



Department
of Energy &
Climate Change

Call for Evidence

Managing Radioactive Waste Safely: Review of the Siting Process for a Geological Disposal Facility

Response form

13 May 2013

Call for Evidence

Please use this form to answer questions on the Call for Evidence on Managing Radioactive Waste Safely: Review of the Siting Process for a Geological Disposal Facility.

The closing date for the submission of responses is **10 June 2013**.

Responses can be returned by email (preferable) or post.

Email address: radioactivewaste@decc.gsi.gov.uk

Or by post to: The Managing Radioactive Waste Safely team
Department of Energy and Climate Change
55 Whitehall
London
SW1A 2EY

In order to help us analyse responses, please provide details of your organisation.

When the call for evidence ends, we may publish or make public the evidence submitted. Also, members of the public may ask for a copy of responses under freedom of information legislation.

If you do not want your response - including your name, contact details and any other personal information – to be publicly available, please say so clearly in writing when you send your response to the call for evidence. Please note, if your computer automatically includes a confidentiality disclaimer, that will not count as a confidentiality request.

Please explain why you need to keep details confidential. We will take your reasons into account if someone asks for this information under freedom of information legislation. But, because of the law, we cannot promise that we will always be able to keep those details confidential.

The responses to this Call for Evidence will inform a public consultation that will follow in the autumn.

We would like to keep stakeholders who are interested in the MRWS process up to date on developments. If you would like to be kept up to date please sign up at the end of the form.

Introduction

1. The UK Government's policy for the long-term management of higher-activity radioactive waste is geological disposal¹. In 2008 the Managing Radioactive Waste Safely (MRWS) White Paper² was published which outlined a framework for implementing geological disposal based on the principles of voluntarism and partnership.
2. Three local authorities formally expressed an interest in the MRWS programme: Copeland and Allerdale Borough Councils, and Cumbria County Council. In January 2013, the three local authorities voted on whether to proceed to stage 4 of the process. The two boroughs voted in favour, but the county voted against. The Government had in 2011 given a specific undertaking that the existing site-selection process would only continue in west Cumbria if there was agreement at both borough and county level. The county's decision therefore ended the existing site selection process in west Cumbria.
3. Shepway District Council in Kent had also taken soundings from local residents, but subsequently decided against making a formal expression of interest in the current MRWS process.
4. The Government remains firmly committed to geological disposal as the right policy for the long-term safe and secure management of higher-activity radioactive waste. The Government also continues to hold the view that the best means of selecting a site for a geological disposal facility (GDF) is an approach based on voluntarism and partnership.
5. Evidence from abroad shows that this approach can work, with similar waste disposal programmes based on these key principles making good progress in countries like Canada, Finland, France and Sweden.
6. The fact that two local authorities in west Cumbria voted in favour of continuing the search for a potential site for a GDF demonstrates that communities recognise the substantial benefits that are associated with hosting such a facility – both in terms of job creation and the wider benefits associated with its development.

Purpose of the call for evidence

7. In line with the Secretary of State's written Ministerial statement of 31 January 2013³, Government has been considering what lessons can be learned from the experiences of the MRWS programme in west Cumbria and elsewhere. We are now inviting views on the

¹ Radioactive waste disposal is a devolved matter. The Scottish Government has a separate policy and supports long-term interim storage and an on-going programme of research and development. The Welsh Government has reserved its position on geological disposal of radioactive waste while continuing to play an active part in the MRWS process. The Department of the Environment in Northern Ireland supports the MRWS programme.

² Managing Radioactive Waste Safely: A Framework for Implementing Geological Disposal
<https://www.gov.uk/government/publications/managing-radioactive-waste-safely-a-framework-for-implementing-geological-disposal>

³ See <https://www.gov.uk/government/speeches/written-ministerial-statement-by-edward-davey-on-the-management-of-radioactive-waste>

site selection aspects of the ongoing MRWS programme in this call for evidence, particularly from those who have been engaged in (or have been interested observers of) the MRWS process to date. The responses to this call for evidence will inform a consultation that will follow later in the year.

