

HOUSE OF LORDS

Science and Technology Committee

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4th Report of Session 2006–07

# **Radioactive Waste Management: an Update**

Report with Evidence

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Ordered to be printed 16 May 2007 and published 3 June 2007

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Published by the Authority of the House of Lords

*London* : The Stationery Office Limited  
£price

HL Paper 109

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## **ABSTRACT**

This report examines the Government's proposals for radioactive waste management following the publication of the final recommendations of the Committee on Radioactive Waste Management (CoRWM) in July 2006. In particular, we focus on the institutional arrangements for implementing the next phase of the Government's Managing Radioactive Waste Safely (MRWS) programme.

The Government accepted CoRWM's key recommendation that geological disposal currently presented the best available approach to long-term management of radioactive waste and gave a commitment to finding a suitable site for a geological repository not only by geological criteria but by a participative process. However, CoRWM's recommendations were made as part of a package which as a key component contained the setting-up of an independent body to oversee the programme. The Government have watered down this recommendation and plan to set up an independent advisory body, the "new CoRWM", instead.

We therefore have serious concerns over the institutional framework for the next, implementation phase of the MRWS programme. We found the Government's proposals to be incoherent and opaque. The Government must acknowledge these deficiencies and seek to rectify them by establishing clearer lines of accountability and independent, expert scrutiny.

We once again recommend, as we did in 1999, that the Government establish an independent, statutory body, independent of day-to-day Government control and accountable to Parliament, with overall responsibility for implementing the geological disposal programme.

Failing that, we strongly urge the Government to give the new CoRWM greater independence and authority to scrutinise proposals for implementation. Its recommendations should be properly responded to, and its relationship with the Nuclear Decommissioning Authority must be clearly defined and set out in the latter's governance arrangements.

In 1999 we urged that progress in radioactive waste management should be "steady and measured". Instead we have had years of procrastination, followed by what now appears to be unseemly haste. This is not the way to inspire public confidence. The new CoRWM, if that is to be the body charged with providing independent scrutiny and advice, must be involved with all aspects of implementation from the outset. We therefore call on the Government to delay the publication of their forthcoming consultation document until the new CoRWM has been appointed and has had time to consider the proposals. In particular, any proposals regarding site selection must be given full and careful consideration, including by the new CoRWM, rather than being rushed through in a matter of months.





our 2004 report *Radioactive Waste Management*. Nevertheless, when CoRWM reported, on schedule, in July 2006, it produced a well balanced report, around which it should be possible to build long-term consensus.

- 1.4. Central to the CoRWM report were three recommendations. These broadly echoed and developed the conclusions we had reached back in 1999:
  - CoRWM concluded that geological disposal currently presented the best available approach for the long-term management of high-level and intermediate-level legacy waste coupled with a robust programme of interim storage until such a facility becomes available.
  - CoRWM recommended that in order to maintain public engagement and trust a suitable site for a geological repository should be determined not just by geological criteria but by a participative process in which potential host communities would declare a willingness to participate in return for community packages which would be aimed at enhancing the well-being of the community.
  - Finally, CoRWM recommended that the implementation process should be overseen by an independent body with responsibility for overseeing the siting strategy, the research and development programme and the community partnership process.
- 1.5. The key difference between CoRWM's recommendations and what we recommended in 1999 is that our recommendation would have established an independent body, outside day-to-day Government control, and to be called the Nuclear Waste Management Commission. The responsibilities of this body to oversee the implementation of Government policy would have been enshrined in primary legislation. The workings of the Commission would have been as open as possible, and its plans for policy implementation would have required explicit endorsement by Parliament at regular intervals.
- 1.6. Whilst CoRWM recommended that an independent body should be established to oversee implementation, they did not recommend either a statutory basis or direct accountability to Parliament. In fact, CoRWM did not consider such a process (Q 41). Thus CoRWM's proposals, although not inconsistent with our own, were in certain important aspects watered down.
- 1.7. On 25 October 2006 the Government's response to the CoRWM report was published.<sup>4</sup> In essence, CoRWM's recommendations were accepted. However, there were crucial reservations to this broad acceptance. In particular, CoRWM's recommendation to establish an independent overseeing body was watered down still further. We analyse the Government's response in more detail in the following chapters.
- 1.8. Our current report describes the institutional and organisational arrangements as they were presented to us in evidence. We accept that most of the policy detail is still being developed. We therefore regard this report as an interim comment on current Government proposals, which we intend to follow up again at an appropriate time in the future.

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<sup>4</sup> UK Government and the Devolved Administrations, *Response to the report and recommendations from the Committee on Radioactive Waste Management (CoRWM)* (October 2006).



## CHAPTER 2: THE GEOLOGICAL DISPOSAL PROGRAMME

- 2.1. In their response to the CoRWM report the Government announced plans both for implementing the report's recommendations and for moving forward with the next stage, Stage 3, of their Managing Radioactive Waste Safely (MRWS) programme. The third stage will focus on developing more detailed proposals for implementation and planning for the implementation stage (Box 1).

### BOX 1

#### Stages of the MRWS programme

The first stage of the Managing Radioactive Waste Safely Programme was launched in September 2001 with a consultation on "Proposals for developing a policy for managing solid radioactive waste in the UK". Stage 2 began in July 2002, followed in 2003 by the appointment of CoRWM; the Government's response to the CoRWM report concluded this stage. Stage 3 covers the current development of plans for implementing CoRWM's recommendations. Stage 4 will be the start of the implementation process including any necessary legislation.

- 2.2. The Government accepted the principal recommendation on geological disposal. In response to CoRWM's recommendation on a partnership approach based on the principle of volunteerism, the Government announced that they were committed to finding a solution based on this approach and that they would themselves take the lead in this process.
- 2.3. However, at the time of writing, there remains some uncertainty around the response to the third key recommendation, the establishment of an independent body to oversee the process. Although the Government accepted the need to set up an independent committee (which will inherit the name of CoRWM, and which we refer to hereafter as the "new CoRWM"), the terms of reference for that Committee have not yet been finalised and are likely to differ from those envisaged in CoRWM's report. Moreover, the Government have given responsibility for planning and implementing the disposal programme to the Nuclear Decommissioning Authority (NDA), an existing non-departmental public body, set up in 2005, under the Energy Act 2004, to decommission 20 former civil nuclear sites.
- 2.4. We shall discuss the Government's response to CoRWM's recommendations on geological disposal and partnership in more detail in subsequent chapters. In this chapter, we seek to describe and analyse the institutional and organisational framework for the next stage of the programme.
- 2.5. At its heart sits a tripartite structure consisting of the Government, the NDA and the new CoRWM (see Figure 1). The framework also needs to integrate other essential players such as the independent regulators (the Environment Agency in England and Wales, the Scottish Environment Protection Agency, and the Health and Safety Executive, (now also incorporating the Office of Civil Nuclear Security), the implementation contractor, as well as others. The following section will outline the way in which the framework is currently conceived and as it was presented to us in evidence. A discussion of the way in which these bodies will interact and the specific concerns that have come to light during this inquiry will follow in the subsequent sections.

