



# Directive 2011/70/EURATOM on Management of Spent Nuclear Fuel and Radioactive Waste

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## **Management of Spent Nuclear Fuel and its Waste**

Presentation of a joint report prepared by  
the European Academies' Science Advisory Council (EASAC),  
and the Joint Research Centre (JRC) of the European Commission

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- **Background**
- **Directive objectives and status**
- **Key Challenges**
- **Summary**



# EURATOM Legal Instruments related to spent fuel and waste



**1. Directive  
2011/70/Euratom on RAW  
and SF safety**

**2. Directive 2006/117 on  
RAW and SF shipment**

**3. Directive  
2014/87/Euratom on  
nuclear safety**

**4. Directive  
2013/59/Euratom on basic  
safety standards**



## Directive 2011/70

- Adopted by the Council in August 2011
- **Objectives**
  - » Safe and responsible management of spent fuel and radioactive waste from generation to disposal
  - » avoiding undue burdens to future generations
- **Scope**
  - » applies to all MS
  - » **responsible** and **safe long term** spent fuel and radioactive waste management
  - » from civilian activities

# Directive objectives



- **Directive requires Member States to establish and maintain:**
- National policies
- National programmes
- National legislative, regulatory and organisational framework

# Directive notification/reporting



**MS Transposition** into national law -  
*23 Aug 13 (EC conformity checks  
being finalised)*

**MS programmes** - *23 Aug 2015 and  
significant changes*  
*The Commission may express its  
opinion on national programmes*

**MS implementation reports** every  
three years – *as of 23 Aug 2015*

**MS Self assessment and  
international peer reviews** - *every  
10 years*

**MS Shipment agreements for  
waste disposal in third countries**  
(case by case prior shipment)

**EC report** to the  
Council and the  
European  
Parliament

- progress and status
- inventory of waste in the EU
- future prospects

# Main elements of the Directive



## Directive 2011/70

- **Policies**

- » SF and all RAW including disposal
- » Safety principles considered, etc. Art 4(3)
  - Minimization
  - Graded approach
  - Interdependencies
  - Long term passive safety features
  - Costs to be borne by generator, etc.
- » No undue burdens to future generations
- » Ultimate responsibility of the State
- » Responsibility for SF and RAW shipment, resulting waste and by-products

# Main elements of the Directive



## Directive 2011/70

- **National framework**
  - » Legal framework, national programme
  - » Responsibility of license holder (assessment, verification and improvement of safety, management system, funding, shared responsibilities, etc.)
  - » Primary responsibility of generators
  - » Financial mechanisms
  - » Reporting to EC (agreements prior shipments for disposal, etc.)
- **Independent and Competent Regulatory Body**
  - » Sufficient human and financial resources
  - » Legal powers



# Main elements of the Directive



## Directive 2011/70

### National Programmes

- » Content recommended (Art 12(1))
- » Implementation of the policy
- » Undue burden to future generations (timeframes, milestones)
- » Classification, inventory
- » Concepts and plans, etc.
- » Costs and financial schemes
- » Research, development and demonstration
- » Public information and participation
- » International agreements
- » Monitoring, key performance indicators
- » Self-assessment and peer reviews (Art 14(3))

# Main elements of the Directive



## Directive 2011/70

### Shipments to MS/third countries

- . Art 4(2) – responsibility for secondary waste
- . Art 4(4) – strict conditions for disposal in a third country
  - » E.g. operational disposal facility, submission of the agreement to the Commission prior shipment
  - » NOTE – any draft agreement with a third country shall be submitted to EC (Art 103 of EURATOM)



## Directive 2011/70

### Transposition

- . to date all MS notified full transposition
- . conformity assessment ongoing

### National programmes

- . 27 programmes received (22 final)
- . remaining are expected (mainly due to ongoing Strategic Environmental Assessment procedure)



## Directive 2011/70

### National Reports

- All MS submitted their reports to date
- Assessment of programmes being finalised and questions for clarifications sent to MS

### Peer reviews

- First ARTEMIS peer review planned for 2017 (Poland)
- EC supports the IAEA in preparation of the ARTEMIS guidelines

# Key Challenges



Some Member States still have to either develop policy or make final decisions for disposal - Long timeframes

Member States consider also the option for **shared solutions** as a disposal option - none proposed to host such a facility

Adequate **cost assessment, financing mechanisms and fund management** for spent fuel and radioactive waste management remains a challenge

**Comprehensive up-to-date inventory** - main challenge is inconsistent and sometimes incomplete reporting

# Related EC Initiatives And Events



- 1<sup>st</sup> report to the Council and Parliament (Directive 2011/70/Euratom) – 2017
- EC workshop on lessons learned from Directive 2011/70/Euratom – Q3 2017
- Revision of ENSREG Guidelines on reporting - 2017