

**MANAGING RADIOACTIVE WASTE SAFELY
FIRST PROGRESS REPORT TO THE HOUSE OF COMMONS ENVIRONMENT,
FOOD AND RURAL AFFAIRS COMMITTEE
DECEMBER 2002**

Summary

1. In September 2001 the UK Government and the devolved administrations for Scotland, Wales and Northern Ireland published a consultation paper [Managing radioactive waste safely](#)¹, proposing an action programme for reaching and implementing decisions on managing the UK's waste over many thousands of years. In particular we proposed a review of the different waste management options and a new independent body to advise us.
2. We received a wide range of responses. Moreover, the House of Commons [Environment, Food and Rural Affairs \(EFRA\) Select Committee](#)² and the [House of Lords Science and Technology Select Committee](#)³ made a number of recommendations. In particular, the EFRA Committee called for progress reports by the end of each year. This is the first such report.
3. We [replied](#)⁴ to the EFRA Committee's recommendations on 24 July 2002 and to the [Science and Technology Committee's](#)⁵ recommendations on the same day. We published a [summary of consultation responses](#)⁶ on 29 July. The same day, we [announced to Parliament](#)⁷ the next steps we would take. In particular, we said that we would go ahead with the review, and set up a new independent body to oversee it and to

¹ "Managing Radioactive Waste Safely" consultation paper published by Defra, Scottish Executive, The National Assembly for Wales, and Department of the Environment in September 2001. Available on the Defra website: <http://www.defra.gov.uk/environment/consult/radwaste/pdf/radwaste.pdf> or for a paper copy contact Archna Patel at Defra 4/F7 Ashdown House 123 Victoria Street London SW1E 6DE, or on 020 7944 6257.

² The Environment, Food and Rural Affairs (EFRA) Committee Report, "Radioactive Waste: The Government's Consultation Process" is available on the United Kingdom Parliament website:

<http://www.publications.parliament.uk/pa/cm200102/cmselect/cmenvfru/1221/122102.htm> or from the TSO (Stationery Office) on 020 7242 6393 or 020 7242 6410 or by e-mail: london.bookshop@tso.co.uk.

³ The House of Lords Science and Technology Select Committee report "Managing Radioactive Waste: the Government's consultation" is available on the United Kingdom Parliament website or by using the link: <http://www.parliament.the-stationery-office.co.uk/pa/ld200102/ldselect/ldsctech/36/3601.htm> or from the TSO, see note 2.

⁴ The Government Response to the House of Commons Environment, Food and Rural Affairs Select Committee Report, "Radioactive Waste: The Government's Consultation Process" on the United Kingdom Parliament website: <http://www.publications.parliament.uk/pa/cm200102/cmselect/cmenvfru/1221/122104.htm#a2> or from the TSO, see note 2.

⁵ The Government Response to The House of Lords Science and Technology Select Committee report "Managing Radioactive Waste: the Government's consultation" is available on the United Kingdom Parliament website at: <http://www.parliament.the-stationery-office.co.uk/pa/ld200203/ldselect/ldsctech/12/1204.htm> or from the TSO, see note 2.

⁶ The managing radioactive waste safely, "The summary of responses to the consultation" is available on the Defra website: http://www.defra.gov.uk/environment/radioactivity/waste/pdf/radwaste_response-summary.pdf. The document is also available from Defra see note 1.

⁷ The 29th July 2002 announcement, "Secretary of State's letter to MPs" is available on the Defra website by using the link: http://www.defra.gov.uk/environment/radioactivity/waste/pdf/radwaste_sofs-letter.pdf, or from Defra direct, see note 1.

recommend the best option, or combination of options. We proposed to set it up and start the review by the end of the year.