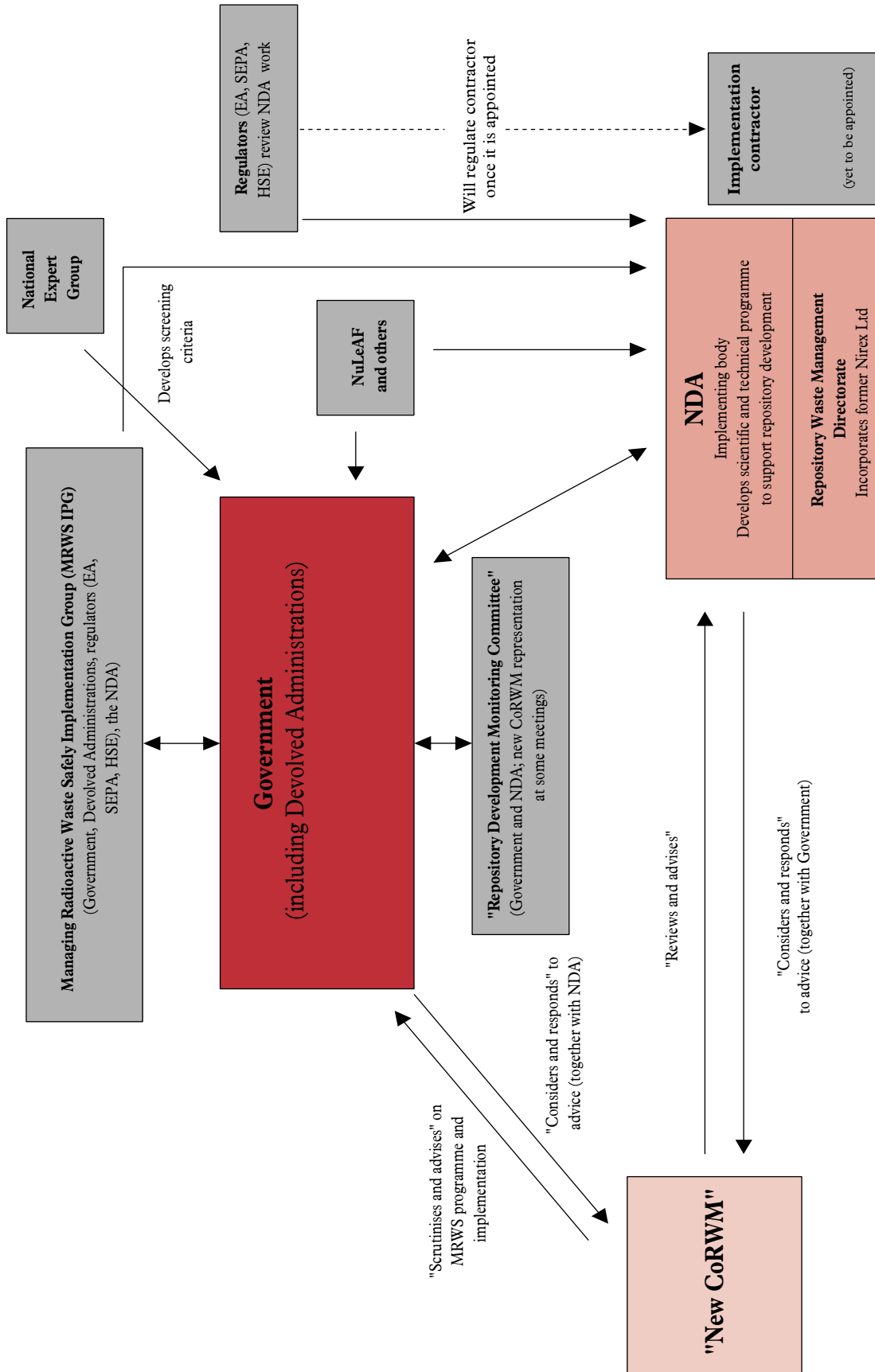


Figure 1. The proposed institutional framework for the geological disposal programme.

### The institutional framework

- 2.6. At the time of writing, the imminent change of Prime Minister has led to speculation over associated changes in departmental organisation and ministerial portfolio. Our account therefore describes the *status quo* as of 16 May 2007. We are aware that the situation might change and we hope that this will provide the Government with an opportunity to re-assess their policies in the light of concerns raised by us and others.
- 2.7. As far as the Government component is concerned, policy development and overall management of the MRWS programme will be retained within Defra. As has been the case until now, responsibility for policy co-ordination will fall to the Managing Radioactive Waste Safely Implementation Group (MRWS IPG), which is chaired by Defra, and has representatives from the DTI, the Ministries of Defence and Communities and Local Government as well as from the devolved administrations, the regulators and the NDA. This group advises ministers and will liaise closely with the successor to CoRWM. However, the new CoRWM will not be represented, in order to ensure its independence.
- 2.8. In evidence, Defra also announced the setting-up of another, separate, committee, the Repository Development Monitoring Committee (p 24). This will be formed jointly by the Government and the NDA and, as part of its remit, will consider the new CoRWM's advice and the necessary response to it. The new CoRWM chair (and other members, as appropriate) will be invited to attend some meetings.
- 2.9. We have already noted that responsibility for planning and implementing the geological disposal programme has been given to the Nuclear Decommissioning Authority. The NDA was established under the Energy Act 2004; its main statutory function is the decommissioning of civil public sector nuclear sites—which includes strategic responsibility for securing the treatment, packaging and storage of waste arising from its operations. Although the Energy Act makes no explicit reference to implementing plans for a permanent disposal facility, the Act does confer upon the NDA a general responsibility for “the treatment, storage, transportation and disposal, in designated circumstances, of hazardous material” (section 3(1)(e)). The Government's view is that this “can embrace long-term waste disposal” (Q 121).
- 2.10. The DTI (not Defra, the lead department on radioactive waste), together with the Scottish Executive, have joint statutory responsibility for the NDA. Revised governance arrangements for the NDA to acknowledge the diverse departmental interests, as well as its extended remit, are currently under discussion. Research and development in the nuclear waste management sector is also led by the DTI.
- 2.11. The NDA is expected in turn to appoint an implementation contractor to develop and operate a repository. In November 2006, the Government announced that the NDA would be merged with Nirex Ltd, a Government-owned company Limited by Guarantee, which has been leading in the development of a management and disposal concept for radioactive waste in the United Kingdom. This merger was formally accomplished on 2 April 2007. Until the appointment of an implementation contractor takes place, the NDA, drawing on the scientific and technical expertise of Nirex,

will be responsible for the scientific and technical programme to support the work on the technical planning and development of the repository.

- 2.12. The third key component of the structure will be the successor body to the current CoRWM. At the time of writing, there was still some uncertainty around the extent of the new CoRWM's terms of reference. However, the Government apparently intend its functions to be to provide independent advice and scrutiny of the NDA's delivery programme as well as of the Government's MRWS programme (p 24).<sup>5</sup> In order to meet its remit of advice and scrutiny, the new CoRWM is expected to form a number of different relationships; we will comment on this in more detail below. It will be jointly sponsored by DTI and Defra.
- 2.13. The structure contains a number of other players. In addition to being represented on the MRWS Implementation Group, the regulatory agencies will ultimately regulate the implementation contractor. The regulators have told us that, in the meantime, they expect to set up agreements to scrutinise the work of the NDA (Q 208). The Government also plan to set up a national expert group to develop and advise on initial screening criteria (p 25). We will return to these issues below.
- 2.14. We recognise that geological disposal is a cross-departmental programme, but even so, it is clear that there is potential for confusion and political tension within the proposed framework. In particular, it appears that lead responsibility for implementation will be retained within Defra whereas the implementation organisation has statutory accountability to the DTI. Nor do the organisational arrangements for managing potential conflicts appear to be robust. For instance, when our Chairman asked the Government in a Written Question what was the role with regard to radioactive waste management of Mr Mark Higson, Head of Nuclear Consultation and Liabilities at DTI, the answer was that he was:

“responsible for DTI staff working with the Department for Environment, Food and Rural Affairs colleagues on the Managing Radioactive Waste Safely programme and the development of a consultation document, and for those overseeing the Nuclear Decommissioning Authority ... he has an interest in the ultimate disposition of waste, and is involved in consideration of key issues regarding radioactive waste as they emerge.” (HL Deb, 29 March 2007, WA 309)

This response is not very encouraging. It is difficult to see how Mr Higson can effectively discharge his overall responsibility within the DTI for ensuring cross-departmental liaison on key areas such as the MRWS programme and the NDA, by merely having “an interest” and being “involved” in radioactive waste disposal issues.

- 2.15. Radioactive waste management is a difficult and controversial area of energy policy. Past efforts to resolve the issue of legacy waste disposal have been tainted by secrecy leading to an erosion of public trust. The CoRWM process has gone some way in rebuilding this trust. It is therefore imperative that in taking forward a programme of such high political and public sensitivity, the organisational framework as well as the process it has been set up to serve should be comprehensible and transparent. Unfortunately, the

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<sup>5</sup> UK Government and the Devolved Administrations, *Response to the report and recommendations from the Committee on Radioactive Waste Management (CoRWM)* (October 2006), p 15.

transparency of the proposed framework is severely undermined by the blurring of relationships and responsibilities. Moreover, the order and speed with which the Government are proceeding to implement their plans are ill-conceived and disproportionate to the importance of the programme.

- 2.16. At the heart of these problems is the lack of a single independent body with responsibility for overseeing the entire programme, scrutinising and holding key players to account on behalf of Parliament and the public. We recommended the creation of such a body in 1999; CoRWM has now made a similar, albeit somewhat watered down, recommendation. The Government ignore these recommendations at their peril. The danger is that amidst the plethora of committees, regulators and non-departmental public bodies, the credibility of the Managing Radioactive Waste Programme will be lost.
- 2.17. **The Government should acknowledge the potential for conflict and confusion inherent in their proposed institutional arrangements for the MRWS programme, and take steps to ensure that clear leadership and lines of accountability are established.**
- 2.18. **We therefore urge the Government to look again at our 1999 recommendation for a wholly independent, permanent body, subject to regular endorsement by Parliament, to oversee implementation of the MRWS programme. However, if they are unable to recognise the merits of that proposal, we would strongly endorse the setting-up of an independent overseeing body, as recommended by CoRWM.**

### **The role of the Government**

- 2.19. It will be clear from the recommendations above that we believe that there are fundamental flaws in the structure currently being proposed by the Government for the MRWS programme. However, as decisions on that structure appear to have been taken, and may be irreversible, we now analyse the roles of the key players in the programme, as currently envisaged, in more detail.
- 2.20. The Government will retain overall responsibility for the MRWS programme. They have taken the lead in developing the process and criteria for identifying a site for the repository—which includes policy development on the partnership process. A public consultation on these issues is planned for early summer. The consultation will also include questions on technical aspects of designing and developing a repository.
- 2.21. In order to inform the content of the consultation document, the Government have asked the NDA to provide specific proposals for early site screening criteria. The Government have also asked the existing CoRWM to provide additional, more detailed advice on the process leading up to communities volunteering to participate, the nature of partnerships and packages as well as a possible implementation programme. CoRWM had previously published outline draft proposals separately to their main report.<sup>6</sup> Other stakeholders who are contributing to the process leading up to the consultation include the Nuclear Legacy Advisory Forum (NuLeAF), a special interest group affiliated to the Local Government Association, who are putting forward their proposals in a series of briefing papers.

