

# Nuclear Information Service

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## **Review of the Siting Process for a Geological Disposal Facility**

### **Response to consultation from Nuclear Information Service**

Nuclear Information Service (NIS) is a not-for-profit, independent information service which works to promote public awareness and debate on nuclear weapons and related safety and environmental issues, including radioactive waste management (see <http://nuclearinfo.org> for more information). Our research work is supported by funding from the Joseph Rowntree Charitable Trust. This document represents our response to the September 2013 consultation by the Department of Energy and Climate Change (DECC) and other government bodies on 'Review of the Siting Process for a Geological Disposal Facility'.

### **Introduction: key issues underpinning the consultation**

The current government consultation on a review of the siting process for a geological disposal facility (GDF) is the result of the failure of previous attempts to secure the decisions necessary to allow construction of a GDF for disposal of radioactive waste in West Cumbria. We have no doubt that the intention of the consultation is to enable government to achieve the decisions necessary to allow the construction of a GDF as quickly as possible in support of policy to build a new generation of nuclear power stations, rather than take a considered approach to radioactive waste management issues.

The consultation seeks to side-step the outcome of the previous 'Managing Radioactive Waste Safely' (MRWS) programme and replace it with a much less voluntarist, democratic and participative approach that has been engineered to guarantee that construction of a GDF in the specific location of West Cumbria goes ahead. In our view, therefore, the consultation is unwelcome and unnecessary and should be abandoned in favour of addressing more pressing priorities relating to the management of radioactive waste, in particular development of a strategy for safe medium and long-term storage of such wastes.

### ***Purpose and scope of the consultation***

The scope of this consultation is far too narrow, focusing solely on proposals to develop a GDF rather than broader issues relating to managing radioactive wastes safely. The purpose of the consultation is to develop a process which can be expected to succeed in finding a site for the location of a GDF. It is designed to change the rules and clear away the obstacles that forestalled the previous attempt to identify a location for a GDF in West Cumbria and to help enable the government's nuclear new build programme to go ahead.

The UK lacks any strategy for the safe storage of radioactive wastes in the short and medium term period before wastes could be transferred to any GDF. Broad consultation and

agreement on the immediate priority of waste storage is necessary as a first step before less pressing issues relating to the GDF are resolved. Ongoing management of legacy wastes, especially at Sellafield, and managing existing and future legacy wastes at a number of scattered sites are a more urgent concern.

The consultation pays little attention to siting strategies for interim storage and no attention at all to the problem of dealing with wastes in the event of a repository being delayed or no suitable site being found. The Committee on Radioactive Waste Management (CoRWM) has pointed out that there are uncertainties surrounding the implementation of geological disposal, given that it is an unproven technological approach, and so there needs to be a focus on the safe and secure management of wastes in robust interim stores, not just for the period while we await the opening of a GDF, but also because of a risk of delay or failure in the repository programme. Storage is not an alternative method of management but a complementary and integral part of the whole management strategy. New build will raise new challenges for long term storage, not least of which is finding appropriate and secure locations for spent fuel stores into the far future.

DECC should therefore focus resources on developing an integrated radioactive waste management strategy for the UK, including research into the long-term safety of both interim storage and geological disposal, which goes beyond the single narrow goal of establishing a GDF in West Cumbria.

### ***Openness and transparency***

CoRWM recommended that, in order to give the public and other stakeholders confidence in programmes for managing radioactive waste, decisions are made with a high level of engagement, openness and transparency. One of the reasons that the previous MRWS consultation failed was that the government did not heed CoRWM's recommendations in this and other respects.

Unfortunately, few lessons appeared to have been learnt and the proposals set out in this new consultation document represent a step backwards, rather than forwards, in terms of openness and transparency and stakeholder engagement. The proposals would represent a step back towards centralised control, paying lip service to voluntarism, which can be expected to be counter-productive in engendering trust and obtaining acceptance for GDF siting proposals.

