Nuclear Free Local Authorities
RADIOACTIVE WASTE POLICY
Briefing on the Government Review

No. 14, April 2006

Briefing on the DEFRA and Devolved Administrations *Public Consultation on Policy for the Long Term Management of Solid Low Level Radioactive Waste in the United Kingdom*

1. Introduction

1.1 The consultation document can be downloaded from: www.peoplescienceandpolicy.com/llw/index.html.

Alternatively, hardcopies of the consultation document can be requested from John Howley, Radioactive Substances Division, Department for Environment, Food and Rural Affairs, 3/G25 Ashdown House, 123 Victoria Street, London SW1E 6DE or john.howley@defra.gsi.gov.uk

1.2 The consultation paper was published on 28 February 2006 and **responses are invited by 31 May 2006**. The consultation seeks to clarify and review the options for the long term management of solid Low Level Radioactive Wastes (LLW). The paper asks 13 questions (annexed) though consultation responses need not be confined to these questions. The result of the consultation is intended to lead to a new policy that will update the 1995 White Paper "Review of Radioactive Waste Management Policy: Final Conclusions (Cmd 2919)".

1.3 The review parallels and complements the review of the long-term management of higher activity wastes, which is being carried out by the Committee on Radioactive Waste Management (CoRWM). That review will report to Ministers in July 2006.

1.4 After the Government and the devolved administrations have considered the consultation responses, it is intended to present a new policy and supporting documents to the relevant parliaments and devolved assemblies.

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2. Cumbria County Council officers summarise the main points in the consultation paper[1]

2.1 LLW contains relatively low levels of radioactivity. Most of it arises from the operation of nuclear power stations, nuclear fuel reprocessing and the decommissioning and clean-up of nuclear sites. It is estimated that 98% of the wastes will be from nuclear sites including power stations. Whilst LLW is forecast to constitute about 90% of future radioactive waste arisings by volume, it will contain less than 0.0003% of the total radioactivity. It is estimated that 2 million cubic metres of LLW will need long-term management excluding an estimated 18 million m^3 of contaminated soils at the Sellafield site.

2.2 The Current Position:

- most LLW is permanently disposed of at the surface repository near Drigg in West Cumbria
- some LLW at the lower end of activity is buried in situ, e.g. at Sellafield
- some LLW, also at the lower end of activity, is placed in conventional landfills under a process known as Controlled or Special Precautions Burial
- very low level wastes in small quantities are placed in conventional landfills where it is diluted by significant volumes of non-radioactive wastes
- small proportions are incinerated, e.g. some clinical wastes with other hazardous properties
- decay storage, where radioactivity is allowed to decay to make subsequent management easier or until it becomes exempt from regulatory requirements

2.3 Accelerated programmes for decommissioning and clean-up of the UK's older nuclear sites mean that LLW arisings will be much greater in the future. A large proportion of this will be building rubble and contaminated land. Also the imminent introduction of a new regulatory regime for the remediation of radioactively contaminated land could also lead to the generation of additional amounts of LLW in the future.

2.4 The consultation paper identifies the **first key issue** as whether the site near Drigg should be used to take large quantities of lower activity LLW from decommissioning and clean-up.

2.5 The **second key issue** is whether greater consideration needs to be given to increased use of the other options available for long term management of LLW.

2.6 The **third key issue** is what should be done to halt the decline in disposal routes for non nuclear industry LLW and how to minimise transport needs for these disposals.

[1] This part of the briefing relies on a report provided by Cumbria County Council officers to the Local Government Association's Nuclear Legacy Advisory Forum on 6 April 2006. At the time of preparation the Cumbria officers' remarks were not Cumbria County Council policy.

What Government is proposing

2.7 Allow greater flexibility in the management of the wide range of LLW wastes

- maintain necessary level of safety through the use of a risk-informed approach
- greater emphasis on minimising LLW arisings
- revised definition of Very Low Level Waste to bring it into line with the wider definition of LLW.