Background

8. Higher-activity radioactive wastes are produced as a result of the generation of electricity in nuclear power stations, from the associated production and processing of the nuclear fuel, from the use of radioactive materials in industry, medicine and research, and from military nuclear programmes.
9. As one of the pioneers of nuclear technology, the UK has accumulated a substantial legacy of higher activity radioactive materials. Some of it has already been processed and placed in safe and secure interim storage on nuclear sites. However, most will only become waste over the next century or so as existing facilities reach the end of their lifetime and are decommissioned and cleaned up safely and securely.
10. These higher-activity wastes can remain radioactive, and thus potentially harmful, for hundreds of thousands of years. Modern, safe and secure interim storage can contain all this material – but this method of storage requires on-going human intervention to monitor the material and to ensure that it does not pose any risk to human or environmental health. While the Government believes that safe and secure interim storage is an effective method of managing waste in the short to medium term, the Government is committed to delivering a permanent disposal solution.
11. In October 2006, following recommendations made by the independent Committee on Radioactive Waste Management, the Government announced its policy of geological disposal, preceded by safe and secure interim storage. The Government subsequently announced that it would pursue a policy of geological disposal with site selection on voluntarism and partnership. This remains Government policy.

Geological disposal

12. Geological disposal involves isolating radioactive waste in an engineered facility deep inside a suitable rock formation to ensure that no harmful quantities of radioactivity ever reach the surface environment. It is a multi-barrier approach, based on placing packaged wastes in engineered tunnels at a depth of between 200 and 1000m underground, protected from disruption by man-made or natural events.
13. Geological disposal is internationally recognised as the preferred approach for the long-term management of higher-activity radioactive waste. It provides a long-term, safe solution to radioactive waste management that does not depend on on-going human intervention.

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Or by post to: The Managing Radioactive Waste Safely team
Department of Energy and Climate Change
Room M07
55 Whitehall
London
SW1A 2EY

Name	REDACTEDREDACTED
Organisation / Company	Eden Nuclear and Environment Ltd.
Organisation Size (no. of employees)	REDACTED
Organisation Type	REDACTEDREDACTED
Job Title	REDACTEDREDACTED
Department	N/A
Address	REDACTEDREDACTEDREDATCEDRE DACTEDREDACTEDREDACTEDREDA CTEDREDACTETDREDACTEDREDAC TEDREDACTEDREDACTEDREDACTE
Email	REDACTEDREDACTED
Telephone	REDACTEDREDACTED
Fax	REDACTEDREDACTED

Would you like to be kept informed of developments with the MRWS programme?	Yes
Would you like your response to be kept confidential? If yes please give a reason	No

The Government is interested in your views on the geological disposal facility site selection process outlined in the 2008 Managing Radioactive Waste Safely (MRWS) White Paper. To assist us you may wish to consider the following issues in your response:

- What aspects of the site selection process in the MRWS White Paper do you think could be improved and how?
- What do you think could be done to attract communities into the MRWS site selection process?
- What information do you think would help communities engage with the MRWS site selection process?

This submission is from Eden Nuclear and Environment Ltd. (Eden NE). To provide background, it is noted that the principal author, REDACTED, is:

- currently a member of REDACTEDREDACTEDREDACTEDREDACTED;
- a former manager of the REDACTEDREDACTEDREDACTEDREDACTEDREDACTED and a contributor to the development of REDACTEDREDACTEDREDACTEDREDACTED
- a

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Eden NE has many UK and overseas clients engaged in radioactive waste management and disposal. Noting these interests, it should be clear that all the views expressed herein are solely the views of Eden NE and not those of any other organisation.

We consider that the following developments are appropriate:

1. In our view, it is strongly in the national interest for a geological repository for radioactive waste to be developed from both the point of view of environmental protection and controlling the cost of the management of the UK's nuclear liabilities.

A key observation is that the environmental risks and hazards associated with storing waste on operating sites are higher than those associated with deep disposal. Surface stores are vulnerable to accidents, terrorism, and a potential future lack of sufficient resources for adequate maintenance. Once wastes are emplaced and the repository sealed, it would not be similarly vulnerable. It is difficult to see how large doses or widespread contamination would occur from deep disposal at a satisfactory site with a well-established safety case, apart from inadvertent human intrusion following the loss of records (which must be assumed as a basis for any repository safety case). If human intrusion into abandoned surface stores were to be considered, this would result in consequences that would be unacceptably high, far higher than could arise in the case of a geological repository.