4. This is a report on progress towards setting up the new body and starting the review of options. The report also covers progress on the other issues which we raised in the consultation paper. In each case, the report says briefly what we proposed, what response we received, and what we - the Government and the devolved administrations - have done since then.
5. The main items in our report are:
 - We shall shortly advertise in the Press seeking applications from people willing to serve on the new body. We shall call it the Committee on Radioactive Waste Management (CoRWM).
 - We shall ask it to identify, in its work programme, how quickly it can eliminate the least promising waste management options, so that it can focus on the serious contenders.
 - Following initial discussions, we have asked the nuclear regulators to work up detailed proposals for better controls on waste conditioning and storage on nuclear sites.
 - We have commissioned a study into the case for or against extending waste substitution. The project specification is on Defra's website.
 - In September we began a review of policy on decommissioning nuclear facilities, following our White Paper on [Managing the nuclear legacy](#)⁸ in July.
 - We are looking at the guidance that needs to be given to the new Liabilities Management Authority on the interim conditioning, packaging and storage of radioactive waste while we decide and implement the long-term policy.
 - We have carried out a pilot exercise for recovering and managing spent sealed sources of radioactivity. We are considering how this could be taken forward in the UK more generally.
 - And this month (December) we published the [2001 UK Radioactive waste inventory](#)⁹ which records the sources, quantities, properties and locations of radioactive waste in the UK. The Inventory is published every 3 years.

⁸ The DTI white paper "*Managing the Nuclear Legacy – A strategy for Action*" is available on the DTI website using the link: http://www.dti.gov.uk/energy/nuclear/announce_pubs/conspubs/nuclear_legacy/index.shtml it can also be obtained from TSO, see note 2.

⁹ The summary of "*The 2001 UK Radioactive Waste Inventory*" is available on the Defra website: and copy of the full Inventory is available on disk from Michael McAndrew at Defra 4/E6 Ashdown House 123 Victoria Street London SW1E 6DE or on 020 7944 6275.

Issues covered in the consultation

6. The consultation paper asked for views on possible approaches to deciding future policy for the long-term management of the UK's solid radioactive waste. This was with the aim of developing and implementing a UK radioactive waste management programme, which inspired support and confidence through a process of wide public and stakeholder debate.
7. It also asked for views on a number of more specific questions relating to the management of radioactive waste. These included
 - policy to be adopted for the long-term management of separated plutonium and uranium, including whether some proportion of the UK's stockpiles should be considered a waste;
 - storage of radioactive waste on nuclear sites, and its regulation;
 - the general approach to decommissioning of nuclear sites;
 - policy for waste substitution in respect of overseas spent nuclear fuel reprocessed in the UK;
 - proposals made by the Radioactive Waste Management Advisory Committee (RWMAC) for dealing with redundant, or spent, radioactive sources; and
 - the principle of segregating radioactive waste types by half-life to help with its long-term management.

Progress issue by issue:

The Government's proposed action programme

8. We (the UK Government and devolved administrations) proposed a programme of action for reaching and implementing a decision on how to manage the UK's radioactive waste in the long term. This involved a process of public discussion and research, with a new independent body to advise us. We hoped to announce our decision by 2006.
9. In response, some people were concerned that the timescale was too long; a few of these suggested rigid deadlines should be set. Some felt that the timescale was about right, though several of these said that it should not be allowed to slip, and some felt that decisions would be needed sooner on individual issues such as waste storage and substitution. A few said that we should take longer, or that we would need more time to achieve the necessary consensus, or that achieving this took priority over timetables.

10. We also asked for views on how the debate should be managed. In particular, we planned to set up an independent body to advise us what information exists or is needed, and when enough has been gathered to decide the best option for managing the waste in the long term.
11. Most commentators agreed that a new body should be set up, though some said the institutional landscape was already crowded. Most felt that the new body, not the Government, should run the review of waste management options and then recommend a long-term waste management strategy to Government. Of those with a view, most felt that the body should manage research as well as advising Government.
12. Since our announcement at the end of July, we have decided the structure and terms of reference of CoRWM. Following our promise to go faster if we can, we have also considered whether its programme can be accelerated. We are therefore asking it to identify, in its work programme which it will agree with us at the outset, how quickly it can eliminate the least promising options and focus on the serious contenders. We do not want to waste precious time and resources on very detailed evaluation of options that have no chance of being implemented nor of providing a high level of protection to people and the environment. But we want the Committee to plan its own work programme and agree it with us, rather than telling them what they should or should not consider.
13. The policy process has close links with other policies and programmes - a point we shall return to later in this report. It has taken us some time to consider the links and ensure that these processes move forward effectively together. Given the major timescales, costs, risks and opportunities involved, we consider that time well spent, though this will now mean that the Committee will not be set up in 2002.
14. We shall advertise in the national Press shortly seeking applications from people willing to serve on the Committee. A copy of the advertisement is attached. We propose to appoint the Committee by the summer. And - while we shall not set deadlines - we hope to receive its recommendations, and announce our decision on how the waste will be managed in the long term, in 2006 or sooner.

