The EU Waste Directive: structure, content and implementation guidance

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Outline

- Overview of EU Law
  - EURATOM Treaty
  - Relevant Directives

  - Content
  - Structure
  - Implementation guidance

- Euratom Safeguards and Deep Geological Disposal
Overview

European Atomic Energy Community (1957)

Euratom Treaty

25 March, 1957, Rome, Italy
Relevant Directives

- Directive 2014/87/Euratom on nuclear safety
- Directive 2009/71 on nuclear safety of NI (amendment)
- Directive 2011/70/Euratom on RAW and SF safety
- Directive 2006/117 RAW and SF shipment

Basic Safety Standards Directive 2013/59/EURATOM
COUNCIL DIRECTIVE 2011/70/EURATOM of 19 July 2011

Establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste

• Main provisions
• Key elements
• Obligations to the EU Member States
• Obligations to the European Commission
• Different layers of documentation
• Procedures and time schedules
• Next steps
Directive 2011/70/Euratom

Main Provisions
Directive 2011/70/Euratom

Key Elements

National Policy

National Framework

National Programme

Principles

Legislative, regulatory and organisational infrastructure

Implementation of the Policy Into practical solutions, from waste generation to disposal
OBLIGATIONS TO THE EU MSs

Ethical obligation: avoid any undue burden on future generations

Ultimate responsibility of MSs for the safety of RW and SF management

Primary responsibility lies with the RW/SF generator (licence holder)
OBLIGATIONS TO THE EU MSS (cont.)

Art. 5 – National Framework

Responsibilities
National Programme
Licensing

Documentation & Reporting

Enforcement

Financing
Improvements

Control & Inspections
Public Information & Participation

Practical arrangements for safety of SF&RW
OBLIGATIONS TO THE EU MSs (cont.)

Art. 6 – Competent Regulatory Authority

6.1 MS shall establish and maintain a competent RA
6.2 Independency of RA
6.3 Resources

Art. 7 – Licence holders

7.1 Prime responsibility
7.2 Regular assessment and improvement of safety
7.3 Safety demonstrations
7.4 Integrated management systems
7.5 Resources
OBLIGATIONS TO THE EU MSs (cont.)

Art. 8 – Expertise and skills
"...all parties to make arrangements for E&T for their staff as well as R&D activities...to obtain, maintain and to further develop necessary expertise and skills."

Art. 9 – Financial resources
"...adequate financial resources be available when needed for the implementation of national programmes..."
OBLIGATIONS TO THE EU MSs (cont.)

Art. 10 – Transparency

10.1 "...necessary information on the management of SF and RW be made available to workers and the general public."

10.2 Public involvement in the decision-making process

Art. 11 – National Programmes

11.1 implementation of the national programme, covering all types of SF and RW and all stages

11.2 Regular reviews
OBLIGATIONS TO THE EU MSs (cont.)

Art. 12 – Contents of NPs

To explain **how** the National Policies are intended to be implemented by the MS:

- Overall policy **objectives**
- **Milestones** and **timeframes**
- **Inventory** (incl. Decommissioning)
- Concepts or Plans and technical **solutions**
  - From generation to disposal
  - For the post-closure period
- **Research, development and demonstration** activities
- **Responsibility** of the implementation of the NP & **KPIs** to monitor progress
- **Cost** assessment
- **Financing** schemes
- **Transparency** policy/process
- Intl. **Agreements** (if any)
OBLIGATIONS TO THE EU MSs (cont.)

Art. 13 – Notification

To explain how the National Policies are intended to be implemented by the MS:
- **Current** National Programme (by 23 Aug 2015)
- Any significant changes

-> within 6 months the EC may
   - request clarification -> MS to provide response and/or
   - provide an opinion
OBLIGATIONS TO THE EU MSs (cont.)

Art. 14 – Reporting

MSs shall submit a report to the EC every 3 years the status of the implementation of the National Programme

MSs shall report to the EC the outcomes of any national or international peer reviews and make them available to the public
OBLIGATIONS TO THE EC

Based on the National Programmes notified by the MSs:

-> EC may request clarification and/or express an opinion on whether the contents are in accordance with Article 12

Based on the National Reports submitted by the MSs:

-> EC to report to the European Parliament and the Council:
  - progress made in the implementation of the Directive by the MSs
  - inventory of RW and SF in the EC's territory & the future prospects
DIFFERENT LAYERS OF DOCUMENTATION

Transposition
- Laws, regulations and administrative provisions necessary for the national legislation to comply with the Directive
- Obligations related to SF don't apply to non-nuclear MSs

National Programme
- Practical measures to implement the National Policy and the obligations under the Directive

National Report
- Current status of the implementation of the National Programme

Inventory

Peer Reviews
**TIME SCHEDULE**

**Transposition**
- By 23 August 2013 *(Art 15)*

**National Programme**
- By 23 August 2015 *(Art 15)*

**National Report** on the implementation
- 1st one by 23 August 2015 and every 3 years thereafter *(Art 14(1))*

**Inventory**
- Together with the National Report (i.e. 1st in 2015 and then every 3 years) *(Art. 14(2))*

**Outcomes of Peer Reviews**
- At least every 10 years *(Art 14(3))*
Next Steps

EC to finalise its review of NPs (27), NRs (28) and Inventories (28)

--> report to the European Parliament and the Council

- end 2016

--> opinions on NPs

- 2016/2017

EC Workshop with the MSs on experiences gained and the outcomes of the review of the implementation of the Directive 2011/70/Euratom by the EU MSs

- 1st half of 2017

ENSREG WG2 Workshop on lessons learned from NP&NR

- 25-27 Oct 2017 – Bristol, UK
**Legal Basis**

**Euratom Treaty**

(Chap VII: safeguards)

- **Regulation No 302/2005** for the implementation of Euratom Safeguards
- **Particular Safeguards Provisions** (Facility Specific)

**Commission Recommendations**

- on the application of Safeguards Regulation (2006/40/Euratom)
- on Nuclear Material Accountancy and Control Systems (2009/120/Euratom)
Euratom Safeguards in the Euratom Treaty

**Art 77:** The European Commission shall satisfy itself that

**Art. 77a)** nuclear materials have not been diverted from their intended uses as declared

**Art. 77b)** International safeguarding obligations are complied with (e.g. NPT, suppliers...)

**Art. 79** The European Commission (EC) shall require that operating and accounting records be kept and produced (Regulation 302/2005)

**Art. 81** The EC may send inspectors to ensure compliance with Art. 77

**Art. 83** The EC can apply sanctions from warning to withdrawal of nuclear material
Euratom Safeguards approach

Three types of control:

- **Compliance**
  - Accounting checks
  - Verify Basic Technical Characteristics

- **Performance**
  - NMAC system quality auditing

- **Credibility**
  - Physical verifications (NDA/DA measurements and inspections)
CHALLENGES

Requirements - Encapsulation Plant:
- Confirm operator declarations on spent fuel
- Better: independently confirm Pu and U contents
- Follow material flow from verification to geological repository

Requirements – Repository:
- Confirm declared technical characteristics
- Confirm input flow
- Assure nothing leaves unnoticed – (until when?)

Boundary Conditions:
- Available human and financial resources
- Available technology
- Options for better technology – now and in 5/20/50 years
- Keep influence on plant operations limited