Low Level Waste (LLW) strategy and plans and the implementation of long term management arrangements for the UK's higher activity radioactive wastes
 - Maximizing revenue from existing assets. (operates commercial plants)
 - Skill maintenance



Summary

- **A strong regulatory structure is required for safe and efficient decommissioning**
- **Regulatory body provides the requirements and guidance**
- **Operator is ultimately responsible for ensuring safety and that all requirements are met**
- **Different systems to carry out the same task have been developed in different countries.**



Decommissioning of Nuclear Facilities

- » <http://www.ciemat.es/>
- » <http://www.enresa.es/>
- » <http://www.csn.es/>

¡THANK YOU!