



**ENVIRONMENT
AGENCY**

The Regulation of Radioactive Waste Disposal in England & Wales

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North-West Region

Environment Agency's statutory powers



- **Radioactive Substances Act 1993 “RSA93” (amended by Environment Act 1995)**
- **Environment Agency in England and Wales; SEPA in Scotland**
- **Prior authorisation must be obtained for the disposal of radioactive waste**
- **“Radioactive waste” includes solids, liquids and gases**
- **Detailed consideration of environmental impacts required in applications for authorisation**

Working with the Health & Safety Executive

- **HSE has statutory power to regulate waste storage on nuclear sites**
- **Close involvement with HSE Nuclear Installations Inspectorate**
- **Statutory consultees**
- **Memorandum of Understanding:-**
 - **primary and secondary responsibilities in defined areas (inspection, enforcement etc.)**
 - **working arrangements**
- **For construction, modification or decommissioning of plant: Agency consulted on radioactive waste management aspects before HSE issues consents**

Management of ILW

- **Before March 1997: Repository availability planned for around 2010 - 2015**
- **Rejection of planning application for RCF: considerable delay and uncertainty**
- **Long period of on-site management of radioactive waste, through decommissioning phases**
- **Will be considerable waste management activities during this period, including retrieval and packaging of ILW**

Implications of repository delay

- **As regulator of future disposal, potential concerns are:**
 - **Degeneration of wastes and packages**
 - **Uncertainty in storage period**
 - **Unknown final geological setting, repository design and safety case, but components of repository being produced now**
 - **Potential for changes in scientific knowledge and standards**

Worst case outcomes

- Repository site selection process overly constrained
- Repository unable to meet safety requirements
- Need to rework waste - increased volumes, secondary wastes, dose and costs

What is the Agency doing?

- **Taking the view that any project for waste packaging and conditioning has implications for disposal**
- **Placing onus on waste producers to address implications**
- **Looking to ensure that**
 - **waste producers are aware of responsibilities**
 - **this is addressed at an early stage**
 - **the Agency is aware of, and able to influence decisions being taken**

Government policy - Cm2919

- **Safety demands overriding - treat to improve storage**
- **Early treatment has worthwhile safety or economic benefits - can relax presumption against foreclosure of options**
- **Decisions must have regard to all relevant factors:**
 - **state of storage, retrievability, benefits in converting to stable form, passive safety**
 - **disposability, ability to rework wastes**
 - **need to minimise degeneration, secondary wastes and releases to environment**

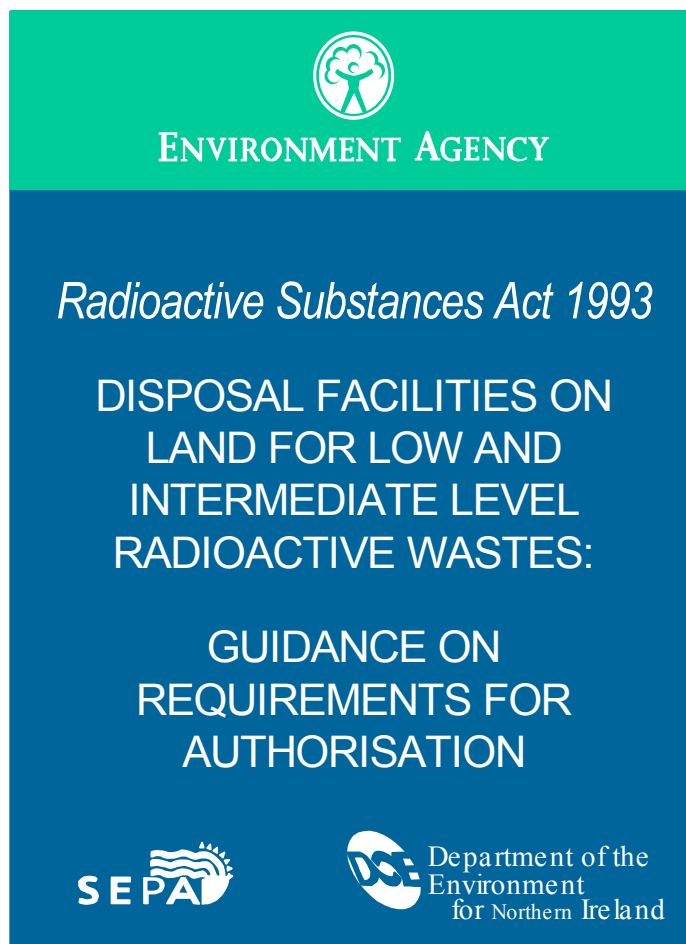
Agency Guidance on ILW Conditioning and Storage