### ***Geological requirements***

The current consultation process is not intended to search for a GDF site which has the geological characteristics best suited to achieve maximum containment of radionuclides. Questions over geology have been an ongoing issue over many years relating to proposals for geological disposal in West Cumbria, resulting in NIREX's abandonment of proposals to build a rock characterisation facility in the area and more recently being a key factor in Cumbria County Council's decision to withdraw from the previous MWRS process.

Paragraph 3.9 of the consultation document states that “there is no ‘best’ or ‘most suitable’ generic type of geology” and that “engineered elements can be tailored” to meet the requirements of different geologies. We fundamentally disagree with this view, which is at odds with the position taken in the past by government agencies responsible for radioactive waste disposal such as NIREX. Given the uncertainties and the extremely long-term nature of geological disposal, it is important that a site is chosen which has the most suitable geology and that best engineering practice is used to provide further safeguards. In our view, a geologically suitable location must be the first prerequisite for any GDF site, with

community acceptance and volunteerism issues coming into play only for potential sites which meet geological acceptance criteria.

### ***New nuclear build***

The government's proposal to build a new generation of nuclear power stations is a major barrier to progress in long-term management of radioactive wastes. The government appears determined to include new build wastes in the inventory for a GDF. This raises issues and uncertainties (technological, volumes, time-scales, storage etc) which make finding a potential site much more complex and difficult. CoRWM explicitly stated that its recommendations on dealing with legacy wastes did not apply to wastes from new nuclear build, to which a wholly different set of technical and ethical issues apply. New build should be removed from the current process and not included in the search for a long-term radioactive waste management solution, which must be confined to legacy wastes.

### **Responses to consultation questions**

**Question 1: Do you agree that a test of public support should be taken before the representative authority loses the Right of Withdrawal? If so, what do you think would be the most appropriate means of testing public support, and when should it take place? If you do not agree with the need for such a test, please explain why.**

We have a number of concerns with the decision making arrangements proposed in the consultation document. Firstly and most importantly, it must be recognised that community interests are not represented by one single body. A range of bodies - local government, private sector, and voluntary sector – as well as individuals such as members of parliament, elected councillors, and religious leaders, have legitimate claims to represent community interests. Any fair and representative decision making arrangements must recognise a broad range of stakeholders and take account of their views.

It is appropriate that the 'representative authority' should be an elected body and the full Council of a Unitary Authority would be the appropriate body in cases where there are single tier arrangements for local government at a potential GDF location. However, the seems to be flawed logic in selecting the District or Borough Council as the representative authority in cases where dual tier arrangements are in place. Assuming that the subsidiarity principle applies, parish or town councils are closest to their local communities, and in terms of statutory duties, County Councils have responsibility for waste management strategy and, as larger organisations, are more likely to have specialist resources for dealing with policy in this area. To give a parallel example, would the government delegate strategic decisions on a major new development in London to a London Borough at the lower tier, rather than the Mayor of London who has specific responsibilities for strategic planning? The proposal to establish the District or Borough Council as the representative authority appears to have been adopted with regards to the particular circumstances in West Cumbria, given the experience of the previous MRWS process, with the aim of securing a decision to give the go-ahead for a GDF without obstruction by Cumbria County Council.

The views of local government bodies at all tiers should have weight in coming to a decision on whether a community should volunteer to host a GDF. However, at the end of the day, for a major decision of this nature with immense long-term implications for the community, the 'test of public support' should be a local referendum open to all on the electoral register. The

referendum should go ahead within the Unitary Authority / County Council constituency, having regard that impacts could be expected to be wider than merely within a District or Borough. Given the need to avoid a marginal vote in favour of or against the proposal, an overall majority of those on the electoral register (rather than of voters) should be in favour if the proposal to host a GDF is to be adopted. In the run-up to the vote objective information from independent sources (for example, academic rather than government or industry sources) should be available to voters to enable an informed decision to be made. Demonstration of community support should be sought at various intervals throughout the process in order to provide a frequent test of community views, ideally to inform key decisions.

