

**STATUS OF THE UK PROGRAMME FOR MANAGEMENT OF RADIOACTIVE  
WASTE FOLLOWING THE HOUSE OF LORDS REVIEW**

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**ABSTRACT**

In line with past UK policy, a site selection programme for a deep geological repository for long-lived intermediate level radioactive waste commenced in 1987, resulting in the selection of Sellafield in north-west England as the preferred site. A site characterisation programme and associated research and safety assessment was carried out, taking the programme to the point where a stage of underground investigation through a Rock Characterisation Facility (RCF) had been identified as the next step. However, following a Public Inquiry in 1995, the Secretary of State for the Environment, in March 1997, turned down Nirex's request for the RCF. The site characterisation programme at Sellafield has therefore been concluded.

An active public debate on institutional issues and UK policy has taken place following the 1997 decision. A key step has been a House of Lords Select Committee Enquiry into radioactive waste management and the Government's October 1999 response. A public consultation paper will be published by the UK Government at Easter 2000, discussing the processes involved in implementing the various management options for radioactive waste.

It is accepted that the ability to deliver publicly acceptable management solutions for radioactive waste depends to a very large degree on solving social as well as scientific and technical issues. Nirex see it as important that a wide-ranging debate is held in order to establish firm foundations before any new policy is implemented.

The paper summarises the outcome of the House of Lords Enquiry, the Government's response, together with the conclusions of a Consensus Conference held in May 1999, to establish public opinions on what are the key issues.

**INTRODUCTION**

Past UK policy favoured deep disposal of intermediate-level waste (ILW). Reprocessing has resulted in a substantial component of long-lived wastes within the ILW, which had driven the preference for deep, rather than shallow, disposal.

The Nirex programme to establish a deep repository started in 1987 with a site selection process which led to identifying Sellafield and Dounreay in 1989 as candidate sites, both adjacent to existing nuclear facilities. Initial investigations indicated that both sites had the potential to meet the regulator's safety target but the advantage of the Sellafield site in minimising transport of waste led to a decision in 1991 to concentrate further investigations there.

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To achieve the high levels of confidence needed to support a proposal to construct a repository, a stage of underground investigation was planned. A public inquiry into Nirex's planning application for the underground "Rock Characterisation Facility" (RCF) led to its refusal in March 1997 by the Secretary of State. His refusal reflected concerns of the Inquiry Inspector about the conventional environmental impact of the RCF, the site selection process, and the prematurity of the planning application. As a consequence of this decision Nirex has terminated its investigations at Sellafield.

A decision on the way forward for radioactive waste management in the UK must take account of the key factors contributing to the termination of the programme carried out between 1987 and 1997, including:

- the accelerated pace of that programme did not allow for adequate dialogue with stakeholders;
- there was insufficient transparency and debate of key decisions, e.g. the short listing of candidate sites; and
- there was a lack of clarity of the test to be applied at key decision points, e.g. the RCF Public Inquiry.

### **HOUSE OF LORDS SELECT COMMITTEE ENQUIRY AND THE GOVERNMENT'S RESPONSE**

Following the rejection of the RCF in March 1997, an important first step in the new debate has been a House of Lords Select Committee Enquiry into "The Management of Nuclear Waste". The Enquiry took evidence in the first half of 1998 and reported in March 1999 (references 2, 3 and 4 are collations of the written and oral evidence).

The House of Lords' Select Committee's Report recommendations and the Government's response, published in October 1999 [5] are (heavily) summarised below:

#### **Recommendation 1**

*"... the Government should develop a fully comprehensive policy for... all nuclear waste...[and] should issue a Green Paper which states ... the principal means for implementation of that policy, including, for deep repositories, the site selection process."*

#### **Response**

"...the Government ... propose issuing a consultation document in early 2000. They are also considering other ways of encouraging greater public involvement. These could include consensus conferences ..."

#### **Recommendation 2**

*... a new organisation be set up to oversee the implementation of policy. This should be a "Nuclear Waste Management Commission" ...*

#### **Response**

"... The Government ... will ... request views on the need for a 'Nuclear Waste Management Commission' in the forthcoming consultation ..."

**Recommendation 3**

*“If ... a phased approach to geological disposal is adopted, ...[a] new ‘Radioactive Waste Disposal Company’ ... should be set up ...”*

**Response**

“... the Government ... will invite views in the consultation paper on the organisational structures which would be required to implement each management option, including deep disposal.”