A public debate

15. We invited views on how the public could best be involved in the review. We described ways of involving people in decision-making, including methods already used to discuss radioactive waste.
16. We received many useful suggestions, covering for example the need to involve a wide and diverse group of stakeholders in an open and transparent decision-making process providing clear, accurate and

balanced information. Many techniques, approaches and programmes were suggested, and many topics that the debate should include. A key message was the need for a coherent programme with clearly defined objectives and linkages between different stages, processes and inputs.

17. CoRWM will draw up its own work programme and agree it with us. This programme will involve discussions with the public and other stakeholders, and research and expert input, with each process informing the other. The output will be CoRWM's final recommendations to us on how the UK's waste should be managed. In the Spring, we are holding an expert workshop with public-engagement specialists to see how the most promising techniques and approaches can be integrated into an effective, open and inclusive programme that will deliver results. This will help CoRWM to draw up its work programme.

Managing the debate - Nirex and other issues

18. Besides the public debate, the other main component of the proposed review is a programme of research. We asked for views on how this could be managed and funded. There were many useful suggestions but no strong overall view on the research or how it should be managed.
19. We said that we expected Nirex to continue its research programme until we had decided how to manage the waste and whether organisational change was needed. Several respondents said that Nirex should be made independent of the nuclear industry as soon as possible and its remit extended, for example to cover all wastes and management options.
20. The long term future of Nirex will be settled as part of the process of making decisions on managing radioactive waste and the wider nuclear legacy. We are discussing with colleagues how these issues, including the future status of Nirex or a successor organisation, can be best determined. Meanwhile CoRWM will consider what research is needed for the purposes of its review of waste management options, and how this should be managed. It will be informed by the work Nirex has carried out.

What wastes still have to be managed?

21. We raised the issue of what waste might arise in future if new nuclear power plants were built. We also invited views about nuclear materials which are not currently classified as wastes. These include separated plutonium, uranium and spent nuclear fuel.

22. Of those who commented on these materials, the great majority said that some or all separated plutonium should be declared a waste, or that the review should reflect the possibility that it would be one day. Similar comments were made, by smaller numbers, about uranium and spent fuel.
23. We said on 29 July that our review would consider not only materials currently classified as waste but also the consequences of providing for other materials which may have to be managed as waste, such as some separated plutonium, and uranium, as well as some spent fuel.
24. As we said on 29 July, we are undertaking a study of the possible options for the future management of UK owned civil stock. We shall consider the results of that exercise and reach our own conclusions on this issue. We have also urged the other owners of these materials, on a voluntary basis, to put in hand procedures now which would allow them to identify those materials which may become not economically reusable. In the meantime the British Nuclear Fuels (BNFL) National Stakeholder Dialogue has produced a draft report on the future management of separated plutonium. We are considering its conclusions and recommendations.
25. One of CoRWM's first steps - before it can consider waste management options - will be to decide what materials may eventually have to be managed as waste. Whatever decision we or the owners of the materials may or may not make in the near term, CoRWM will have to make its own conclusions including "worst case" assumptions. It will draw on all relevant information including the outcome of the work described above. In the meantime, owners of radioactive material should store material safely and not take actions that would preclude any likely long-term outcomes.
26. CoRWM will also consider the implications of the forthcoming energy White Paper. Paragraph 50 says more about such cross-cutting issues.

Storage of wastes and their regulation

27. We said that waste was currently stored safely, and that it would be while we reached and implemented a decision on how to manage it in the long term. We asked for views on the regulatory system, including whether the environment protection Agencies needed new powers to control storage.
28. Some had opinions about how or where waste should be managed in the long term. That is the subject of the review we are just about to start, so people will be able to discuss their concerns, hopes and ideas in more detail. Some were concerned that wastes were not currently stored safely or that they were vulnerable to attack. Suggestions for early

action included moving some material underground, increasing security measures, and speeding up the process of turning highly radioactive liquid waste into a solid vitrified form.