As CoRWM noted in their 2006 report, the solution should be robust interim storage followed by disposal. If the period of interim storage is too long or uncertain, this results in additional cost as wastes must be packaged for an indeterminate period of interim storage and stores must be constructed and maintained. Delay also passes the responsibility for implementing a solution to the wastes created by current generations to future generations. Discounting of costs may suggest that delayed solutions are favoured, but if discounted costs were to be a

basis for decision making, a satisfactory environmental solution may never be achieved.

Given the importance of a deep repository, it is important that the process is taken forward in a dynamic way. The process should not be designed for failure in terms of creating too many hurdles or opportunities to fail. At the same time, the process should be designed, in accordance with government policy, so that agreement with and the confidence of the local community are obtained. One step that might reduce the chance of failure is to identify a single organisation whose agreement is sought (rather than seeking agreement at two tiers, as in Cumbria).

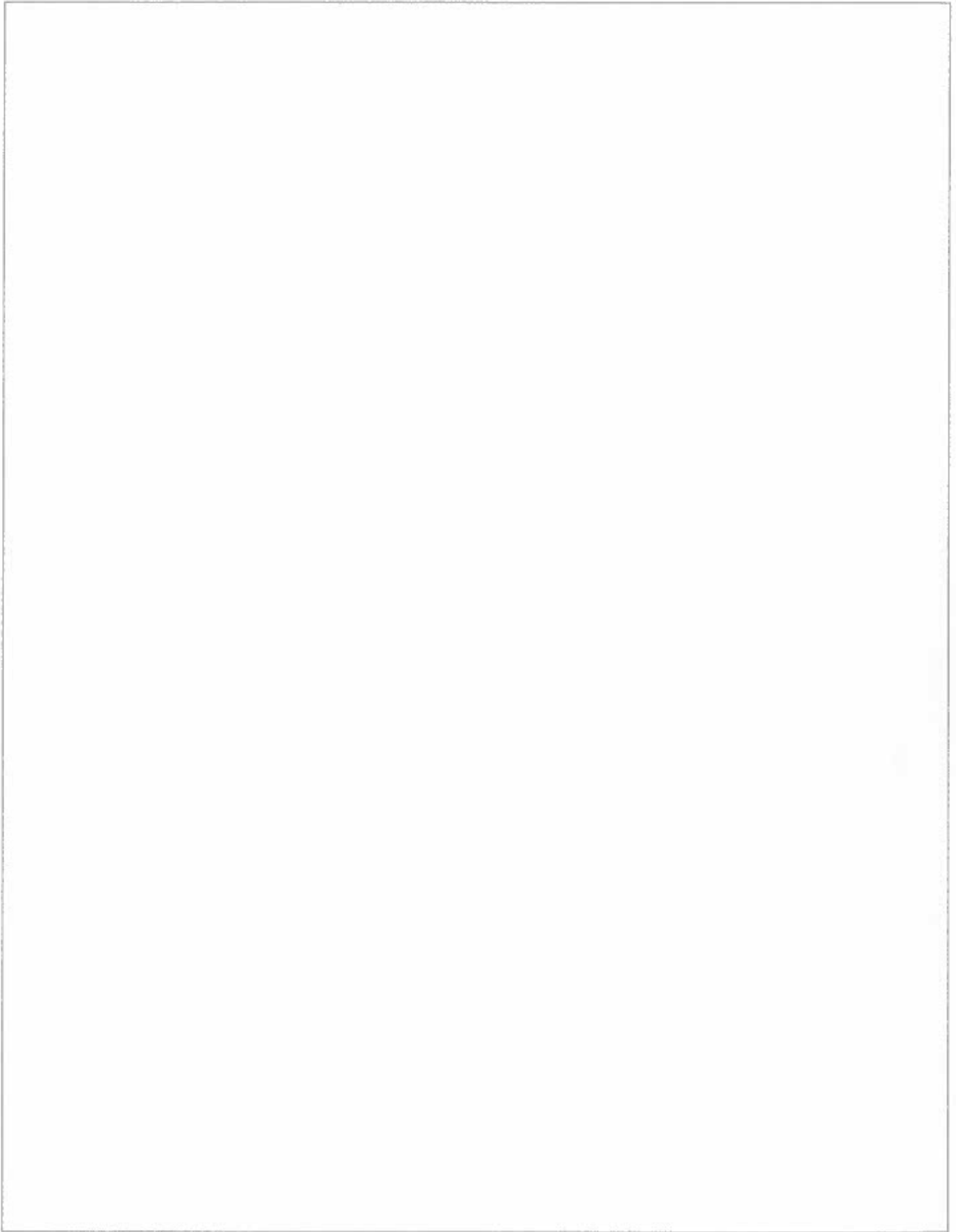
2. A more definite approach should be taken to specifying and guaranteeing a benefits package for the local community. This was identified by Cumbria County Council as one of the reasons for not proceeding with MRWS Stage 4. The costs of such a benefits package may be small compared to the long-term savings that would result from the availability of a repository and consequent more effective management of the UK's nuclear liabilities.
3. Government policy is that geological disposal is the way that higher activity radioactivity waste will be managed in the long term. This policy needs more effective advocacy. In part, this should be in general terms - i.e. geological disposal provides for better environmental protection than indefinite interim storage. Consideration should also be given to arguments around the potential for a geological disposal facility within any siting area. The views of those who thought that deep disposal in Cumbria was not an appropriate solution were prominent in the recent process, whereas there was relatively little prominence to contrary views. As part of any new framework, the government should ensure that individuals or organisations, with appropriate technical competencies, are given an appropriate remit to speak proactively on proposals and alternatives. Such an objective could be promoted by co-operation between the Government and NDA's Radioactive Waste Management Directorate. Government should recognise that any project that involves a local community taking responsibility for the nation's problems will require more extensive engagement than was the case in Cumbria.
4. More effort should be devoted to ensuring that appropriate independent advice is available to any community that might volunteer. This needs to be authoritative in terms of a technical understanding of the issues (e.g. of repository safety cases) and to be from organisations that are trusted. Such organisations could include the regulators, learned societies or government advisory committees such as CoRWM. It is suggested that ways should be sought to involve representatives of such organisations more extensively in any future discussions with a siting partnership. It is emphasised that discussions need to be transparent, open and even-handed to build trust and understanding.
5. The present approach involving volunteering and screening with some very coarse unsuitability criteria is not a good approach, noting that we think a good geological environment is an important component of a good safety case and achieving confidence in that safety case. The current approach could lead to investigations proceeding in part of the country that offers relatively little promise. The ultimate chance of success would increase if areas of the country could be selected for investigation prior to any region coming forward, taking account of a full range of issues (technical and social). The local community and local politicians could then be approached. Government and the NDA should take a more proactive lead in identifying the most suitable areas and engaging with community representatives. Technical aspects of the process would require some thought in terms of appropriate selection