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<sup>6</sup> CoRWM, *Moving forward—CoRWM's proposals for implementation* (November 2006).

- 2.22. The consultation will also explore initial criteria that might be used in identifying suitable sites for a geological disposal facility as well as technical aspects of designing and developing that facility. It is absolutely essential to the long-term success of the MRWS programme that these two tasks—the development of partnerships with local communities, and the development of scientific criteria to identify whether sites are or are not geologically suitable for a waste repository—are undertaken in a transparent fashion. If they are not, there will inevitably be suspicions either that the scientific criteria are not robust, or that particular communities have been pre-selected.
- 2.23. The CoRWM report stressed the importance of “screening out” those areas which are scientifically unsuitable for geological disposal. This process would positively eliminate unsuitable areas by applying specified exclusion criteria. The remaining areas—which according to current estimates would cover about 30 percent of the United Kingdom’s land-mass—would then be invited to participate in the process of finding a suitable site or sites.
- 2.24. However, the Government evidence to this inquiry simply referred to “initial screening criteria”, and was not clear on whether they would follow CoRWM’s recommendation for a “screening out” rather than a “screening in” process (p 25). The NDA told us that they have been asked to support the Government in “the establishment of early site selection and screening criteria” (Q 63). Moreover, Mr Waite, the NDA’s Engineering Director, assured us that in taking up this task they were being supported by Nirex “in terms of the scientific advice they can give regarding the capabilities the repository needs to have in terms of the site selection criteria—in other words, what performance characteristics does a site need to have to be suitable”. His words do not seem to describe a process of developing exclusion criteria. By contrast, NDA Chairman Sir Anthony Cleaver told us that “this process [therefore] is aimed largely at excluding areas that we know are not suitable” (QQ 63, 67).
- 2.25. Yet when we spoke to the Minister he was “very keen to stress that what comes first is the voluntarist partnership process so we should be looking to identify potential partners first and then see if the sites meet the criteria that we will want to determine through the consultation process” (Q 138). This view seems to indicate a different approach altogether with screening criteria only being applied after a community has come forward.
- 2.26. **The Government must make it clear how they intend to approach the site screening process. If it is not already their intention, we recommend that they accept CoRWM’s recommendation on initially “screening out” geologically unsuitable sites. “Screening in” runs contrary to the voluntarist principle and will inevitably lead to anxiety among local communities. It would not only impede and even hinder the partnership process but would also constitute a waste of time and resource.**
- 2.27. The Government were slightly clearer, however, in outlining the process for developing these initial screening criteria. It appears that a national expert group will be established which will formulate the geological screening criteria (QQ 130, 148). At the time of taking evidence, the national expert group had not been formed but we were told that the Government were approaching the Royal Society and the Royal Academy of Engineering, among other bodies, for advice. Any proposals developed by the expert group will then be subject to independent peer-review and, subsequently, subject to

discussion at a national stakeholder conference prior to final proposals being published in the Government's planned consultation.

- 2.28. However, in a letter dated 15 February 2007, addressed to the Chief Scientific Adviser at Defra and copied to us as written evidence, the Royal Society expressed concern about the pace of the site selection process (annexed to evidence, p 77). The Royal Society pointed out that in Japan the process of identifying scientific exclusion criteria was still on-going after four years. The Royal Society was sceptical that the process could be completed within a few months and doubted whether it would be successful if it focused on scientific criteria without taking into account socio-economic criteria, and without being embedded in a public engagement strategy. To fail to do so would risk "repeating the errors of the past which implicitly assumed that the process of decision-making depended only on technical considerations". It therefore also regarded the process as "premature" until the new CoRWM had been set up.
- 2.29. Given that the Government plan to publish the consultation before the summer recess, we share the Royal Society's concerns about the timescale for the preparation of the screening criteria. Whilst we welcome the due priority given to developing the criteria, equal consideration should be given to the time it takes for proper evaluation of possible criteria. Furthermore, a national stakeholder conference on this issue can only be effective if participants are given enough time to receive, to study and to understand the proposals.
- 2.30. We were therefore surprised to hear the Minister tell us in oral evidence that the Government were "still developing our thinking in this area about whether at the same time as launching the consultation we could also invite volunteers or whether it would be more appropriate to have a two-stage process". He added that the Government were "open to views from the Committee on this matter" (Q 102).
- 2.31. **We recommend that the Government conduct a phased site-selection process. The Government should begin by using scientific criteria to screen out unsuitable areas of the country. Subsequently, socio-economic criteria would need to be considered in parallel with the partnership process. In our view, rushing through this process in three or four months is disproportionate to the importance and length of the overall project. We recommend that the Government reconsider the timescale for this process, which forms the foundation of the geological disposal programme.**
- 2.32. We were similarly astonished at the speed—some would say haste—with which the Government are moving forward in preparing their consultation document. This sudden urgency is especially surprising, given that on the one hand the Government accept that the experience with CoRWM "demonstrates that visible independent scrutiny and advice can provide reassurance to the public and stakeholders"<sup>7</sup>, while on the other hand the body which is expected to provide advice and scrutiny, the new CoRWM, has not yet been set up.

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<sup>7</sup> UK Government and the Devolved Administrations, *Response to the report and recommendations from the Committee on Radioactive Waste Management (CoRWM)* (October 2006), p 15.



- 2.33. Whilst we commend the priority the Government are now giving to this area—after years of procrastination and previous failures—progress should be steady and measured, and informed by independent expert advice. The risks associated with the rushing through of measures in complex and politically sensitive areas of Government policy are all too obvious. They were demonstrated recently by Greenpeace’s successful challenge in the High Court to the legality of the recent Government consultation on nuclear energy.<sup>8</sup> This resulted in a declaration that the consultation process had been “seriously flawed” and “procedurally unfair”. Indeed, one of the reasons the court arrived at this judgment was that the consultation had included questions on radioactive waste disposal before CoRWM had reached its final recommendations.
- 2.34. The Government subsequently accepted the High Court judgment and announced a new consultation on nuclear energy. However, they do not seem to have learned from previous mistakes. There are those who will suspect that the reasons both for the Government’s past procrastination on radioactive waste disposal, and for their current haste, are dictated not by a desire to reach policy decisions in an open and procedurally fair fashion, but, as the case may be, by their desire either to defer or to push ahead with decisions on wider nuclear energy policy. The Government must make every effort to demonstrate that this is not the case.
- 2.35. **Progress on the MRWS programme must, as we first noted in 1999, be steady and measured. We therefore recommend that the Government delay the publication of the consultation document until the terms of reference of the successor to CoRWM have been finalised and the new Committee has been appointed. We regard the consultation as the first important step in the implementation process, and one which should also involve the new CoRWM.**

### The role of the NDA

- 2.36. The NDA has no explicit remit for the development of a geological disposal programme, but, as we have noted above, the Government argued that this was included under the NDA’s broad statutory functions as defined by the Energy Act (Q 121). The Government did, however, promise to put in place new NDA governance arrangements, reflecting changes in the NDA’s responsibilities and accountability. The revised arrangements were not available during the course of our inquiry.<sup>9</sup>
- 2.37. We have already mentioned that the Government have asked the NDA to contribute to the development of site selection criteria. However, for reasons of transparency, it would have been preferable to have had the revised governance arrangements in place before involving the NDA in the development of advice on site screening criteria for the implementation programme. The fact that this advice is being developed using scientific

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<sup>8</sup> *R (on the application of Greenpeace Ltd) v Secretary of State for Trade and Industry* [2007] EWHC 311.

<sup>9</sup> On 11 May 2007 the NDA sent us proposals for revised governance arrangements which it had submitted to the Government. The proposals include an alternative approach for the establishment of an implementing site licence company. At the time of writing, we had not heard whether the proposals had been approved or when they would be published and we have therefore not considered them for the purposes of this report (*NDA Proposal for Nirex Integration and Establishment of Implementing Site Licence Company*, 8 March 2007, unpublished at the time of writing).



expertise from the integrated Nirex only underlines the desirability of greater transparency.

