



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.

Response form

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Department of Energy and Climate Change
Room M07
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Name	REDACTEDREDACTEDREDACTEDRE
Organisation / Company	Sussex Energy Group at SPRU, University of Sussex
Organisation Size (no. of employees)	REDACTEDREDACTEDREDACTEDRE DACTEDREDACTEDREDACTEDREDA CTEDREDACTEDREDACTEDREDACT
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Would you like to be kept informed of developments with the MRWS programme?	Yes
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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 response was prepared by REDACTEDREDACTEDREDACTEDREDACTED of the Sussex Energy Group based at SPRU at the University of Sussex. The Sussex Energy Group undertakes academically rigorous, inter-disciplinary research that engages with policy-makers and practitioners. The aim of our research is to identify ways of achieving the transition to sustainable, low carbon energy systems whilst addressing other important policy objectives such as energy security.

What aspects of the site selection process in the MRWS White Paper do you think could be improved and how?

Since the failure to acquire planning permission for a Rock Characterisation Facility at Sellafield in 1997, relatively little geological research specific to radioactive waste disposal has been carried out in the UK (CoRWM 2009). Arguably, an optimal site selection process would identify areas with favourable geological characteristics before inviting communities to volunteer. The process would involve collaborations between geologists and those with expert knowledge of geological disposal to determine specific geological containment criteria, followed by a nationwide programme to identify areas with geological characteristics that match those criteria. This would help to inspire confidence in communities that their specific geology is appropriate for a repository, and not merely acceptable to government and regulators as being 'good enough' once the community has volunteered.

This process would combine elements of previous approaches to site selection in the UK (see Folger 1995) - which attempted first to identify geologically favourable locations with particularly good containment potential - with the prevailing approach, which emphasises partnerships with and voluntary participation by local communities. We consider both elements to be a necessary part of a successful process. Experience in other countries (such as with the Gorleben plans in Germany) shows that attempts at 'forcing' communities to host such facilities have been unsuccessful and divisive.

What do you think could be done to attract communities into the MRWS site selection

process?

One way to increase confidence in the process both among experts and the wider public is to ensure that an independent body is established to provide its own analysis alongside the Nuclear Decommissioning Authority.

This extra-governmental body would conduct research on geological disposal concepts (e.g. the properties of man-made barriers and their interaction with natural barriers), and undertake its own in-depth geological analysis of any areas that volunteer. The independent status of this body would promote greater public trust in its findings. Indeed, CoRWM has argued for the establishment of such a body (CoRWM 2009) and may be well placed to nominate suitable individuals to serve as members. A key task of such a body would be to ensure that the geological, technical, socio-economic, political and ethical aspects of radioactive waste management would be examined from a diverse range of perspectives. This would entail making available the technical and financial resources necessary to ensure that management options currently in minority can be examined and presented on an equal footing alongside those that presently enjoy broad consensus and institutional support.

Providing support for such 'counter-expertise' is also likely to represent an effective way of assuring the public and other stakeholders that radioactive waste disposal issues are being adequately scrutinised by multiple institutions. Trust in institutions is a key factor in determining the acceptability of any solution found as recent research on carbon capture and storage suggests (Huits et al 2007; Terwel et al 2009a,b). Since the government and the nuclear industry are generally less trusted than NGO's or independent academics, it is important that such a body has representation from such groups. An international example of such an approach is the creation of Sweden's *Miljöorganisationernas kärnavfallsgranskning* (MKG), a non-governmental organisation funded by the country's Nuclear Waste Fund. This body aims to appraise "the Swedish nuclear industry's nuclear waste project as it relates to public health and the environment", and advances "various alternative options for nuclear waste management with a focus on long-term environmental safety and the welfare of future generations" (MKG, 2011). Experience from the work of the local citizens' information and monitoring group (CLIS – Le Comité Local d'Information et de Suivi du Laboratoire de Bure) in France could likewise provide insights into ways of ensuring such a counter-expertise function exists.

In a statement on its decision to withdraw from the process before Stage 4, Cumbria Council cited the government's failure to statutorily guarantee its right to withdraw at subsequent stages as an important reason for this decision (Cumbria County Council 2013). However, the site selection process outlined in *Managing Radioactive Waste Safely* (2008) allows for withdrawal at these later stages. As such, enshrining the right of withdrawal in a statute would confirm beyond doubt that volunteer communities have the option to withdraw should they decide to do so at later stages in the process.

An additional measure that could help to encourage communities to participate would be to legally incorporate 'reversibility' into the process, as has been done in France (Planning Act 2006). This relates not only to the possibility of retrieving waste packages, but also to the decision-making process itself: the disposal solution should be such that it allows a return, at any moment, to the previous stage in the decision-making process. As an adjunct to enshrining the right to withdrawal, this approach would promote confidence among volunteer communities that they are not bound to continue with the process. Moreover, such reversibility of the decision-making is designed to foster flexibility, adaptability and continuous learning in the face

of the irreducible uncertainties involved in radioactive waste management governance.

What information do you think would help communities engage with the MRWS site selection process?

