

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

No 17, July 2007

The Managing Radioactive Waste Safely (MRWS) Consultation

1. Introduction

On 25 June 2007 DEFRA, DTI (now the Department of Business, Enterprise and Regulatory Reform) and the Devolved Administrations in Wales and Northern Ireland, jointly published a consultation paper entitled *Managing Radioactive Waste Safely – A framework for implementing geological disposal*. The paper can be downloaded at:
www.defra.gov.uk/corporate/consult/radwaste-framework/index.htm.

The deadline for responses is 2 November 2007 and these can be submitted by email to:
radioactivewaste@defra.gsi.gov.uk (with Welsh submissions copied to:
env-p&q@wales.gsi.gov.uk). Alternatively submissions may be posted to:

Sophie Shepherd (copies of Welsh submissions to:
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The consultation opens stage 3 of the *Managing Radioactive Waste Safely* process. Stage 1 (2001 –02) consulted on a process for developing policy. Stage 2 (2002 –06) set up the Committee on Radioactive Waste Management (CoWRM) that reported its package of conditional recommendations in July 2006 favouring geological disposal subject to resolution of outstanding technical issues, with secure interim surface storage until a disposal facility is available. Stage 4 – the delivery of a geological disposal facility – will follow a Government White Paper in mid 2008.

This consultation covers aspects of the design and delivery of a geological disposal facility and the process and criteria for site identification. The latter includes:

- development of a voluntarist/partnership approach
- evaluation of potential sites (including screening out unsuitable sites)

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2. **The Government's proposals**

The inventory of waste to be disposed of will contain solid High Level, Intermediate Level and some Low Level Wastes. It may contain spent nuclear fuel, and stockpiled reprocessed Uranium and Plutonium - if it is decided that the latter materials are not needed for future nuclear fuel fabrication. An inventory for disposal may also eventually include wastes from a new nuclear programme that the Government is consulting on concurrently.

The consultation document contains an indicative generic deep disposal facility description; describes the way in which a facility would be designed, constructed and operated; proposes deferring consideration of the issue of waste 'retrievability'; describes, for comment, the Nuclear Decommissioning Authority's (NDA) proposals for programme implementation; and discusses the new NDA governance arrangements, including how advice from a reconstituted Committee on Radioactive Waste Management would be dealt with.

The consultation asserts a commitment to:

- strong and effective independent regulation
- early and continued involvement of the safety regulator (HSE's Nuclear Safety Inspectorate), the environmental regulator (Environment Agency for England & Wales) and security regulator (HSE's Office of Civil Nuclear Security) and transport regulation (through the Department for Transport)
- regulatory clarity at an early stage for the programme implementing body - the NDA
- co-ordinated regulatory and planning control with 'hold points' identified with environmental and sustainability issues dealt with through the application of Strategic Environmental Assessment, Sustainability Assessment and Environmental Impact Assessment (all of which must involve further public consultation)
- openness and transparency (except for issues deemed security sensitive)

Site identification will be based upon:

- a voluntarist/partnership approach between Government; NDA; and local authorities/communities
- a staged decision making process (with opportunities for volunteering communities to withdraw)
- screening out unsuitable geologies (comments upon this are invited)
- local partnerships (comments upon this are invited)
- community benefit packages (comments upon this are invited)

The paper invites responses to thirteen questions.

3. **NFLA Commentary**

Points to make in response to the first 12 questions are set out at the end of this briefing. Firstly, there are substantive comments to be made in response to Question 13:

Do you have any other comments?

Consultation Process: The pace of the current MRWS process is unnecessarily hasty. NFLAs and the LGA Nuclear Legacy Advisory Forum both called for a minimum of six months consultation but received five months of which one month falls in the Summer

holiday season when many councils are in recess. There is little logic in spending upwards of 4 years on identifying a policy and only 1 year on the practicalities of its implementation. Cracks are already beginning to appear. Notably the Scottish Executive has not signed up to the MRWS process because the new Government there rejects deep disposal of radioactive wastes. The new Government in Wales supports the consultation but has reserved its position on deep disposal. In early June the House of Lords Science and Technology Committee called for steady and measured progress, not “years of procrastination followed by...unseemly haste.” The positions of the Scottish Executive and Welsh Assembly Government may be irreconcilable with central Government policy – but the Government’s drive for new nuclear build has soured the atmosphere and prevented time being made available to even attempt a reconciliation. Clearly the Government’s new build programme is undermining radioactive waste management policy.