- 2.38. Furthermore, we find it surprising that a review of governance arrangements, specifically those relating to the implementation of the geological disposal programme, should be taking place before the terms of reference for the new independent advisory committee have been finalised, especially since the Government have already stated that the new CoRWM will—at the very least—review and advise on the NDA’s scientific and technical programme.
- 2.39. We have already noted that section 3 of the Energy Act assigns to the NDA, alongside its more specific decommissioning responsibilities, more general responsibilities, for “the operation of designated facilities for treating, storing, transporting or disposing of hazardous material” as well as “the treatment, storage, transportation and disposal, in designated circumstances, of hazardous material”.<sup>10</sup> Although there is no explicit reference to the development of a permanent waste repository, we do not dispute the Government’s view that the terms of the Energy Act are sufficiently broad to allow the NDA to undertake this task without amendment to primary legislation.
- 2.40. However, decommissioning is a comparatively short-term programme with a clear, specific timeframe. The current NDA strategy aims to complete a substantial part of its decommissioning, including the decommissioning of Magnox reactors, within the next 25 years and estimates a timeframe of 75 years for the decommissioning of Sellafield—the latter will of course depend on the availability of a final repository.<sup>11</sup> By contrast, the timescale for the closure of a geological repository has been estimated at about 100 years. We are therefore concerned that in the long term, following the completion of the majority of its current decommissioning programme, the NDA’s responsibilities relating to the major long-term programme of geological disposal will be supported in statute merely by two generic functions in the Energy Act 2004.
- 2.41. We recommend that the Government, at an appropriate time in the future, amend the Energy Act in order to reflect the changing nature of the NDA’s responsibilities as it approaches the end of the current decommissioning process.**
- 2.42. Our witnesses were broadly content with the decision to hand responsibility for the implementation programme to the NDA, however, a number of concerns were raised.
- 2.43. We asked, for instance, whether there was a potential conflict in the NDA’s dual role in implementing both accelerated decommissioning and the long-term geological disposal programme. We were told by the Environment Agency that although “there is always a possibility that corners could be cut”, through technical scrutiny of proposals made by the NDA and others “the regulators will have a key role in the repository programme in managing any potential conflict that there may be” (Q 190). The Agency also felt that any financial arrangements regarding the management of the NDA’s activities should be fully transparent and auditable and indicated that the National Audit Office would have a strong role in ensuring this (Q 192).

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<sup>10</sup> Energy Act 2004, section 3, sub-sections 1(d) and 1(e).

<sup>11</sup> Nuclear Decommissioning Authority Strategy (30 March 2006).

- 2.44. NuLeAF were more critical, highlighting some disadvantages with the NDA model. NuLeAF's concern was principally with the process of community engagement, and it was in this context that they saw the potential for tension between the NDA's goal of accelerated decommissioning and the need to allow time for potential host communities to participate effectively in the siting process. In its written submission, NuLeAF said that "there will be a need for Government to show how these disadvantages can be overcome, reduced and managed" (p 45).
- 2.45. On this issue, the NDA told us that it had an active stakeholder engagement programme, with a site stakeholder group for each of its 20 existing sites as well as a national stakeholder group (Q 70). It would also be considering how the existing arrangements could be developed and we were told that as part of this process the NDA would be taking up some of the lessons on best practice learned from CoRWM's work (Q 71).
- 2.46. NuLeAF also questioned more fundamentally the NDA's site stakeholder group arrangements as the appropriate vehicle for delivering the stakeholder programme. Fred Barker of NuLeAF told us that these groups only covered existing NDA sites, met relatively infrequently and were only resourced to cover their current role. Proper and effective local community engagement as the implementation programme moved forward, including the identification and management of all community concerns, would require a "qualitative shift" in the way local community engagement was both conducted and resourced. He believed that this should be done by setting up a specific body for those areas that had expressed a willingness to participate. This body would engage with communities at a local level and have the principal function of producing advice and recommendations to local authorities on issues such as decision-making about willingness to participate, decisions about the acceptability of, what Mr Barker called, "benefits packages" and so on (Q 223).
- 2.47. We agree with Mr Barker that the existing NDA site stakeholder group arrangements, whilst sufficient for their current purpose, are not an appropriate vehicle for any local community engagement process as would be necessary for the geological repository implementation programme. Such arrangements should be much more extensive and appropriately staffed and resourced. This could be achieved by the NDA developing a public engagement programme specific to its role as implementation organisation for geological disposal, based on lessons learnt from the CoRWM process. Alternatively, it could be done by setting up a specific body for siting partnership engagement, as suggested by NuLeAF.
- 2.48. **We recommend that in coming to their conclusion on how best to engage at local level, the Government and the NDA should take advice from all relevant local organisations, and in particular NuLeAF, rather than relying on the NDA's existing stakeholder groups.**

#### **The role of the reconstituted CoRWM**

- 2.49. One of the key recommendations of the CoRWM report, echoing our own recommendation in 1999, was that an independent body should be appointed to "oversee" the implementation process without delay. In their response to this recommendation, the Government announced their intention to set up an independent "advisory" committee.

- 2.50. The Government accepted the need for independent advice and scrutiny, specifically “to scrutinise the future MRWS programme and its implementation on behalf of Government and to provide it with advice on the programme”. This “may include activities from assessing waste packaging options, reviewing geological disposal facility delivery programmes and plans (including those of the NDA), exploring site selection processes and criteria, and advising on the optimal approach to public and stakeholder engagement”<sup>12</sup>. The Government insist that “the Committee will have teeth, in that we shall expect the Government in conjunction with NDA, to consider and respond to its advice” (p 24).
- 2.51. The Government further argued that the proposed arrangements fulfilled the oversight function recommended by CoRWM. In their written evidence to this inquiry, they argued that the current proposals “establish the necessary ‘overseeing role’ of the new CoRWM without muddying potential division of these decision-making responsibilities, or compromising the Committee’s independence”. At the same time they argued that “it is for Government to decide policy and the arrangements for its delivery”.
- 2.52. We spent some time in our evidence sessions in the thankless task of trying to dissect the respective meanings of “to oversee”, “to advise” and “to scrutinise”. When we took oral evidence from CoRWM, some individual members of that committee expressed their reservations with the draft terms of reference, which they did not interpret as being in line with their recommendation (QQ 5–14). One of the main concerns raised by CoRWM members was that not giving the new CoRWM an explicit overseeing role, and reconstituting it instead in an advisory capacity, meant that “you lose that buffer, that arm’s length attitude that you can put between Government and the decisions it is making by having an organisation like CoRWM there with an oversight role” (Q 6). This, in turn, risked a loss in public and stakeholder confidence because “the public and stakeholders perceive a direct link now between this programme and Government and one of Government’s agencies” (Q 6).
- 2.53. A further concern expressed to us by Gordon MacKerron, the CoRWM chairman, was that if an advisory body “were to make some serious criticism of the implementation of policy” there should be “some mechanism that would at least cause Government to acknowledge and to reply to that”. He added that with the current proposals CoRWM “were not entirely convinced that there was a mechanism that would require Government to respond properly” (Q 11). In its recently published official response, CoRWM reiterated these views and expressed “particular concern” about “the ongoing need to make sure that full and credible public stakeholder engagement is integral to future policy. Only a genuinely overseeing role is likely to ensure that Government will need to respond to any finding that policy is not being properly implemented.”<sup>13</sup>

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<sup>12</sup> UK Government and the Devolved Administrations, *Response to the report and recommendations from the Committee on Radioactive Waste Management (CoRWM)* (October 2006), Annex A, “Future advisory committee: Reconstituted Committee on Radioactive Waste Management (CoRWM) Draft terms of reference”.

<sup>13</sup> “CoRWM views following government response to CoRWM’s recommendations of 31 July 2006”, <http://www.corwm.org.uk/pdf/2135%20CoRWM%20Views%20following%20Government%20Response.pdf>.

- 2.54. NuLeAF also expressed the view that under current proposals there was no formal mechanism which obliged the Government to consider and respond to the new CoRWM's recommendations and that this could affect stakeholder confidence. In its written submission, it suggested that this could be remedied by amending the committee's terms of reference to include a provision that: "The Committee's advice and recommendations would be central to Government's determination to maintain general public, and local community, confidence in the delivery of a geological disposal facility. Government will expect all parties subject to CoRWM's advice and recommendations to publish responses within a jointly agreed timeframe" (p 45). In oral evidence, Fred Barker added that "those parties who are the subject of advice from the new CoRWM should be responding with well-reasoned arguments" (Q 199).
- 2.55. We broadly concur with these views. We believe the Government are mistaken in seeking to separate the role of an overseeing body from policy delivery. Properly conceived, an overseeing body should play an important and valuable part in the policy process by scrutinising the Government's proposals, and either endorsing these or making recommendations for improvement based on appropriate expertise among its own membership. Such a committee would in effect offer a permanent "peer-review" mechanism which would contribute greatly to the transparency of the process and thereby to public confidence. If, as the Government have stated, the new CoRWM is to "have teeth"—and if its scrutiny function is to carry any meaning—then the Government should not merely consider and respond to its advice, but demonstrate much more commitment to taking its recommendations on board and embedding them firmly within the policy process.
- 2.56. In a recent report, the Royal Society also argued for a new CoRWM with significantly strengthened expertise and influence on strategy.<sup>14</sup> Commenting on the longer-term institutional arrangements for radioactive waste management, it considered that a post-CoRWM body would be required to develop a coherent strategy and implementation plan; that this body should have strengthened scientific and technical expertise whilst maintaining expertise for stakeholder engagement; and that it should be independent of Government.
- 2.57. In light of the broad consensus in the views expressed to us in evidence, it is surprising that the Government did not accept CoRWM's recommendation to put in place an independent overseeing body. The reasons for this decision were not stated in the Government's response to the CoRWM report—an omission in itself at odds with the Government's commitment to transparency and open stakeholder engagement. Similarly, when we questioned the Minister about why the Government did not accept the Royal Society's recommendation for setting up an independent successor body, we were not given reasons other than that the Government "happen to believe that this is the right approach" (Q 125). This is an entirely unsatisfactory explanation.
- 2.58. Our concerns regarding the Government's lack of reasoned response on this issue also echo those of the Council for Science and Technology. In a recent report on the role of dialogue in areas of policy related to science and