2.8 Government does not aim to be prescriptive in its approach. It acknowledges that each LLW management problem will have its own solution; the development of the solution is a matter for the waste owners. The key aim is to provide a high level framework within which individual LLW management decisions can be taken flexibly to ensure safe, environmentally acceptable and cost-effective management solutions that appropriately reflect the nature of the LLW concerned.

2.9 Despite this aim of not being prescriptive, the Government "expects the Nuclear Decommissioning Authority to – develop and publish a plan for the optimal use of the LLW disposal facility located close to Drigg as a UK national asset…"

LLW Management Plans and Integrated Waste Management Strategies (IWS)

2.10 Government proposes that all nuclear licensed sites should have a plan for the management of their LLW holdings and future arisings that is part of their wider IWS and compatible with the proposed end state for the site.

2.11 These waste management plans must be based on:

- **use of a risk-informed approach** to safety and protection of the environment (*it states the effective dose to public groups should not exceed single source-related dose constraint of 0.3 millisieverts/year. Following closure and withdrawal of management control, the assessed risk of fatal cancer, etc., should be consistent with a risk target of one in a million per year.)*
- **minimisation** of waste arisings
- **consideration of all practicable options** for the management of the LLW *(Government believes that sub-surface disposal with no intent to retrieve should be the end point for LLW that remains following the application of the waste hierarchy).*
- **a presumption towards early solutions** to waste management
- **appropriate consideration of the proximity principle** and waste transport issues
- **consideration of the potential effects of future climate change** for long term storage or disposal sites.

Consultation and Public Involvement

2.12 Government emphasises that early involvement by communities and stakeholders is necessary and beneficial with openness and transparency at all stages. Partnering arrangement with local communities should be sought.

Role of the NDA

2.13 Government foresees that the NDA will have a leading future role in the provision of disposal facilities for LLW arising from other nuclear activities in the UK in addition to its present responsibility for public sector civil nuclear liabilities. The Strategy and Annual plan will be the basis for it to move forward to apply for the planning and other regulatory approval.

2.14 Government considers that a clear statement of its policy is needed to support the planning process. It considers that, in practice, this will be provided by Ministers' assessment and agreement of the NDA's Strategy and Annual Plans.

3. Cumbria County Council Officers' Assessment

3.1 The consultation paper assumes that the Drigg repository has considerable existing authorised capacity to receive additional LLW. The paper is incorrect in stating that the repository has authorised capacity until around 2050. The correct figure is that the authorised facilities will be full by mid-2008[2]. This misunderstanding has implications throughout the consultation paper and the manner in which it addresses its proposals. By assuming that the site near Drigg has existing capacity it is not treated as just one of the options and its further use is not questioned.

3.2 There is an apparent confusion in the consultation paper about the separate roles of the planning regime and the licensing regimes of the other regulators. It gives limited consideration to planning matters including requirements for planning permission[3].

3.3 The paper proposes that the Nuclear Decommissioning Authority's Strategy and Annual Plans will provide Government policy when agreed by Ministers. There is a potential conflict of interest of the NDA preparing policy when it is, in effect, the applicant for planning permission.[4]

[2] The statement in paragraph 5 of Chapter 2, that the Low Level Waste repository near Drigg has remaining currently authorised capacity for 0.8 million cubic metres is also incorrect. The authorised capacity is around 20,000 cubic metres. It appears that the figures of 800 000 m^3 may be an estimate made some time ago by British Nuclear Fuels Limited of the physical capacity of the remaining land within the site.

[3] The proposal in paragraph 28 of Chapter 2, that the Nuclear Decommissioning Authority develops and publishes a plan for the optimal use of the LLW repository near Drigg as a UK national asset pre-empts decisions which are the responsibility of the planning regime. The possible use of the LLW repository near Drigg as a UK national asset is not raised as one of the consultation questions but is assumed.

[4] In subsequent discussion with the LGA Nuclear Legacy Advisory Forum, Elizabeth Gray from the Scottish Executive stressed no such conflict of interest should arise as the NDA is not a policy making body. This function resides with the national and devolved administrations.

