

Nuclear waste governance in the UK

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Inventory and waste classification in UK

- Historically, spent fuel, plus separated Pu and U were regarded as resources in the UK, not wastes
- From 2003, this view was revised, and Pu has been confirmed as a waste

Three main categories of waste recognised:

- Low level (LLW) – uncontroversial, not considered further
- Intermediate level (ILW) – higher and/or longer lasting activity than LLW
- High level (HLW) – heat generating: can be either reprocessing [products or spent fuel

Inventory of UK wastes/potential wastes to 2120

Material	% volume	Activity (TBq)	% of activity
HLW	less than 0.3	39 million	50
ILW	73.9	2.4 million	3
Separated Pu	0.7	4 million	5
Uranium	15.7	3,000	less than 0.01
Spent fuel	1.7	33 million	42

Source: CoRWM (2006) p. 20.

Storage policy

- Long official/industry advocacy of DGD as final destination
- In 2003 a new process, CoRWM, starting with ‘blank sheet of paper’
- CoRWM report in 2006 – reiterated DGD but wanted more robust storage and – most important - a voluntarist, participatory decision process
- Government endorsed this and produced White Paper in 2008
- Invitations for ‘Expressions of Interest’ only from Sellafield area, but came to a halt in early 2013
- Open question about whether retrievability should be built in to design process – less enthusiasm now than in 1990s

Financing

Two current schemes and one future scheme

- 1) All public sector wastes owned by NDA (since 2005) which gets annual funding from Treasury + some commercial income
 - Total undiscounted cost expected to be £104 bn. with Sellafield around £67 bn. Annual spend c. £2.5 bn.
- 2) Private sector wastes (owned by EDF) have external segregated fund (NLF) worth £8 bn.+
 - This may or may not be adequate to meet all liabilities
- 3) If or when new nuclear build a new external segregated system will be set up – front-end loaded to minimise risk of taxpayer liability

Legal framework

- Nuclear Installations Act 1965 – safety
- Radioactive Substances Act 1993 – environment
- Energy Act 2004 – established NDA and new system of managing wastes and decommissioning

Institutional framework

- Complex – DECC took over from Defra the ministerial brief after 2008
- Scotland has own devolved powers and has different policy
- NDA owns sites containing public sector liabilities (Nirex abolished and staff integrated into NDA)
- NDA lets contracts to site license companies, ownership of which is competed every few years
- Regulators:
 - ONR for safety/security/transport in UK
 - EA for environment (England and Wales); SEPA for Scotland

Local authorities critical for site negotiations, and many other stakeholders involved – e.g. trades unions, business groups, religious groups, and (in principle) environmental groups – as well as the public

Siting procedures

Main effort is attempt to find a DGD site, in staged process;

- Expression of Interest
- Decision to participate (no commitment)
- Community Siting Partnership
- Engagement Package (after decision here, no further right of withdrawal)
- Benefit package (to be negotiated later)

Since 2003 a much higher level of transparency and openness/deliberation in processes. Information access much improved and NDA formally manages all stakeholder/public issues

Plutonium management

A relatively recent process after Pu (120 tonnes separated) declared a waste – attempt to find a cost-minimising route

Three alternatives under consideration

- A new MOX plant – fuel to be used in any new UK light water reactors
- New and untried reactors to consume Pu – the PRISM fast reactor (GE/Hitachi) or a version of CANDU
- Immobilisation in ceramic waste-form

Government currently favours MOX despite disastrous past experience, absence of new reactors to date and no evidence of public acceptability. Immobilisation much more promising and straightforward

Lessons learned

- After 20 years of decide-announce-defend-(abandon), old policy came to a halt in 1997
- The establishment of CoRWM in 2003 marked a major change in policy process – a much wider range of actors involved in a public and transparent process designed to try and gain trust
- Government has in principle, and significantly in practice, continued the deliberative, inclusive process though Sellafield area withdrew
- However Government's new-found enthusiasm for nuclear new build casts a significant shadow over efforts to find a host community – legitimacy at risk