Information on the socio-economic benefits that a host community will receive should be produced through participatory, deliberative scenario building and assessment processes which could be facilitated by the independent body suggested above. These processes should involve a comparison between qualitatively contrasting and jointly elaborated scenarios for the future of the relevant communities, including scenarios with and without the project. The impacts of these various scenarios should likewise be assessed collaboratively and openly, in order to ensure the quality, credibility and legitimacy of the assessment. The process should also include a comprehensive and open examination of the inevitable uncertainties concerning these impacts. Independent appraisals of the socio-economic impacts would be particularly important in order to minimise the risk of 'backfiring' that inflated promises concerning the alleged socio-economic benefits (job creation, economic growth, etc.) could generate. Without a reliable and diverse evidence-base in the form of ex ante assessments and scenarios, such promises are most likely to be used strategically in order to gain the acceptance of the local communities for the project. Once revealed, such failed promises might threaten the success of the project, and would certainly further undermine public trust in the governance of science and technology. In the same vein of ensuring trust, consideration should be given to how to provide assurance that, once agreed, any community benefit packages offered will be delivered. Providing information on how these packages will be developed, how communities will be able to participate in their development and what might be included may encourage other communities to express an interest (CoRWM 2009).

Finally, while the total cost of radioactive waste management options and the distribution of costs across society may currently not be among the key concerns of citizens, their importance is likely to increase as the project advances towards implementation. The same principles of diversity of perspectives, and the need to ensure the credibility and legitimacy of assessments evoked above in relation to benefit packages and socio-economic impacts apply here. Cost appraisal should pay particular attention to questions of intra- and intergenerational equity; the great uncertainties stemming notably from the extremely long temporal scales involved; and the tensions between the objectives of safety and cost minimisation. Again, postponing the assessment of complex, controversial and politically sensitive issues of costs into the future would risk undermining the very trust upon which the long-term viability of any waste management solution crucially depends.

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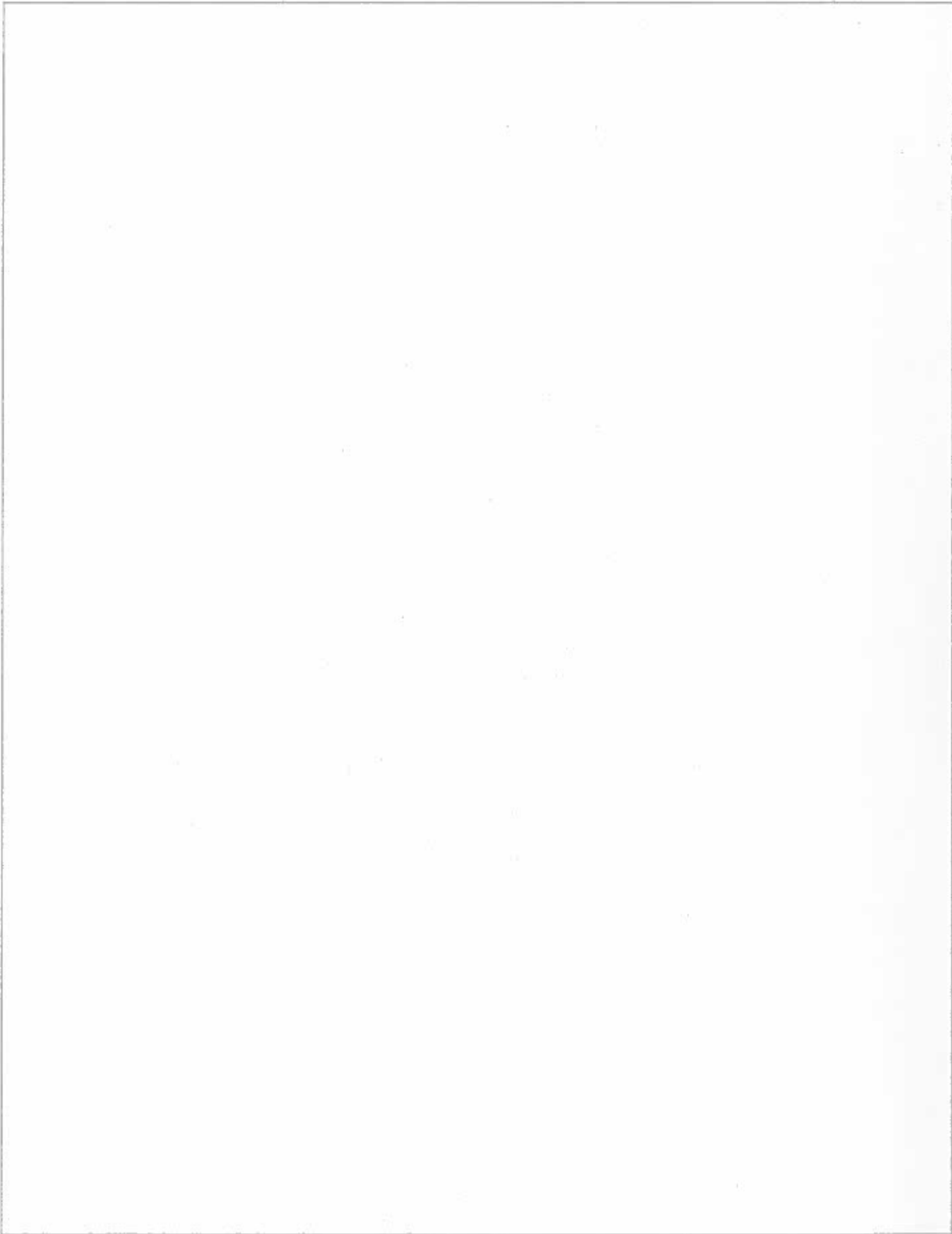
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