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<sup>14</sup> The Royal Society, *The long-term management of radioactive waste: the work of CoRWM* (January 2006).

technology, it recommended that the sponsor of any dialogue process—in this case the Government acting as the sponsor for the CoRWM process—should state publicly “how the results of the process have informed government thinking and been taken into account in any resultant policy decisions”.<sup>15</sup>

- 2.59. The argument for an independent overseeing body is especially strong when it comes to public engagement. In its letter to the Chief Scientist at Defra, the Royal Society questioned the Government’s decision to take the lead in this process. It advised the Government that both national and international experience had “underlined the need for bodies charged with managing engagement processes to have a degree of independence from those bodies closer to government with the responsibility for determining and implementing policy”. In other words, “the lead on engagement with communities about site selection would best be taken by an arms-length, independent body” (p 77).
- 2.60. The Council for Science and Technology has expressed the same view, recommending that each instance of dialogue should have clear governance arrangements.<sup>16</sup> Crucially, it recommended a clear separation of roles between the “sponsor” of the dialogue, who is responsible for setting objectives (in this case the Government), the “directors” who would be charged with overseeing the process and the “contractors” who would manage it.
- 2.61. **Decisions on how to implement the geological repository programme should be evidence-based. Simply “believing” something to be the right approach is not an adequate foundation on which to build. We recommend that the reasons and evidence for policy decisions in this area, in particular for the decision to set up an advisory committee instead of an overseeing body, should be published in full.**
- 2.62. **We have already recommended that the Government reconstitute the new CoRWM as an independent, overseeing body with strengthened scientific, technological and social science expertise. It should have a clearly defined and authoritative role in scrutinising geological disposal strategy development and implementation. In doing so, it should submit periodic reviews to the MRWS Implementation Group and the Repository Development Monitoring Committee. These reports should be properly responded to and form an integral part of the MRWS policy process. The Committee should have regular access to Ministers and its Chairman should, when necessary, have access to the Secretary of State.**
- 2.63. We therefore conclude that the Government should fundamentally rethink the role of the new CoRWM within the MRWS programme. However, even if their current proposals are, in outline, accepted, they contain inherent contradictions. In particular, there is no clarity over the meaning of the proposed “advice” and “scrutiny” functions for the new CoRWM. At present it appears that the Government use these words interchangeably and synonymously. Thus while parts of the Government response refer to a scrutiny role for the new CoRWM, the word “scrutiny” does not appear in

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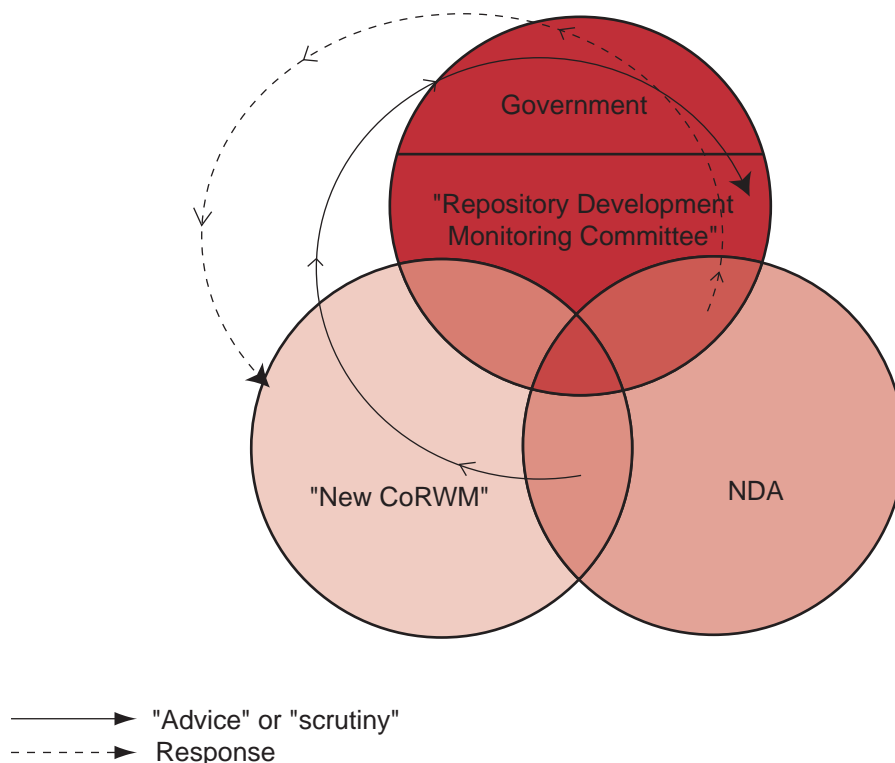
<sup>15</sup> The Council for Science and Technology, *Policy through dialogue: informing policies based on science and technology* (March 2005).

<sup>16</sup> *Ibid.*

the published draft terms of reference. On the other hand, the Minister told us that “the Government is committed to having strong scrutiny and sound advice on the NDA’s delivery programme” and that “CoRWM’s role will be to advise and to scrutinise the implementation of the programme” (Q 122). Furthermore, the Government’s written memorandum stated that the NDA scientific and technical programme “will be subject to review and advice from the reconstituted CoRWM” (p 24).

- 2.64. Although there is a degree of overlap in the meaning of these two functions, scrutiny contains an important element of critical examination, which an advisory function does not cover. This distinction has been muddled by the Government, and this, in our view, will affect the status of the new CoRWM’s recommendations. Moreover, there is a risk that—if not clearly defined—the term scrutiny will be interpreted differently by different people. For example, the NDA Chairman, Sir Anthony Cleaver, when asked what he understood scrutiny to mean in this context, told us that he imagined “it means that there will be an opportunity for such a body to comment on whatever we do” (Q 61). This is a very watered-down version of what we understand by “scrutiny”.
- 2.65. We are also concerned that, even if the Government intend the new CoRWM to have a full scrutiny role, the proposed institutional framework militates against it. We say this for a number of reasons. Firstly, in written evidence, the Government have said that they “would expect the reconstituted CoRWM to liaise closely with the NDA through regular review meetings and through the MRWS programme as a basis for the development of its advice” (p 24). Whilst there would be an obvious and necessary need for the new CoRWM to be kept informed about the work of the NDA, it is difficult to see how it can both “scrutinise” the NDA and at the same time liaise with the NDA in developing such advice. The new CoRWM’s advice should be developed wholly independently of the NDA if its capacity to offer independent scrutiny of the NDA’s delivery programme is not to be compromised.

**FIGURE 2**  
**New CoRWM, Government and the NDA**



- 2.66. Furthermore, not only will there be “close liaison” between the NDA and CoRWM in developing advice, but the NDA, in conjunction with the Government through the Repository Development Monitoring Committee, will itself then consider and respond to the new CoRWM’s advice. This neatly circular arrangement, illustrated in Figure 2, is apparently intended to demonstrate that the new CoRWM “will have teeth” (p 24).
- 2.67. Finally, the Government stated that “the NDA scientific and technical programme ... will be subject to review and advice from the reconstituted CoRWM” (p 24). However, when we asked the NDA how this would work in practice and what weight the NDA envisaged giving to the recommendations of the new CoRWM, we were told that it “will depend on the advice we receive” (Q 60). The weakness of the proposed institutional arrangements supporting the new CoRWM, and its inability to deliver proper scrutiny of the NDA and the MRWS programme, are thus already apparent.
- 2.68. **Even if the Government’s current proposals are accepted in outline, the proposed remit of the new CoRWM is highly confusing, and raises questions about the committee’s independence. These in turn may undermine the integrity of the scrutiny it is intended to deliver. If the Government decide to proceed with their current proposals, at the very least the terms of reference will require substantial revision. We therefore recommend:**
- **Any scrutiny function assigned to the new CoRWM, and the required responses to such scrutiny, should be clearly defined and made explicit in the terms of reference.**
  - **The relationship between the new CoRWM and the NDA should be clarified, so as to avoid the prospect, which currently looks likely, that the NDA will find itself both liaising with CoRWM in developing advice to Government, and also, through the Repository Development Monitoring Committee, itself considering and responding to that advice.**
  - **The relationship between the new CoRWM and the NDA, as implementing body for geological disposal, should also be defined in the NDA’s revised governance arrangements.**
- 2.69. We have previously referred to the Royal Society’s report which recommended that a post-CoRWM body would need much greater scientific and technical capacity than the current CoRWM whilst maintaining public engagement and education capabilities.<sup>17</sup>
- 2.70. The Minister assured us that the Chief Scientific Adviser at Defra, along with other chief scientists, was currently involved in drawing up recommendations aimed at strengthening the new CoRWM’s scientific and technical capacity (Q 131). This was confirmed in a Written Answer, which stated that Defra’s Chief Scientific Adviser “was consulted on the terms of reference” for the new CoRWM (HL Deb, 28 March 2007, WA 276).
- 2.71. **We recommend that the Defra Chief Scientific Adviser should play a prominent role in developing the new CoRWM’s terms of reference and membership. We further recommend that the Government look**

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<sup>17</sup> The Royal Society, *The long-term management of radioactive waste: the work of CoRWM* (January 2006).