Deep Geological Disposal: The lead inspector at the 1997 Nirex planning inquiry (that refused permission for the first stage of a deep disposal programme for intermediate level wastes) reminded readers by letter to *The Guardian* on 28 June 2007 that a site should be in a region of “low groundwater flow, and the geology should be readily characterisable and predictable.” He concluded that the geology of West Cumbria near the Sellafield site (where 75 to 80% of the volume of waste for disposal is held, and where a repository is likely to be developed) does not meet this basic criterion.¹

The NFLA *Radioactive Waste Management Policy Briefing* No.15 pointed to enormous errors in past attempts to model the behaviour of radionuclides over thousands of years in a geological repository. Modelling is essential, as there is no data from experience. CoRWM recommended an intensified research and development programme to ‘reduce the uncertainties’ about the safety of deep disposal, but 12 months on from their report Government has seized on the concept of deep disposal but not the uncertainties that accompany it.

The NFLA *Radioactive Waste Management Policy Briefing* No.16 highlights the need to do the R&D first and then decide policy. DEFRA are putting the ‘cart before the horse’ by not waiting for R&D to demonstrate the safety and public acceptability of the repository concept. The Environment Agency for England and Wales, in two recent reports² that reviewed the research programme of the former UK Nirex Ltd, identified more than 20 scientific, technical and engineering issues that need to be better understood in order to have confidence in containment of radioactive wastes over very long timescales.

Policy Briefing No.16 also highlighted the lack of visible response to CoRWM’s other key recommendation – that a security led review of current storage arrangements be undertaken. On CoRWM’s timetable, accumulated higher activity wastes are going to sit on the surface for about 40 years even if the geological disposal concept is pursued. The MRWS consultation paper suggests a repository could be open to receive wastes within 30 years. Either way it is vital, in the present security environment, that security and safety of waste storage be reviewed. The current pursuit of deep disposal, to be able to say a route will exist for wastes from new nuclear stations, is diverting attention from this more serious priority.

May ¹ For further reasons why Nirex lost the 1997 inquiry see the article by Rachel Western in *Safe Energy Journal* 112, March – 1997 available under "from the archives" at <http://www.no2nuclearpower.org.uk/articles/index.php>. Friends of the Earth’s evidence to the inquiry is still available at:- <http://www.foe.co.uk/nirexrcf/index.html>

² Review of the Nirex Research Programme NWAT/Nirex/06/005 V2. August 2006 and Review of Nirex’s Understanding of Near-field Processes in the hased Geological Repository Concept NWAT/Nirex/06/002 V 4.1 March 2007

The 2006 NFLA Annual General Meeting in Leeds resolved that "...whilst agreeing with CoRWM that an intensified research programme to investigate the outstanding issues with ultimate deep geological disposal of higher level radioactive wastes is essential, still has grave reservations that the *principle* of disposal is either acceptable or achievable. Therefore medium to long term management and storage solutions which enable monitoring and retrieval of these wastes must be developed urgently."

Gordon MacKerron, CoRWM Chair, has warned against cherry picking from CoRWM's "interdependent and inseparable package of measures" lest the whole ball of string unravels, setting us back to where we were before CoRWM was formed. It has taken fifty years to get this far and it could easily take a further fifty to put in place all the components for geological disposal.

Geological Screening: CoRWM recommended, and Government accepted, a voluntarist approach to repository siting. No community would have such a facility forced upon it. However, regardless of the will of any community some geologies are simply unsuitable. This matter was discussed a workshop organised by DEFRA in May 2007. The workshop set out to identify criteria to 'screen out' unsuitable areas that would not subsequently be invited to participate in a site identification programme. The main issue discussed at this workshop was risk of intrusion into a deep geological facility e.g. that unwittingly, future generations might bore into a repository whilst searching for a valuable mineral. On grounds of risk of 'intrusion' about 20% of the UK sitting on coal seams was excluded. All other areas, it was argued, should be eligible for hosting a repository and considered on their merits. Other exclusion criteria were suggested but these, it was argued, could not be mapped. Therefore any local authority/community offering their area for geological disposal would be offered free advice from the British Geological Survey about their potential suitability.