criteria that could cover a range of acceptable sites in different geological environments. Among such sites would certainly be the clays in SE England for which, in our view, it would be easier to demonstrate a safety case than might be the case for fractured basement rocks.

6. It is important that progress is demonstrated and confidence is built that geological disposal can be safely achieved. It may be appropriate, therefore, to consider disposal solutions that may apply only to certain components of the inventory. For example, modular disposal solutions could be considered for inventories from particular sites or a repository in a particular host rock might only be suitable for the disposal of a relatively small inventory. Active consideration could be given to the possibility of such limited solutions as a confidence building measure that might lead to the development of a larger facility (presumably at another site). The Norwegian tunnel repository for NORM (Stangeneset LSA scale repository) is an example of a limited-inventory repository. It is also worth noting that there is an existing precedent for deep geological disposal in the UK in terms of the Minosus project for the disposal of hazardous wastes.

7. At present there is a fairly rigid division within the MRWS process into Stage 4 with desk-based assessments and Stage 5 during which surface-based investigations proceed. This division is too rigid given that desk based assessments may have to proceed with very little data if those data do not already exist. There should be sufficient flexibility in our view for RWMD to design an appropriate programme of work, which should include early surface-based investigations if these are part of an optimal programme.

8. Aspects of the current process were quite adversarial. This may sometimes be inevitable. However, consideration could be given to approaches that would allow a more even-handed and co-operative approach to evaluating technical information. This might include a technical role in any investigations or data analysis for appropriate experts drawn from different organisations and backgrounds. This would need to be organised effectively so that it would work in practice.



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