**to the relevant Learned Societies for advice on the Committee's membership.**



## CHAPTER 3: REGULATION, R&D, SECURITY AND SKILLS

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### The regulatory context

- 3.1. Radioactive waste management is regulated by the Health and Safety Executive (HSE), as well as by the Environment Agency (in England and Wales). The Environment Agency's functions are exercised in Northern Ireland by the Department of the Environment and in Scotland by the Scottish Environment Protection Agency (SEPA). The HSE regulates the conditioning (that is, the treatment and packaging) of radioactive waste while it remains on the nuclear site. It has delegated this responsibility to its Nuclear Installations Inspectorate.
- 3.2. The HSE does not regulate disposal. All regulation relating to radioactive waste disposal in the United Kingdom is carried out by the Environment Agency and SEPA and these agencies would have ultimate responsibility for regulating geological disposal. The third regulator in this area has been the Office for Civil Nuclear Security (OCNS). However, on 1 April 2007 OCNS was integrated into the HSE, where it now forms one of five divisions of the HSE's Nuclear Directorate. We will return to the issue of nuclear security below.
- 3.3. To reflect their common interest in assessing the so-called "safety case" for radioactive waste management proposals, the HSE and the Environment Agencies work together and publish joint guidance. An updated version of this guidance has just been published and at the time of writing was available for consultation and trial use.<sup>18</sup> As an example of how this joint process works, Mr McHugh of the Environment Agency told us that "we advise the HSE's Nuclear Installations Inspectorate on whether a particular packaging proposal should be allowed to proceed" (Q 211).
- 3.4. Another player in the regulatory process hitherto has been Nirex (now merged with the NDA). Nirex have developed, and own the intellectual property to, the Phased Geological Repository Concept (PGRC) which is used as a benchmark in order to provide packaging and conditioning guidance to waste producers.<sup>19</sup> In the last edition of their joint guidance, the regulators set out the arrangements for the regulation of intermediate level waste conditioning.<sup>20</sup> This involved Nirex in issuing "Letters of Comfort" to site licensees, assessing whether their proposed form of waste packaging conformed to the PGRC. This process has been described by the Environment Agency as "the regulators' preferred route for licensees to demonstrate that ILW Conditioning Proposals meet the relevant international packaging standards and the anticipated requirements for final disposal"<sup>21</sup>. Indeed, in 2005 Nirex changed the name "Letter of Comfort" to "Letter of Compliance", to indicate their strengthened role in the regulatory assessment process.<sup>22</sup>

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<sup>18</sup> HSE, EA and SEPA, *The Management of radioactive waste on nuclear licensed sites* (February 2007).

<sup>19</sup> Environment Agency, *Review of the Nirex Research Programme*, Version 2.0, August 2006, p 3.

<sup>20</sup> HSE, EA and SEPA, *Conditioning of intermediate level radioactive waste on nuclear licensed sites—guidance to industry* (March 2005).

<sup>21</sup> *Ibid.*

<sup>22</sup> *Ibid.*

- 3.5. On 2 April 2007 the NDA announced that following the integration of Nirex into the NDA, the functions previously undertaken by Nirex will now be performed by a new Directorate within the NDA—the Radioactive Waste Management Directorate. The regulators expect this new division to act as the adviser to site licensees on the conditioning of radioactive waste.<sup>23</sup> From the new joint guidance published by the regulators in February 2007, we understand that the advice will continue to be provided through the Letter of Compliance process until such time as either the NDA decides on a new process or an implementation contractor takes over this function.<sup>24</sup>
- 3.6. The announcement on the new Directorate, made on the NDA website, also hints at possible future developments:
- “The NDA will use its new Radioactive Waste Management Directorate to design and build an effective implementing organisation to deliver a safe, environmentally sound, publicly acceptable, geological disposal solution. It is envisaged that in due course this new organisation will become a wholly owned subsidiary of the NDA. Once a suitable site has been selected the subsidiary can develop into the repository Site Licence Company. Considerable future dialogue with Government, regulators and the supply chain will be required before this step is taken.”
- We shall be following these developments with interest.
- 3.7. Already at this stage the integration of Nirex into the NDA raises a potential conflict of interest: the NDA, the organisation in charge of decommissioning existing nuclear sites, and therefore the producer of waste, now incorporates the organisation which develops waste disposal concepts, gives advice about them and which, in this role, even if not a regulator, is nevertheless part of the regulatory process. In written evidence, NuLeAF also pointed to the potential conflict for the NDA in delivering advice on packaging requirements and at the same time pursuing a cost-saving agenda.<sup>25</sup>
- 3.8. When we asked the Environment Agency to whom they would refer for technical standards, now that Nirex had been absorbed into the NDA, Mr McHugh drew attention to the Agency’s own expertise in this area, and told us that the Agency had “developed ... its regulatory capacity” in this area by setting up an “internal nuclear waste assessment team to scrutinise Nirex’s work” (Q 211). The Agency will seek agreements with NDA similarly to scrutinise the work of the Repository Division on packaging advice. The Agency also told us that they were in the process of revising their guidance on the requirements a repository would have to meet, last published in 1997, that in the preparation of this they had not relied on Nirex for their regulatory judgement. At the same time they were keen to stress that Nirex’s intellectual property for the PGRC was unique and that this, along with some specific technical expertise, needed to be preserved, maintained and enhanced (Q 211).
- 3.9. We explored the issue of a potential conflict of interest with the Minister. He argued that whilst Nirex was an adviser to the industry on standards of waste packaging, “it is not the standard setter, these are the different regulatory

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<sup>23</sup> HSE, EA and SEPA, *The Management of radioactive waste on nuclear licensed sites* (February 2007).

<sup>24</sup> *Ibid.*

<sup>25</sup> NuLeAF written memorandum referring to NuLeAF policy statement, *Institutional arrangements for implementation* (October 2006), p 5.

agencies” (Q 117). His comments were echoed by Mr de Grouchy, who told us that “the Letter of Comfort system is an important one but it is essentially an administrative process and the people who regulate and who set the standards have always been the regulatory bodies” (QQ 117–118).

- 3.10. However, during the course of our inquiry we were made aware of a legal opinion dating from September 2006, which had been commissioned by Nirex from Christopher Katkowski QC and Stephen Tromans, and which was subsequently released following a Freedom of Information request. This opinion raised concerns about the legality of the NDA/Nirex merger.
- 3.11. The opinion argued that Nirex had exercised a quasi-regulatory function, and that by undermining the independence of this regulatory function, the merger “would give rise to serious issues as regards the UK’s compliance with International Law and Community Law”.<sup>26</sup> In particular, the merger could conflict with a requirement under Article 20 (2) of the International Atomic Energy Agency Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, which requires that:
- “Each Contracting Party, in accordance with its legislative and regulatory framework, shall take the appropriate steps to ensure the effective independence of the regulatory function from other functions where organizations are involved in both spent fuel or radioactive waste management.”
- 3.12. The opinion also argued that, following the European Atomic Energy Community (EURATOM) accession to the Joint Convention in October 2005, the Convention entered into force for EURATOM members in January 2006. This meant in turn “that the Community’s compliance and enforcement mechanisms (including the possibility of seeking a judgment from the European Court of Justice) apply to the obligations contained in the Joint Convention.”
- 3.13. When questioned about this, the Minister offered to consider our requests for clarification on this matter (Q 119). However, in reply to a letter from the Chairman, the Minister reiterated that his Department had been made aware of the legal opinion, but offered no explanation of the legal basis for the Government’s view; instead he stressed that the decision to incorporate Nirex into the NDA had been made following “careful consideration” of the views of Nirex, the NDA and others (p 41).
- 3.14. This lack of openness in such a sensitive matter is unfortunate. The recent successful application by Greenpeace in the High Court for judicial review of the Government’s consultation preceding the Energy Review showed that lack of information and transparency, not just with regard to nuclear energy policy, but also with regard to nuclear waste issues, can lead to successful legal challenges.<sup>27</sup> Such challenges could have the potential seriously to undermine the geological disposal programme.
- 3.15. Although we accept that Nirex’s role is not formally a regulatory one, it does appear that the Letter of Compliance system is intimately linked to the regulatory process. Through the Phased Geological Repository Concept,

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<sup>26</sup> *In the Matter of UK Nirex Ltd*, Opinion by Christopher Katowski QC and Stephen Tromans, 15 September 2006 (unpublished).

<sup>27</sup> *R (on the application of Greenpeace Ltd) v Secretary of State for Trade and Industry* [2007] EWHC 311.

which is currently used as the benchmark for compliance, Nirex holds an important stake, as well as unique technical expertise, in the setting of packaging standards for the industry, to such an extent that it may justly be described as a “quasi-regulator”. We therefore agree with the Environment Agency that the current arrangements, whereby Nirex has been absorbed into the NDA, is “not ideal” (Q 222). It remains to be seen whether they will be subjected to legal challenge.