Cumbria County Council officers recommend:

a) rationalising the definitions of Low Level and Very Low Level Wastes (LLW and VLLW).

b) the greater flexibility in managing the wide range of LLW.

c) maintaining the necessary level of safety and protection of the environment through the use of a risk-informed approach.

d) applying the waste management hierarchy to these wastes, including additional emphasis on minimising LLW arisings.

e) appropriate consideration of the proximity principle, the presumption that waste will be managed at the nearest appropriate disposal facilities and that communities take greater responsibility for their own wastes.

f) requiring LLW management plans to be prepared by waste producers and owners.

g) the presumption towards management solutions that can be implemented early rather than late.

h) early community input to an open and transparent consultation and decision-making process.

i) that the NDA will look to co-ordinate its public and stakeholder engagement processes with those of the planning authority for preparing its development plan (our Minerals and Waste Development Framework).

j) that plans for long term storage or disposal should take due account of the potential future effects of the climate change.

4. NFLA Secretariat Commentary

4.1 The Nuclear Free Local Authorities Secretariat would make the following additional observations upon the consultation paper:

(a) it refers (Box 1 p7) to the 'permanent disposal' of LLW at the site near Drigg when, during the recent public consultation on authorisations for continued disposal at the site, a number of local authorities called for the site status to be reviewed in the light of its forecast vulnerability to future coastal erosion. The NFLA Secretariat submitted to the Environment Agency consultation on the future authorisation of the LLW facility near Drigg, that the site be redesignated for waste storage, not disposal.

(b) it refers (Box 1 p7) to incineration as a means of LLW 'disposal' when a number of local authorities view incineration of radioactive wastes as a means of radioactive waste dilution and dispersal. The NFLA Steering Committee support the principle of concentration, isolation and containment of radioactive wastes. Incineration is a practice that is at best tolerated by communities and, therefore, many local authorities could be expected to be concerned that any new or increased incineration

for radioactively contaminated combustible materials could compromise existing usage.[5]

(c) it refers (para.8 p8) to the need for greater consideration of 'other options' for the long term management of LLW, whereas many local authorities doubt whether incineration or landfill disposal can properly be described as 'long term management methods'. Effectively they reduce or surrender management control.

(d) it refers (para.10 p12) to the principles that should guide the preparation of waste management plans, i.e. risk informed approach; waste minimisation (by activity and by volume); consideration of all practical option; presumption towards early solutions; proximity; and consideration of future climate change impacts. It is recommended that these principles are supported though they must be weighed against the environmental principle of concentration and containment. The NFLA Secretariat is concerned that using some options for LLW management could result in increased dilution and dispersal adding to the burden of radiological risk that is carried by society.

(e) the NFLA Steering Committee supports the proximity principle and the minimisation of waste transportation and would agree (p51) 'that the transportation of large volumes of low level waste over long distances to the facility at Drigg is undesirable and unnecessary for the safe management of many forms of LLW.' For this reason the NFLA Steering Committee opposed recent proposals for the transfer of LLW from Dounreay to Drigg. These objections were successful and LLW arising at Dounreay will now be managed on site. This decision 'de facto' creates an LLW facility at Dounreay in addition to Drigg, though at this time it is not policy to dispose of LLW generated off the Dounreay site. Nonetheless, applying the proximity principle and future decisions on site end states (e.g. for decommissioned nuclear sites that are vulnerable to future sea inundation) will result in some 'regionalisation' of LLW waste management facilities at licensed nuclear sites with good containment charateristics.

(f) where there are good containment characteristics most authorities are likely to accept that retention of radioactively contaminated land 'in situ'.