**Recommendation 4**

*“... The Commission should be responsible for co-ordinating all United Kingdom research on the long-term management of nuclear waste ... The safety standards for repositories should be revised and expanded as research and development proceeds.”*

**Response**

“... The Government ... notes particularly the continuing research work being undertaken by Nirex to address important outstanding generic issues ... and the DETR sponsored research into the disposal of high level waste (HLW). ... No decision has been taken to proceed with such a deep repository programme, but the presumption has been made that should such a decision be made, then there would need to be a research strategy in place.”

**Recommendation 5**

*“... The process of selecting a repository site (or sites, if more than one repository is needed) should be open and transparent ... The Commission should oversee the Company's selection of the preferred site or sites. The Company's site choice should be debated in Parliament and examined at public inquiry. The final decision should be made by the Secretary of State.”*

**Response**

“The Government agrees that if geological disposal is the chosen management option then in principle the process of site selection should be as open as possible ...”

**Recommendation 6**

*“... The Commission should be financed by means of a segregated fund, derived from a levy on the whole nuclear industry ...”*

**Response**

“The Government considers that, to be consistent with the 'polluter pays' principle, waste producers should provide the funding ...[and] that any new organisation could be funded in the way recommended, and that similar proposals for funding repository development would be consistent with the principles underlying the existing funding arrangements for Nirex. The Government ... will wish to consider responses to the consultation before taking a final decision.”

**Recommendation 7**

*“... When the Commission is set up some changes should be made to regulatory arrangements ...”*

**Response**

“The Government ... will ... give careful consideration to the regulatory requirements for each option and to the relationship of any new organisation to existing regulatory bodies such as the Environment Agency and the Health and Safety Executive.”

**Recommendation 8**

*“For the present, Nirex should be maintained, but when the Commission and the Company are established its roles should be subsumed by them. When the Commission is set up RWMAC should be disbanded.”*

**Response**

“The Government agrees that it is important to retain Nirex at the present time so as to sustain its strong research base and expertise. The Company should maintain an active scientific programme, continue to advise the industry on conditioning and packaging waste and should also contribute to consultations on the review of policy. The need in the future for a waste disposal company and its structure will be largely dependent on disposal being chosen as the preferred management route. Views will be sought on this in the consultation document ... it is too early to say whether or not there may be a role for RWMAC ... This will be dependent upon the decisions made on institutional arrangements and the way forward following the public consultation.”

**Recommendation 9**

*“Small users of radioactive materials should commission a study of the options for management of the limited quantities of short-lived ILW they produce...”*

**Response**

“It is a matter for small users ... to decide whether they accept this recommendation and wish to commission their own study ...”

**Recommendation 10**

*“Plans should be made for the establishment of a new LLW disposal facility, to open before Drigg closes...”*

**Response**

“The Government ... will ... invite views on the options for a possible successor to Drigg in the forthcoming consultation document ...”

**Recommendation 11**

*“...if the chosen policy is phased geological disposal, this country should take a lead in discussions on international regional repositories and offer help to those countries that need, but lack the resources, to develop them...”*

**Response**

“...the Government ... believe it is too early to commit the UK to a leading role in international matters.”

**Recommendation 12**

*“We recommend that the Government should develop a clear policy for management of the United Kingdom's stock of separated plutonium. Our view is that this policy should be*

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*the maintenance of the minimum strategic stock, and the declaration of the remainder as waste.”*

### **Response**

“The Government's policy for the management of plutonium stocks was published in January 1998 ... the Government and the devolved administrations will not come to a final view on the management of radioactive wastes until responses to the consultation exercise have been analysed. However, the Government will seek beforehand the views of BNFL, British Energy and UKAEA on potential future uses for plutonium, and publish them for consideration as part of the wider consultation exercise ...”

### **Recommendation 13**

*“The Government should re-examine the policy on waste substitution, in the light of our recommendations and the 11th report of the House of Commons Trade and Industry Committee.”*

### **Response**

“Waste substitution is at present only permitted in respect of low level waste for which a permanent disposal facility is already in existence. For other wastes, the Government ... will not decide on the most appropriate long-term management option until after it has undertaken widespread consultation ...”

### **Recommendation 14:**

*“We recommend that the Government acts without delay. The programme for repository development is a long one and cannot be rushed...”*

### **Response**

“The Government agrees that identifying and implementing a management option for radioactive wastes which commands widespread public support will be a long process. It notes that in the model proposed by the Committee it would take about four years to gain agreement on policy and a further twenty years after that for a repository, the Committee's chosen solution, to come into operation ...”

## **NEXT STEPS**

The Government has indicated that they propose to publish a consultation paper at Easter 2000. It is envisaged that this will discuss the processes that would be involved in the implementation of the various management options for radioactive waste, rather than the relative merits of the options themselves. The timetable for any subsequent consultations would be dependent upon the outcome of this initial consultation.