The consultation proposes establishing a Steering Group to oversee the project if a community decides to volunteer to host a GDF. We consider that the proposed membership of the steering group is too narrow to gain acceptance as representative of broader community interests, and is loaded in favour of government and industry interests. Under the proposed arrangements important decisions could be made by the representative authority, NDA, and government with very little support from an uninformed community.

Instead, we support the partnership approach which was proposed in the previous MRWS arrangements, with decisions taken by a specially constituted, independent partnership which should be as representative as possible, including representation from non-government and community organisations. The partnership should be responsible for governing the project, undertaking engagement work, monitoring community support, and have the authority for making hold-point decisions when proceeding through a staged process or, if necessary, withdrawing from the process. Funding should be provided to allow the partnership to obtain independent and impartial scientific information rather than being forced to rely on advice given by those working to support the development. The representative authority would be represented on the partnership and expected to endorse its recommendations. This is in contrast to proposals in the consultation document, which proposes a Consultative Partnership with no governance authority, a vague purpose, and membership selected by the representative authority.

In conclusion, we note that under the proposed new arrangements the concepts of 'volunteerism' and participation by local communities appears to have disappeared and been replaced by decision-making by a single local government body in collaboration with central government and the nuclear industry. The rights of host communities appear to have been sidelined and their opportunities for participating directly in decision-making removed.

The government's role in the revised process allows it to actively encourage councils to volunteer; to decide who is able to volunteer; and to select between volunteering authorities and decide who succeeds in becoming the host authority. This, too, serves to dilute the concept of volunteerism. To help ensure that government involvement in the 'volunteer' process remains objective, an independent body should be established to have oversight of the process and provide advice on matters such as identifying and selecting volunteers.

**Question 2: Do you agree with the proposed amendments to decision making within the MRWS siting process? If not, how would you modify the proposed phased approach, or, alternatively, what different approach would you propose? Please explain your reasoning.**

The new process is scheduled to begin with a national public awareness and engagement programme. This would be a useful start which might help encourage communities in areas

other than Cumbria to consider volunteering to host a GDF. However, the awareness programme will need to be effective at explaining the implications of hosting the GDF and various technical matters, such as the scale of the facility, long term impacts, transport impacts, and uncertainties and risks, including those that cannot be resolved in the short term.

The consultation paper suggests a loose, continuous process of decision making by the project steering group, rather than a phased approach with defined 'hold points' at which key decisions are explicitly required. The proposed process has a 'learning' and a 'focus' phase with no prescribed decision points. Although this adds an element of flexibility, it may mean that important decisions are made implicitly rather than consciously, leading to a state of 'lock in' where communities feel the process is inevitably proceeding towards a fait accompli with no opportunities to take stock of or escape from the process. In our view, clear decision points make for sharper debate, clarification and give an endorsement to proceed, and are preferable to the proposed continuous process.

Radioactive waste management is a controversial and emotive topic and also an area of huge scientific uncertainty. Public awareness programmes are in danger of being seen as propaganda campaigns if information is provided from government, industry, or partisan sources. Any public awareness programme must be conducted by a reputable independent body and should be carried out on the basis that all sides of the debate are represented fairly with equal resources. Information should present alternative viewpoints and arguments and be derived from credible expertise.

**Question 3: Do you agree with this approach to revising roles in the siting process set out in the White Paper? If not, what alternative approach would you propose and why?**

The consultation document infers that the government is keen to explore options for more effective engagement with non-government organisations and notes that NGOs can provide constructive challenge, leading to more effective policy and delivery. However, successful outcomes in this respect will depend on government being willing to listen to NGOs and not pursuing policy on grounds of dogma. It will also require the government to provide opportunities for non-government organisations, alongside local community members and other stakeholders, to have opportunities to be involved in decision-making as part of the GDF siting engagement process, rather than be relegated to discussion in off-line 'consultative groups'. Key principles here are a willingness for the government to explore options and listen to a diversity of views, and be willing to seek and follow independent expert advice.