(g) like incineration, local landfill is at best tolerated by local communities and, therefore, many local authorities will likely react with concern to any proposal for new or increased usage to bury low level radioactive wastes. In 1995, the then Department of the Environment's review of Radioactive Waste Management decided not to encourage greater use of landfill because of opposition from local authorities and the public. The Environment Agencies (EA and SEPA) have indicated an unwillingness to allow this practice to be extended. In May 2004 the Environment Agency told a meeting of the LGA Nuclear Legacy Advisory Forum that:

The Agency's current policy is that this (landfill) route will be used only for those nuclear sites which are already authorised for disposal of VLLW – there is no intention to offer this as a new disposal route for other nuclear sites … Any nuclear

[5] Public opposition has prevented the commissioning of LLW incinerators at Bradwell and other nuclear sites. This has resulted in the near cessation of incineration operations by the nuclear sector, although some forms of low activity waste, for example contaminated waste oil, are still transferred to commercial incinerators, and a new incinerator is planned for the Dounreay nuclear site for contaminated oils and solvents.

site application for a new disposal route, such as VLLW to landfill, would need to be subject to public consultation. **(emphasis added)**

The LLW consultation paper itself acknowledges (p41) that Council Directive 99/31/EC is likely to result in 'fewer landfills available'.

(h) it refers (para 19 p25) to 'increased re-use and recycling, and the opening of markets for recycled wastes'. NFLA concern about the health and environmental impacts of recycled contaminated metals is a matter of public record[6]. The Health and Safety Executive has considered options for controlled contaminated metals smelting as a means of volume reduction, and controlled reuse (e.g. within the radioactive waste management industry), and this is likely to be more publicly acceptable.

[6] **Radioactive Scrap Metals** Nuclear Free Local Authorities Report, 28pp, pub: July 2000

Q1: Given that future arisings of LLW will exceed currently available capacity, do you agree that a change in LLW management policy is necessary? Have we identified the correct guiding principles for such change:
- flexibility of approach;
- use of a risk-informed approach to ensure safety; and
- additional emphasis on minimisation of arisings. (see Chapter 2, para 14; Chapter 3 paras 3, 10-16)

Q2: Have we identified the correct requirements for the production of LLW management plans? (see Chapter 3, paras 9-10)

Q3: Is use of the waste hierarchy as defined, the right way of securing LLW minimisation? (see Chapter 3, paras 15-16)

Q4: Is best use being made of incineration of combustible LLW, for the minimisation of waste? If no, what are the obstacles for greater use of incineration? (see Chapter 2, para 9; Chapter 3, para 15)

Q5: Should the proximity and minimisation of transport principles apply to the management of LLW of different kinds? If yes, do you have any observations on the way they should be applied? (see Chapter 3, paras 21-22)

Q6: Should the NDA also provide facilities for the disposal of non-nuclear industry LLW, where this is possible in conjunction with its main work on civil nuclear decommissioning and clean-up? (see Chapter 3, paras 26, 29)

Q7: What should be the relative roles of national or regionalised facilities vis a vis local management schemes for LLW, and how might these depend on the nature and activity of the waste in question (for example, in considering transport impacts)? (see Chapter 3, paras 21-22; 27-28, 30-34)

Q8: Is the availability of disposal routes for disposal of non-nuclear industry LLW diminishing? If so, please provide specific examples of difficulties and their consequences on operation of relevant industries. What steps can you suggest to address these problems? (see Chapter 2, para 9; Chapter 3, paras 30-34)

Q9: Is it right in principle that local communities should take greater responsibility for the disposal of non-nuclear industry LLW arising from producers serving their communities, for example, hospitals and research and educational organisations? (see Chapter 3, paras 31-32)

Q10: What role should national, regional and local planning strategies play in relation to the provision of facilities to dispose of such LLW (landfill and incinerators), particularly that at the lower end of the LLW activity range? (see Chapter 3, para 32)

Q11: Do you support the proposed redefinition of VLLW to make it compatible with the wider definition of LLW? If not, why? (see Chapter 2, paras 12-13; Chapter 4, para 4)

Q12: Do you believe that we have identified the correct options to be considered for the disposal of LLW, subject to the preparation of plans and safety cases that are acceptable to the regulators? (see Chapter 4, para 12)

Q13: Should such LLW facilities be available to all waste producers including those in nuclear and non-nuclear industries, such as hospitals, research and educational organisations, and the oil and gas industries? If not, what should be the nature of any exception and why? (see Chapter 4, paras 12-14)