- 3.16. It should be emphasised that the current arrangements are only temporary, pending the appointment of an implementation contractor. We were also assured by the Environment Agency that its Nuclear Waste Assessment Team has sufficient expertise for thorough and technically robust scrutiny and that the Agency has “not relied on Nirex for our regulatory judgments” (QQ 211, 212). However, these assurances do not fully allay our concerns.
- 3.17. **A legal opinion, casting doubt on the legality of the merger between Nirex and the NDA, has now been released. We recommend that the Government now publish in full their view of this legal opinion and their reasons for proceeding with the merger in spite of it.**
- 3.18. **We agree with the Environment Agency that the setting of packaging standards from within the NDA can only be a transitional arrangement, and we recommend that, in order to ensure rigorous independent regulatory scrutiny, an implementation contractor should be appointed within the next two years.**

### Research and development

- 3.19. The CoRWM report also recommended that there should be “a commitment to an intensified programme of research and development into the long-term safety of geological disposal aimed at reducing uncertainties at generic and site-specific levels, as well as into improved means for storing wastes in the longer term.”<sup>28</sup>
- 3.20. While our inquiry was underway, a report summarising the findings of a workshop on nuclear waste management held at the University of Loughborough was published.<sup>29</sup> The report, which was agreed by experts from across the nuclear waste management sector, concluded that whilst there were no insurmountable scientific and technical barriers to geological disposal, there was a need for a focused and substantial R&D programme so that geological environments and storage requirements could be well understood. The research would also provide important technical information which will be required for regulatory assessments. It should be aligned with key stages in the repository programme so that it can deliver the relevant outputs at relevant times.
- 3.21. Although our inquiry was not able to explore these technical issues in detail, the Environment Agency highlighted some of the specific technical challenges that a geological repository research programme would need to address. Current technical issues included research on how a repository design could be optimised and other issues relevant to waste conditioning

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<sup>28</sup> CoRWM, *Managing our Radioactive Waste Safely—CoRWM’s recommendations to Government* (July 2006).

<sup>29</sup> Loughborough University Workshop (6–7 November 2006), *UK Long Term Nuclear Waste Management: Next Steps?* (February 2007).

and packaging. Later in the programme, the research would inevitably need to become more site specific (Q 232).

- 3.22. The Environment Agency also pointed to researchable socio-economic questions which could be integrated with an R&D programme. These would explore the socio-economic impact of any proposals based on scientific findings, especially answering questions of appropriate trade-offs. Importantly, the research should focus on “a decision-making framework that will define what trade-offs are acceptable and how they might be bounded” (Q 232). We have already referred to the Royal Society’s evidence which highlighted the importance of researching not only scientific but also socio-economic questions, especially with regard to developing site-screening criteria (Chapter 2, paragraph 28).
- 3.23. In its response to CoRWM’s recommendation, the Government accepted the need for ongoing research and development. It referred to the NDA’s statutory function to carry out research related to the design, construction and operation of a repository. In undertaking this work, the NDA would have to pay due regard to the views and requirements of the Government, the regulators and the independent advisory body.<sup>30</sup> The NDA expected that at least some of this research would be carried out by the integrated Nirex (QQ 63, 68).
- 3.24. The lead responsibility for R&D in this area lies with the DTI. In October 2006 the Secretary of State announced that, following a review of the United Kingdom’s nuclear research and development needs, the Government expected to establish a National Nuclear Laboratory (NNL) as soon as practicable (HL Deb, 24 October 2006, WS105). The NNL will be based around the British Technology Centre and Nexia Solutions, a BNFL subsidiary, in Sellafield. The NNL is expected to play a key role in supporting the United Kingdom’s strategic research and development requirements. In addition, the Minister gave us a further reassurance that, leaving aside the usual difficulties with securing long-term spending commitments, there was a cross-party commitment to R&D spending for the waste disposal programme (Q 143).
- 3.25. We welcome the Government’s support for a new nuclear research and development facility. However, the NNL will have a wide remit whereas the geological disposal programme requires a separate and specific R&D activity. **We therefore urge the Government to consider giving responsibility for the long-term planning and co-ordination of the required R&D for the MRWS programme to the new CoRWM constituted with scientific, technical and socio-economic expertise. This would ensure that the programme was optimally integrated with policy needs. The research itself could still be carried out at the National Nuclear Laboratory.**

### Skills

- 3.26. Closely interlinked with R&D is the supply of specialist skills. Alongside its general responsibilities for decommissioning, the NDA has the function to educate and train a skilled workforce able to undertake the work of

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<sup>30</sup> UK Government and the Devolved Administrations, *Response to the report and recommendations from the Committee on Radioactive Waste Management (CoRWM)* (October 2006), p 10.

decommissioning.<sup>31</sup> To this end, it is supporting a number of initiatives including the establishment of a National Nuclear Skills Academy in West Cumbria. It is also working towards strengthening its links with universities and has recently entered into an agreement with the University of Manchester's Dalton Nuclear Institute to fund a new nuclear research centre, the Nuclear Skills Institute, in West Cumbria.

- 3.27. Given the above initiatives, and with the existing expertise and skills contained within Nirex and Nexia Solutions, the NDA was confident about the supply of specialist skills in the near term (Q 81). Both the NDA and the Environment Agency highlighted the importance of drawing on international expertise in order to complement the United Kingdom's research capacity (QQ 78, 233).
- 3.28. However, concerns about an ageing nuclear workforce remain. In particular, the Loughborough Workshop report highlighted the “very significant decline in R&D funding in nuclear fission, and equally a decline in the nuclear skills base” and called for a “nuclear skills renaissance” in order to revitalise the skills base in this sector.<sup>32</sup>
- 3.29. **We welcome the different initiatives undertaken by the NDA and by the Government to ensure the supply of specialist nuclear skills. However, particular attention should be paid to training up and maintaining the specific expertise and skills required for the long-term geological disposal programme.**

### Nuclear Security

- 3.30. Nuclear security in the United Kingdom is regulated by the Office for Civil Nuclear Security (OCNS), which is now part of the HSE Nuclear Directorate.
- 3.31. The CoRWM report raised concerns about the interim storage of radioactive waste and its vulnerability to potential terrorist attacks. During one of its specialist workshops on nuclear security, security experts—a group which included the Assistant Director of the OCNS, John Reynolds—recorded their “unanimous opinion that greater attention should be given to the current management of radioactive waste held in the UK, in the context of its vulnerability to potential terrorist attacks”. Furthermore, the experts were “not aware of any UK Government programme that is addressing this issue with adequate detail or priority”.<sup>33</sup>
- 3.32. We pursued this issue with both the NDA and the Government. We were surprised at first to hear that the NDA considers security to be a matter solely for the OCNS (QQ 83, 85). However, in a supplementary memorandum, Sir Anthony Cleaver informed us that “all nuclear licensed sites, including those owned by the NDA, are required by the Nuclear Industries Security Regulations 2003 (NISR 03) to produce a site security plan, to submit this for approval to the Office of Civil Nuclear Security

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<sup>31</sup> Energy Act 2004, section 7 (1a), section 9 (2a).

<sup>32</sup> Loughborough University Workshop (6–7 November 2006), *UK Long Term Nuclear Waste Management: Next Steps?* (February 2007), p 29.

<sup>33</sup> CoRWM, *Managing our Radioactive Waste Safely—CoRWM's recommendations to Government* (July 2006), Chapter 16.

(OCNS) (the independent civil regulator) and to take all measures necessary to comply with that plan” (p 22).

- 3.33. We were also reassured by the Minister that “current security measures are robust” but that “it is best not to go into great detail in publishing security plans” (QQ 163, 166).
- 3.34. We agree that it would not be desirable to publish operational detail regarding the specific security arrangements at nuclear sites but we would endorse Fred Barker’s comments that it would be “possible to talk about the process by which competent security arrangements might be gained” (Q 245). Furthermore, the supplementary memoranda from both the NDA and the Government reveal that some of the information relating to nuclear security is very much in the public domain (pp 22, 41).
- 3.35. The Government must engage in a much more open dialogue with local communities and other stakeholders regarding the risks presented by current temporary storage and the steps taken to address them. We therefore recommend that the Government review the amount and level of detail of information on nuclear security that is made available to stakeholders or published. Security arrangements form an integral part of the implementation programme and information on their nature should be readily available.**



## CHAPTER 4: SUMMARY OF RECOMMENDATIONS

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- 4.1. In this Chapter we set out our recommendations in full. The numbers in brackets refer to the relevant paragraphs in the text.
- 4.2. The Government should acknowledge the potential for conflict and confusion inherent in their proposed institutional arrangements for the MRWS programme, and take steps to ensure that clear leadership and lines of accountability are established. (2.17)
- 4.3. We therefore urge the Government to look again at our 1999 recommendation for a wholly independent, permanent body, subject to regular endorsement by Parliament, to oversee implementation of the MRWS programme. However, if they are unable to recognise the merits of that proposal, we would strongly endorse the setting-up of an independent overseeing body, as recommended by CoRWM. (2.18)
- 4.4. The Government must make it clear how they intend to approach the site screening process. If it is not already their intention, we recommend that they accept CoRWM's recommendation on initially "screening out" geologically unsuitable sites. "Screening in" runs contrary to the voluntarist principle and will inevitably lead to anxiety among local communities. It would not only impede and even hinder the partnership process but would also constitute a waste of time and resource. (2.26)
- 4.5. We recommend that the Government conduct a phased site-selection process. The Government should begin by using scientific criteria to screen out unsuitable areas of the country. Subsequently, socio-economic criteria would need to be considered in parallel with the partnership process. In our view, rushing through this process in three or four months is disproportionate to the importance and length of the overall project. We recommend that the Government reconsider the timescale for this process, which forms the foundation of the geological disposal programme. (2.31)
- 4.6. Progress on the MRWS programme must, as we first noted in 1999, be steady and measured. We therefore recommend that the Government delay the publication of the consultation document until the terms of reference of the successor to CoRWM have been finalised and the new Committee has been appointed. We regard the consultation as the first important step in the implementation process, and one which should also involve the new CoRWM. (2.35)
- 4.7. We recommend that the Government, at an appropriate time in the future, amend the Energy Act in order to reflect the changing nature of the NDA's responsibilities as it approaches the end of the current decommissioning process. (2.41)
- 4.8. We recommend that in coming to their conclusion on how best to engage at local level, the Government and the NDA should take advice from all relevant local organisations, and in particular NuLeAF, rather than relying on the NDA's existing stakeholder groups. (2.48)
- 4.9. Decisions on how to implement the geological repository programme should be evidence-based. Simply "believing" something to be the right approach is not an adequate foundation on which to build. We recommend that the reasons and evidence for policy decisions in this area, in particular for the



decision to set up an advisory committee instead of an overseeing body, should be published in full. (2.61)