29. While progress is being made, most high-level waste will not be vitrified for many years. Even a temporary underground dry store would take many years to design, locate and build, and many more years for the heat and radioactivity in the waste to fall to safe enough levels to allow waste to be put underground - if Ministers decide that this is the best option. Our review will consider putting waste underground among other long-term options; but it is certainly not an immediate option.
30. Managing nuclear materials and sites in the short term is essentially a safety and security issue, though any decisions we take on this must not shut out long-term options. This is being taken forward mainly as part of the [Managing the nuclear legacy](#)¹⁰ process which we announced on 4 July.
31. Opinion was divided on whether the Agencies needed new powers. Respondents tended to the view that they did not, though there were suggestions for better collaboration with the Health and Safety Executive (HSE). HSE, the Environment Agency (EA) and the Scottish Environment Protection Agency (SEPA) have therefore jointly proposed a means of improving the control of intermediate level waste conditioning and storage, whilst preserving the best features of the current system.
32. Essentially, the regulators' proposals are aimed at introducing a streamlined and effective regulatory system, within the existing systems under the Nuclear Installations Act licensing and consent procedures. In addition to providing a safety case to HSE for construction and operation of a plant, a nuclear operator would submit proposals for waste treatment and conditioning. HSE would look to ensure that any ILW conditioning would be appropriate to safe storage of waste, whilst the EA and SEPA would look to ensure that resulting waste forms would be suitable for ultimate disposal - in order to keep that option open.
33. This system would increase confidence in the waste management arrangements, in that industry proposals would be independently examined and assessed by the regulators. HSE, EA and SEPA would examine relevant parts of the proposals and their agreement would be needed before the proposals could go ahead. It is proposed that regulatory costs would be recovered from the nuclear industry.
34. The regulators' proposals recognise that that the expertise held within Nirex on waste packaging, conditioning and assessment needs to be maintained. However, Nirex is a body with industry shareholders. Under the new arrangements the regulators would regulate the waste at the point of production, and the waste producers would take advice as necessary from Nirex.

¹⁰ See note 8.

35. We consider that the regulators' proposals are constructive and in principle we welcome and support them. We look forward to receiving further details of the proposals that the regulators are currently developing, including a regulatory impact assessment.

Decommissioning

36. We described how radioactive waste arose from decommissioning nuclear facilities such as power stations or chemical plants. We invited views on decommissioning policy and how it was applied. Some, though not all, were content with the current approach.
37. Hence, as we said in [Managing the nuclear legacy](#)¹¹, we have started a review of decommissioning policy. We aim to update the statements of Government policy in the [Review of radioactive waste management policy - final conclusions](#)¹² (Cm 2919) and [Managing radioactive waste safely](#)¹³, and improve transparency in particular with regard to decommissioning end points and to de-licensing. We shall consult if there is any significant change to existing policy.
38. Decommissioning will generate large volumes of very low level radioactive material. Owners of the material have called for a review the existing definitions and disposal policy for these wastes. We are considering their views. Again, we shall consult if there is any proposal to change existing definitions or policies.

Waste substitution

39. We described BNFL's proposals for substituting small volumes of high-level waste in place of larger volumes of intermediate level waste when reprocessing overseas customers' spent nuclear fuel and shipping the resulting waste back to them. Responses were broadly divided on whether waste substitution was a good thing and on whether BNFL should be allowed to substitute high for intermediate level waste. Several thought that the issue should be debated openly and in more detail.
40. We have commissioned consultants to review the advantages and disadvantages of extending waste substitution in this way. A copy of the Department of Trade and Industry [project specification](#)¹⁴ is on the Defra website. We aim to publish the findings of this study and, in the light of comments, to make a decision by the autumn of 2003.

¹¹ See note 8.

¹² The "Review of Radioactive Waste Management Policy – Final Conclusions" is available from the TSO, see note 2.

¹³ See note 1.

¹⁴ The DTI paper "Specification for Intermediate Level Waste Substitution Study" is available on the Defra website: it is available in hard copy from the DTI direct.