Ironically, it was acknowledged at this DEFRA workshop that the groundwater flow in the UK had only been characterised in areas where activities, like mining, had taken place (i.e. in areas excluded from hosting a repository!). In most other areas hydrogeology had not been characterised and it was not possible to use this as a 'screening criteria'. Generally hydrogeology, and areas of 'low groundwater flow' (and therefore low radionuclide transit times) across the country, has not been characterised and is not known.

Generic concerns: Opposition 'in principle' to deep disposal arises from the wish to not close off options for future generations about how it manages radioactive waste. Future generations may be better placed than ourselves to manage this burden. Arguably deep disposal imposes a burden upon future generations, rather than relieves it, because it is effectively irreversible. Mining out wastes inappropriately disposed of, whilst technically possible, would pose an enormous logistical and safety challenge as well as being extremely costly. See NFLA *Radioactive Waste Management Policy Briefing* No.16 for more on this.

Others point to inevitable glaciation that will occur within the timeframe that wastes need to be isolated from the biosphere. Glaciation could lead to several hundreds of metres of the earth's surface being scraped off – exposing repository contents to future populations returning to the land as the ice cover once more retreats. Asteroid impact, or the impact upon retrievability of waste through flooding or erosion caused by climate change have all been raised in objection to deep disposal.

Wastes from New Nuclear Build: Waste from new nuclear stations can be measured in different ways. CoRWM say a new nuclear programme will add about 10% to the

radioactive waste to be managed for hundreds of thousands of years. This is 10% by volume. The Environment Agency estimate a new nuclear programme will add twice the amount of radioactivity to the existing stockpile. The DEFRA consultation paper itself suggests new build wastes would add about 8% by volume and threefold to the inventory of radionuclides earmarked for disposal.

Volume is not the issue. It is the radioactivity that makes nuclear waste dangerous and in need of isolation from the biosphere for hundreds of thousands of years. The Nuclear Decommissioning Authority estimates that a new nuclear power programme could require a deep underground repository (to dispose of all solid higher level radioactive waste) to be 50% bigger. CoRWM already expect a facility about the size of five Albert Halls to be constructed. If NDA advice to Government is correct then presumably we are looking at a facility about seven and a half times the size of the Albert Hall. Of course, all figures are estimates because it all depends on how many nuclear stations are built (if any) and how long they operate. The burden of waste from a new nuclear power programme could be bigger than these estimates - or it could be smaller.

CoRWM was adamant that its report to Government in July 2006 only addressed the UK's legacy wastes and the social and ethical issues surrounding a new nuclear programme would require a *separate consultative process*. Through both the current consultation on the *Future of Nuclear Power* and this consultation on managing radioactive waste, the Government is seeking views on the management of new build wastes. The request for views is cursory and superficial and bears none of the hallmarks of the work of CoRWM up until July of last year. It cannot be characterised as a 'separate consultative process'. Any consideration of the merits for generating more nuclear waste needs a process at least as thorough going as that devised by CoRWM for the management of legacy wastes.

Programme oversight: CoRWM called for an independent overseeing body to 'police' and maintain public confidence in the policy implementation process. Government has given that task to the NDA. Regulators clearly have a role too, but not for comprehensive oversight. The NDA is already tasked to clean up twenty nuclear sites, effectively making it the main generator of wastes destined for the proposed repository. Effectively the Government has given the NDA the short term and long term waste management task and responsibility for 'policing' itself. This is not a framework to inspire long-term public confidence. Whilst CoRWM is being reconstituted to carry out an advisory and scrutiny role, its recommendation for an independent overseeing body has been significantly watered down. CoRWM says it is "not persuaded" that the current arrangements will ensure public and stakeholder trust.

The 12 Questions:

Model responses to the 12 specific consultation questions are suggested as follows:

1. *Do you agree with this approach to compiling and updating the radioactive waste inventory and using it as a basis for discussion with potential host communities? If not, what would you propose?*

Any inventory must include not only wastes that have been identified but be explicit about materials that could be designated wastes in future (e.g. plutonium and reprocessed uranium). It should also set out the maximum potential for wastes generated by a new build programme, and uncertainties about wastes that could yet be added to the inventory as the NDA's clean up work continues. The only credible

position for Government is to be explicit about the many uncertainties, as well as the certainties, surrounding the inventory.

2. *Do you have any comments on the proposed technical approach for developing a geological disposal facility, as set out in Chapter 3?*

Refer to above general concerns in this Briefing set out above.