- 4.10. We have already recommended that the Government reconstitute the new CoRWM as an independent, overseeing body with strengthened scientific, technological and social science expertise. It should have a clearly defined and authoritative role in scrutinising geological disposal strategy development and implementation. In doing so, it should submit periodic reviews to the MRWS Implementation Group and the Repository Development Monitoring Committee. These reports should be properly responded to and form an integral part of the MRWS policy process. The Committee should have regular access to Ministers and its Chairman should, when necessary, have access to the Secretary of State. (2.62)
- 4.11. Even if the Government's current proposals are accepted in outline, the proposed remit of the new CoRWM is highly confusing, and raises questions about the committee's independence. These in turn may undermine the integrity of the scrutiny it is intended to deliver. If the Government decide to proceed with their current proposals, at the very least the terms of reference will require substantial revision. We therefore recommend:
- Any scrutiny function assigned to the new CoRWM, and the required responses to such scrutiny, should be clearly defined and made explicit in the terms of reference.
  - The relationship between the new CoRWM and the NDA should be clarified, so as to avoid the prospect, which currently looks likely, that the NDA will find itself both liaising with CoRWM in developing advice to Government, and also, through the Repository Development Monitoring Committee, itself considering and responding to that advice.
  - The relationship between the new CoRWM and the NDA, as implementing body for geological disposal, should also be defined in the NDA's revised governance arrangements. (2.68)
- 4.12. We recommend that the Defra Chief Scientific Adviser should play a prominent role in developing the new CoRWM's terms of reference and membership. We further recommend that the Government look to the relevant Learned Societies for advice on the Committee's membership. (2.71)
- 4.13. A legal opinion, casting doubt on the legality of the merger between Nirex and the NDA, has now been released. We recommend that the Government now publish in full their view of this legal opinion and their reasons for proceeding with the merger in spite of it. (3.17)
- 4.14. We agree with the Environment Agency that the setting of packaging standards from within the NDA can only be a transitional arrangement, and we recommend that, in order to ensure rigorous independent regulatory scrutiny, an implementation contractor should be appointed within the next two years. (3.18)
- 4.15. We therefore urge the Government to consider giving responsibility for the long-term planning and co-ordination of the required R&D for the MRWS programme to a strategic overseeing body constituted with scientific, technical and socio-economic expertise. This would ensure that the programme was optimally integrated with policy needs. The research itself could still be carried out at the National Nuclear Laboratory. (3.25)

- 4.16. We welcome the different initiatives undertaken by the NDA and by the Government to ensure the supply of specialist nuclear skills. However, particular attention should be paid to training up and maintaining the specific expertise and skills required for the long-term geological disposal programme. (3.29)
- 4.17. The Government must engage in a much more open dialogue with local communities and other stakeholders regarding the risks presented by current temporary storage and the steps taken to address them. We therefore recommend that the Government review the amount and level of detail of information on nuclear security that is made available to stakeholders or published. Security arrangements form an integral part of the implementation programme and information on their nature should be readily available. (3.35)

## APPENDIX 1: MEMBERS AND DECLARATIONS OF INTEREST

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### Members:

	Lord Broers (Chairman)
	Lord Colwyn
†	Baroness Finlay of Llandaff
†	Lord Flowers
	Lord Howie of Troon
†	Lord Jenkin of Roding
	Lord May of Oxford
	Lord O'Neill of Clackmannan
†	Lord Oxburgh
	Lord Patel
	Lord Paul
	Baroness Perry of Southwark
	Baroness Platt of Writtle
	Earl of Selborne
	Baroness Sharp of Guildford
	Lord Sutherland of Houndwood
	Lord Taverne
†	Lord Tombs
†	co-opted member

### Declared Interests:

Lord Broers	<i>Member, Royal Academy of Engineering</i> <i>Member, The Royal Society</i>
Lord Colwyn	<i>None</i>
Baroness Finlay of Llandaff	<i>Velindre NHS Trust Cancer Care (uses radioactive substances for treatment and research)</i>
Lord Flowers	<i>None</i>
Lord Howie of Troon	<i>Fellow, Institution of Civil Engineers</i>
Lord Jenkin of Roding	<i>President, Foundation for Science and Technology</i>
Lord May of Oxford	<i>None</i>
Lord O'Neill of Clackmannan	<i>None</i>
Lord Oxburgh	<i>None</i>
Lord Patel	<i>None</i>

Lord Paul

*None*

Baroness Perry of Southwark

*None*

Baroness Platt of Writtle

*None*

Earl of Selborne

*None*

Baroness Sharp of Guildford

*None*

Lord Sutherland of Houndwood

*None*

Lord Taverne

*None*

Lord Tombs

*Patron, Supporters of Nuclear Energy*

## APPENDIX 2: WITNESSES

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The following witnesses gave evidence. Those marked with a \* gave oral evidence:

Professor Keith Baverstock and Professor David Ball

CoRWM

\* Professor Gordon MacKerron, Chairman

\* Professor Brian Clark

\* Dr Mark Dutton

\* Professor Linda Warren

\* Mr Peter Wilkinson

Defra

\* Mr Ian Pearson MP, Minister of State (Climate Change & the Environment)

\* Mr Chris De Grouchy, Head of Radioactive Substances Division

Environment Agency

\* Mr Clive Bates, Head of Environmental Policy

\* Dr Joe McHugh, Head of Radioactive Substances Regulation

\* Dr Clive Williams, Policy Manager

Dr David Lowry

Nuclear Decommissioning Authority (NDA)

\* Sir Anthony Cleaver, Chairman

\* Mr Richard Waite, Engineering Director

Nuclear Free Local Authorities

Nuclear Legacy Advisory Forum (NuLeAF)

\* Mr Fred Barker, Executive Director

The Royal Society

South Lakeland Friends of the Earth

### **APPENDIX 3: CALL FOR EVIDENCE**

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The House of Lords Select Committee on Science and Technology, chaired by Lord Broers, will conduct a short inquiry looking at Radioactive Waste Management. The inquiry follows the publication of the final report of the Committee on Radioactive Waste Management (CoRWM) and the Government response published in October 2006. The inquiry will also follow up the Select Committee's own reports on the subject.

The inquiry will focus mainly on issues arising from Government's response to CoRWM's recommendations. In particular, the Committee is interested in the following questions:

#### *Implementing the recommendations*

Is Government's decision to assign responsibility for taking the process of geological disposal forward to the NDA, while reconstituting CoRWM in an "advisory" role, consistent with CoRWM's recommendation that a new independent body be established to "oversee" the process? Will CoRWM's new terms of reference allow the implementation programme, as envisaged in the CoRWM report, to be carried out successfully? How might the relationship between CoRWM and NDA develop? How will scientific and technical expertise be brought into the process? How will close liaison between all involved organisations, regulators and Government departments be ensured in order to keep the implementation programme on track?

#### *Plans for Government consultation on a framework for geological disposal*

How are the draft criteria being prepared? Is the end of April 2007 deadline for advice from NDA and CoRWM to inform the consultation a realistic timescale? Until the "new" CoRWM has been appointed, how much scientific expertise will be available to NDA, especially on its proposals for a repository development plan which will feed into the consultation? To what extent will the Government consultation process take account of CoRWM's, and others', experience of public and stakeholder engagement in this area?

#### *Interim storage*

How will NDA take account of CoRWM's recommendations on interim storage? What are the timescales and technical challenges in developing interim storage, for up to a century, of high level waste? Will the principle of volunteerism be applied to the process of interim storage site selection?

#### *Spent fuel and reprocessing*

Following concerns expressed in CoRWM's report on the safety of spent fuel storage, what are NDA's plans for reviewing the arrangements for storage of spent fuel? Is NDA's ownership of the Sellafield complex and its commercial reprocessing operations and contractors, including the Sellafield MOX plant, consistent with NDA's new role as implementing body for the long-term management of nuclear waste?

*Skills*

How will Government address the increased need for skilled and professional personnel in the nuclear energy sector over the coming decades given the general shortage of SET graduates? Would a continued shortage affect the implementation of the geological disposal programme? Will the Nuclear National Skills Academy overcome these problems?