## **CONSENSUS CONFERENCE**

Although not formally a part of the Government consultation process, a “Consensus Conference” on radioactive waste management was held in London in May 1999. Consensus Conferences are a way of involving the public in the assessment of science and technology. Pioneered in Denmark, consensus conferences create a forum for a Citizens’ Panel, made up of members of

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the public, to take part in an informed debate with expert witnesses of their choice. After the dialogue, the panel publishes a report that is fed into the government policy-making process.

The aims of the Consensus Conference on radioactive waste management were to:

- to contribute the views of informed citizens to the policy-making process for radioactive waste management;
- to gain an appreciation of the way in which the issues are framed and prioritised by the public;
- to identify key issues of concern as seen by the public and to recommend a process by which they might be examined and resolved;
- to expand the availability of more reliable and better quality information for the public; and
- to stimulate wider and better informed public debate on the issue.

The panel comprising fifteen citizens, recruited from throughout Britain, came together in London to debate the issue of radioactive waste management, following two weekends of intensive preparation. At the end of the conference, the panel produced a report outlining their conclusions and recommendations, which was circulated to the government, media and other interested parties, thus opening up the debate in an area which is usually dominated by scientists and specialists (although it should be stated that media interest was minimal). Some of the panel's conclusions most relevant to the waste management issue [6] are given below:

- Radioactive waste must be removed from the surface and stored underground, but must be monitorable and retrievable. Cost cannot be an issue. We must leave options open for future solutions.
- We recommend the appointment of a neutral body appointed by the Government to deal with waste management, including the selection of a national storage site. The criteria for site selection should be open and publicised.
- At present there is a lack of trust and understanding and public awareness must be raised. The public needs to be fully informed of the problems and solutions available. Decision-making must be open and transparent. Radioactive waste issues should be made part of the Government's education strategy.
- We are not fundamentally opposed to nuclear power, but it should not be expanded until a way is found to deal adequately with the waste problem.
- Finally, while the industry has in the past had a well-deserved reputation for secrecy, we have in the course of the conference noted a welcome shift in culture and a new feeling of openness in dealing with these difficult issues.

## **NIREX'S CURRENT ROLE AND PERSPECTIVE**

Following the Secretary of State's decision on the RCF, and the change of UK government radioactive waste management policy has been under review, Nirex's current activities lie within three areas:

- advising the nuclear industry on the treatment and packaging of wastes;
- addressing generic remaining issues to strengthen further the scientific and technical knowledge base for deep disposal; and

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- making an input to the current debate and forthcoming consultation on the policy and framework for radioactive waste management in the UK.

In this third area Nirex's view, shared by most other stakeholders in the UK, is that a very full public debate must take place to help to ensure that future policy, and the framework set up to implement it, are well founded.

Recognising that being accepted as an open and transparent organisation is a prerequisite to gaining public trust and acceptance, Nirex is changing its culture and means of operation to ensure that openness and transparency are embedded more firmly within it. The initiative comprises six main strands:

- to develop a Code of Practice for making information available to third parties on request;
- to improve the audit trail of decision making within the Company;
- to ensure that openness is a core value for staff;
- to develop approaches to constructive dialogue with stakeholders;
- to develop an ongoing process to enable stakeholders to influence future plans; and
- to understand and learn lessons from previous experience, however hard.

It is expected that this initiative should enhance the credibility of Nirex in its current role and will be an important element of the inheritance that Nirex would pass to any successor waste management organisation.

## **CONCLUSIONS**

The termination of Nirex's site selection programme for a deep repository for ILW has required a fundamental re-think on the approach to be taken in future. In particular, a far greater emphasis needs to be placed on building stakeholder support. Initially this means that a broad and thorough public debate must be held to establish which route to follow and how to proceed along it. This debate has already commenced through the House of Lords Select Committee Enquiry and the Government's response.

## **REFERENCES**

1. "Nirex 97: An Assessment of the Performance of the Post-closure Performance of a Deep Waste Repository at Sellafield", Nirex Science Report S/97/012, December 1997.
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4. "Management of Nuclear Waste", report of the House of Lords Select Committee on Science and Technology; London: The Stationery Office HL Paper 41.
5. The Government's Response to the House of Lords Select Committee on Science and Technology Report on the Management of Nuclear Waste Department of the Environment, Transport and the Regions. 25 October 1999. See <http://www.detr.gov.uk>.

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6. "Radioactive Waste Management – UK National Consensus Conference, 21-24 May 1999, Citizen's Panel Report". UK CEED. See <http://www.ukceed.co.uk>.