**Question 4: Do you agree with this proposed approach to assessing geological suitability as part of the MRWS siting process? If not, what alternative approach would you propose and why?**

We do not agree with the government's view that "there is no 'best' or 'most suitable' generic type of geology" and that "engineered elements can be tailored" to meet the requirements of different geologies. A geologically suitable location must be the first prerequisite for any GDF site, with community acceptance and volunteerism issues coming into play only for potential sites which meet geological acceptance criteria. It is important that any site selected for a GDF is not merely "sufficiently good" but the best available within geological and volunteer constraints.

We are inclined to take the view that the fractured and fissured geology of West Cumbria would be a poor choice of location for a GDF, and that in preference there are parts of eastern England where a suitable repository site could be found, either in thick clay or in hard crystalline rock below flat sedimentary layers. Given the outcome of the 1997 NIREX public inquiry it will not be possible for the government to allay concerns that the geology of West Cumbria is not suitable for siting a GDF. A new search should take place for a site elsewhere which has excellent properties for containing nuclear waste into the far future.

It is uncertain how radioactive wastes will behave underground and not yet possible to accurately predict transport patterns or demonstrate with scientific credibility that radiation doses to humans from a GDF would remain at an acceptably low level into the far distant future. There are too many uncertainties about how packaged nuclear waste will behave underground to be able to predict whether waste buried in a GDF will remain stable over long periods of time.

Information supplied at the outset of the search process through the proposed national public awareness and engagement programme should indicate the present state of knowledge on whereabouts in the country potentially suitable geology might be found following a initial geological screening to rule out unsuitable areas from the outset. This would avoid wasting time and money in exploring unfeasible options, and we do not agree with the government's view that such an approach would over-simplify the process. Socio-economic, cultural and environmental criteria influencing choice of a GDF site should also be identified and applied to screen out other unsuitable areas (eg large urban areas, national parks, low-lying coasts).

More detailed geological information should be provided to potential volunteers explaining the uncertainties and risks associated with particular formations. Information must be impartial and presented in a way which identifies and defines uncertainties, rather than tries to persuade the reader towards a particular course of action.

One of the chief criticisms of the previous process concerned the nature, timing and quality of information provided to decision makers, stakeholders and public. It was felt that decisions were being hurried and taken on the basis of inadequate information.

During the 'learning phase' before a decision is made to select a site, more detailed geological research should take place, including if necessary research commissioned by the decision-making partnership to investigate matters of concern to local communities, for example on health risks, as well as programmes considered important by government and NDA. The aim of this research phase should not be to come to an "early judgement" on the suitability of a site, as stated in the consultation paper, but to explore and as far as possible resolve uncertainties. If research results prove positive, the next step should be a move to identifying specific sites within a local authority area where the rock formations are most suitable for siting a GDF.

There will undoubtedly be concerns about the quality, independence, and provenance of information provided to assist in decision-making on site selection. The source and status of research studies should be indicated and declarations of interest given by authors. Studies must meet accepted standards of peer review. The consultation suggests that an independent advisory body or reference group might be established to help ensure that information meets suitable standards, and we would support this principle.

**Question 5: Do you agree with this proposed approach to planning for the geological disposal facility? If not, what alternative approach would you propose and why?**

We do not agree with proposals to adopt the National Policy Statement procedure for the GDF as its consultation processes are inadequate and do not encourage participation and engagement in decision making. Likewise, the major Infrastructure Planning Process is too accelerated and focuses mainly on the developer, local authority, and government rather than encouraging public and stakeholder engagement in the decision making process. Siting a GDF will require a separate process along the voluntarist and partnership principles espoused by MRWS, allowing broad engagement and deliberative decision making.

Although the major planning inquiry process was seen by government to be slow and cumbersome, such an approach would demonstrate openly to the public that GDF planning issues had been dealt with properly and in a principled way and provide a final opportunity for public participation in the process. Questions relating to technical issues and community support should have been resolved during the MRWS process, meaning that the inquiry need not be particularly long and drawn out. A report from the inquiry inspector to the Secretary of State would allow the formal decision to construct a GDF to be made at a senior level within national government, as appropriate for a development of this significance.