3. *Do you agree with the approach to public and stakeholder engagement set out here? If not, how do you believe your input could be better managed or your concerns addressed?*

See above comments on programme oversight. It is not appropriate for the implementing body (e.g. the NDA) to take charge of a stakeholder engagement programme for the long-term management of radioactive wastes. Any programme requires a credible and independent management body. The task should be invested in the reconstituted CoRWM that is better placed to oversee a credible public and stakeholder engagement programme.

4. *Government believes the system of regulation outlined in paragraphs 4.2 to 4.14 is strong and robust in relation to a geological disposal facility. Do you agree? If not, what other regulation do you feel is necessary?*

The Environment Agency has called for amendments to the Radioactive Substances Act to enable it to engage in a staged ‘permitting’ process for regulating the development of a repository. Staged regulation in partnership with a local community and the implementing body (NDA) would be an advance on the present regulatory position where a decision on ‘authorisation’ for operation is left until facility construction is completed.

5. *Do you think the proposed planning reforms in England outlined in Chapter 4 should apply to the development of a geological disposal facility, and if so how could this be integrated with the voluntarism and partnership approach outlined in Chapter 5?*

No. The current proposed planning reforms are incompatible with a voluntarist/partnership approach. Government has said no community will have a repository imposed upon it and therefore there is no need to threaten a local community with the coercive powers proposed in the current planning reforms for England and Wales. In fact, the imposition of such reforms is likely to deter community participation because a fear will be created that community self-determinism may be over-riden by the ultimate exercise of a coercive planning power.

6. *Do you agree with this approach to defining ‘community’ for the purposes of the site selection process? If not, what alternative approach would you propose and why?*

There is no resolution to this question. The only practical way forward is to work within the defined administrative structures of local government that have both democratic legitimacy and public accountability.

7. *Do you agree with the proposals for providing information to communities and the way Government proposes to issue invitations?*

There is no point in attempting to engage communities in areas with unsuitable geologies. A publicity campaign is required to alert other communities that the Government is open to receiving expressions of interest to explore the practicalities and terms upon which a community might be willing to consider hosting a radioactive waste management facility for the long-term.

8. *Do you believe that the initial sub-surface screening criteria proposed by the expert panel are correct? Do you believe that the way in which Government proposes to apply these criteria in the process is correct? If not, how could this be done differently?*
9. *Has Government identified the relevant assessment criteria? If not, what other criteria should be used? Do you have any comments on how the criteria should be applied at different stages?*

(Qus. 8 & 9) As criteria to screen out *unsuitable* geologies the approach is adequate, but it would be wrong to conclude that what remains is *suitable* to host a deep geological facility. The NDA, as the successor to UK Nirex Ltd, and the 'implementing body' for a deep geological facility will have to make its case to the wider national and international community, as well as a local host community, that a proposed host geology is acceptably safe.

10. *Do you have any comments on whether and how a partnership arrangement could be used to support a voluntarism approach?*

All community stakeholders should be engaged through a local partnership with the NDA and Government, to oversee and decide whether, ultimately, to accept any programme for long-term waste management. Local authorities are key to this process having democratic legitimacy and local accountability. Final decisions, reflecting community views, including those affected by transportation issues, must rest with local authorities.

11. *Do you agree that the work of communities and/or partnerships should be funded by Government through an engagement package? If so, what activities do you think it would be reasonable to expect Government to fund?*

Co-ordination and facilitation of a community partnership and the provision of information and expert advice to empower a community to enable it to be an 'intelligent customer' would have significant financial implications and central government funding for 'engagement' should be provided to cover such costs.

12. *How best can Government and the NDA ensure that the development of a geological disposal facility delivers lasting benefits to the host community? Should this involve the use of benefits packages and if so how might this best be achieved, taking into account the need to make the best use of public funds?*

Any community or communities that volunteer to work in partnership with Government and the NDA to manage radioactive wastes in the long term should be rewarded with a substantial benefits package. Examples of benefits packages exist like the Sullom Voe agreement that benefited the people of Shetland for the impact of the oil industry and the present substantial package of benefits to the communities affected by the redevelopment of the Lee Valley to host the 2012 Olympic Games.

'Planning gain' of itself will not be sufficient. A substantial package that affords benefits early, and underwrites both community well being and the safety of long-term waste management, must be identified.