- **Scope:**
 - **Need to make regulators aware of “optioneering” at early stage**
 - **Flagging of potentially contentious issues for disposal (link with “letter of comfort” process)**
 - **Matters of interest for Agency to be addressed in submissions to HSE and referred to Agency under MoU**
- **Consultation on draft guidance**
- **Final version published June 2001 on website www.environment-agency.gov.uk**

Guidance on waste disposal

- Agency published “Guidance on requirements for authorisation of ILW/LLW disposal” in 1997 (followed consultation)
- Sets out guidance on:
 - procedural arrangements within current regulatory framework
 - principles and criteria against which proposals will be assessed
 - radiological and technical requirements
 - information requirements, including timing

Disposal Facilities on Land for Low and Intermediate Level Radioactive Wastes: Guidance on Requirements for Authorisation



Use of “GRA document”

- **Intended for new, dedicated facilities for disposal of ILW or LLW**
- **Will be used in the review of existing facilities - Drigg**
- **Some aspects relevant to consideration of smaller facilities, such as “special precautions burial”**

UK Guidance and the Biosphere

- **Guidance not prescriptive**
- **No specific requirements for treatment of the biosphere**
- **“After control is withdrawn, the assessed radiological risk from the facility to a representative member of the potentially exposed group at greatest risk should be consistent with a risk target of 10^{-6} per year” (Requirement R2, GRA, para 6.12)**

Other (GRA) guidance relevant to the Biosphere (para. 6.18 - 6.20)

- **The developer should present the range of possible doses which each potentially exposed group may receive, together with the probability that the group receives any given dose.**
- **It is a matter for the developer to justify the choice of potentially exposed groups as being appropriate to the proposal.**
- **By analogy with the critical group approach, the assessment of dose, and therefore of risk, would be based on an individual member of the group chosen so that the dose to that individual would be representative.**

Other (GRA) guidance relevant to the Biosphere (para. 6.21 - 6.22, 8.9)

- **No definite cut-off in time is prescribed either for the application of the risk target or the period over which the risk should be assessed.**
- **At times longer than those for which the conditions of the engineered and geological barriers can be modelled or reasonably assumed, scoping calculations or qualitative arguments may be used to indicate the continuing level of safety.**
- **[The operator shall provide] information on the surface environmental characteristics of the geographical area of the site.**

Practical use of the GRA in the UK

- **BNFL, Drigg, NW England**
- **Post-Closure Safety Case (PCSC) required by September 2002.**
- **Agency has been reviewing interim documents from BNFL's PCSC Development Programme since 1996.**
- **A Status Report was submitted by BNFL in March 2000. Both the Status Report and Agency's review are on the Agency's Public Registers.**
- **On receipt of the PCSC, the Agency expects to consult widely on its review of the authorisation in 2003**

Review of BNFL's Status Report



Agency impact on BNFL

BNFL have:-

- Implemented a tiered approach to risk assessment.**
- Mapped their safety case against the regulatory guidance.**
- Changed their safety case philosophy e.g human intrusion.**
- Implemented NCRAOA-developed Issue Resolution Process.**
- Significantly improved their safety case presentation.**