Managing spent sealed sources

41. We invited views on RWMAC's proposals for managing spent sealed radioactive sources. These are devices - used in many industrial, medical or other applications - in which a radioactive material is contained inside an outer casing. Most who commented supported RWMAC's proposals.
42. Following an exercise to recover sealed sources in one part of the UK, Government and other agencies are considering the results and how these could be applied more generally, including the possibility of an amnesty, and help to users in meeting the costs of recovery and disposal.
43. We are also negotiating with our European partners over the draft High Activity Sealed Sources (HASS) Directive which is intended to improve Member States' controls over such sources, including requirements for users to report information and to make provision for the cost of eventual disposal.

Classifying UK wastes and segregating by half-lives

44. We invited views on the principle of segregating UK wastes by half-lives. This might help reduce the volume of waste needing long-term management as well as the associated risks and costs. Views were divided on whether this EU system should be introduced and whether this, or some other system would make it easier to manage waste arising in the future.
45. It is unlikely that this could be applied to historic wastes but there might be options in relation to wastes yet to arise. We shall do further work on this and report progress to the Committee later.

The UK Radioactive waste inventory

46. Earlier this month (December) we published the [2001 UK Radioactive waste inventory](#)¹⁵ which records the sources, quantities, properties and locations of radioactive waste in the UK. This replaces the 1998 Inventory. This shows, among other things, that
 - the overall volume of waste is increasing steadily, as expected;

¹⁵ See note 9.

- the eventual volume of high level waste, once vitrified, is now expected to be around 1/5 less than previous predictions; but
- vitrification of high level waste is proceeding slowly, and
- the eventual volume of intermediate level waste, once conditioned, is now expected to be around 1/10 higher than previously predicted.

How this all fits together

47. As we said in [*Managing radioactive waste safely*](#)¹⁶, many industrial, medical, military and other processes give rise to radioactive waste; many organisations are involved in generating, managing and regulating it; and many policies, processes and events - not all of them foreseeable - influence what can and should be done with it.
48. The last comprehensive statement of Government policy, [*Review of radioactive waste management policy - final conclusions*](#)¹⁷ (Cm 2919) is still largely valid. But there have been many developments since then. Our main environmental priority is to decide and implement a UK-wide strategy for managing the waste in the long term. And we and our colleagues within Government will keep under review shorter term issues including the safety and security of nuclear sites and the materials they contain, while the long term strategy is being implemented.
49. Once we have begun the next stage of our programme - the review of management options - we shall clarify and update the policy and invite people's comments.
50. In the meantime there are some clear linkages. For example:
- The Government's energy White Paper will determine future UK energy policy. Nuclear energy, including the radioactive waste implications, is an issue for consideration in this White Paper. The outcome of the energy review could affect the radioactive wastes which will need to be managed.
 - The Government's 4 July proposals for [*Managing the nuclear legacy*](#)¹⁸ involve short and long term waste management issues. In particular, establishing the proposed Liabilities Management Authority should lead to sharper focus and shorter timescales for managing wastes. The LMA will have a key role. It will be responsible for conditioning, packaging and storing much of the waste that will need to be dealt with under the long-term policy we ultimately decide on. And it will be a major source of information and advice, on technical and other issues, to us and to CoRWM.

¹⁶ See note 1.

¹⁷ See note 12.

¹⁸ See note 8.

- There are many other relevant programmes and processes. For example, the Ministry of Defence [Project ISOLUS](#)¹⁹ is a programme, involving extensive public discussion, leading to decisions on how in the short term to manage intermediate level waste from laid-up submarines. Our policy process will enable longer term decisions to be made.

Conclusion

51. We shall report further progress by the end of next year as requested by the Committee. Meanwhile we shall make further announcements when we are ready.
52. We hope that these reports and announcements will stimulate further questions and debate both within Parliament and locally. Both Houses have helped to encourage public discussion of one of the most critical environmental issues facing us over the coming century. And they have helped us to identify ways of reaching and implementing decisions more effectively. We are confident that this will continue.

¹⁹ Information on “Project Isolus” and the report “*The Isolus Investigation – A Review of Options for Interim Storage of Reactor Compartments and Associated Hull and Structure of UK Nuclear Submarines Following their Withdrawal of Service and Pending Final Disposal*” is available on the Ministry of Defence website: http://www.mod.uk/linked_files/isolus1.pdf, the report is also available MoD by contacting Lee Archer WSA Secretariat Birch 1 DLO Abbeywood Bristol BS34 8JH, or 011791 32437.