**Question 6: Do you agree with this clarification of the inventory for geological disposal – and how this will be communicated with the volunteer host community? If not, what alternative approach would you propose and why?**

The consultation document identifies that the GDF will take wastes from new nuclear power stations built under the government's proposed new build programme and one of the purposes of the revised MRWS process is evidently to ensure that a site will be found to take new build wastes.

We argue that the GDF siting process should be restricted to legacy wastes, as originally envisaged by CoRWM, since new build raises other issues which should be the subject of a separate process and consultation.

CoRWM's view was that although there are significant uncertainties concerning the deep disposal of radioactive waste, for security and safety reasons this route should be taken to deal with the wastes we have already created. However, creating new radioactive wastes through a new build programme, which would add dramatically to the inventory, generates a range of grave new technical and ethical problems.

As part of the proposed national public awareness and engagement programme the government should publish separate baseline inventories showing the GDF inventory if waste from the proposed new build programme is included and if new build waste is not included.

Communities should be offered the opportunity to indicate whether they are willing to act as hosts for spent fuel wastes arising from new build, as well as current legacy wastes, and the government should explore how to develop a separate process which can examine the technical and ethical issues of managing waste from new build. The siting of stores for long term management of new build wastes should also be the subject to a separate open and deliberative volunteer process.

The purpose of publishing the inventory is to give potential communities the most complete possible picture of the inventory for disposal and give confidence that it will not expand materially over time. As well as providing the government's current estimate of materials which will be disposed of through the GDF, it would also be wise to provide best case (least

quantity of materials for disposal) and worst case (greatest quantity of materials for disposal) scenarios.

For this reason, in addition to the radioactive wastes listed in the consultation paper, we consider that the government would be prudent to provide for the contingency that current plutonium stocks (including the military plutonium stockpile) might eventually be classed as wastes and consigned to the GDF for disposal. This is because the government's preferred option of converting plutonium stocks to MOX fuel is at extremely immature stage of the programme and faces considerable technical and economic risks. The possibility that the option to convert plutonium into MOX eventually proves to be unviable should not be ruled out, and the option to dispose of plutonium stocks in the GDF should be retained as a contingency.

In due course a mechanism for updating the inventory should be established so that host communities remain aware of exactly what wastes will be placed in the GDF.

**Question 7: Do you endorse the proposed approach on community benefits associated with a GDF? If not, what alternative approach would you propose and why?**

We agree that it is essential to clarify the type and level of rewards that communities would receive from hosting a GDF. Funding rewards should be provided to host communities from the point at which they have finally agreed to host the repository and before work has started on building it, as well as indefinitely after the repository has opened.

It is essential that the bulk of the funding provided is genuinely under the control of local communities and is not simply provided as general funding to local authorities as a 'sweetener' for accepting the GDF (although additional funding should also be provided to local authorities as part of the reward package). A community trust fund should be established, under control of community representatives and independent from local authorities, and the trust should be able to decide what funds are spent on without strings from central government.

It is important that the community benefits package is seen to be a reward over and above other funding for the local area. In particular, there should be no perceived link between the funding and economic development strategies for the area. We are concerned that there appears to be a perception in some quarters that the economy of West Cumbria is inescapably linked to the future of the nuclear industry, and that development of a GDF is core to long term economic prosperity in the region. National policies on energy and on radioactive waste disposal should be based on national requirements and not be seen as economic development schemes for any particular area, and economic decline should not be used to coerce communities into reluctantly accepting a GDF as the only means of securing a future.

**Question 8: Do you agree with the proposed approach to addressing potential socio-economic and environmental effects that might come from hosting a GDF? If not, what alternative approach would you propose and why?**

Strategic environmental and socio-economic assessments for the GDF project should investigate a range of options for managing radioactive wastes and assess alternative possibilities to constructing a GDF. Socio-economic assessments should also set out a range of outline economic strategies for the area in question, each showing the impacts of hosting and not hosting a GDF.



Candidate communities which express an interest in hosting the GDF should be given, at an early stage in the process, an outline of the likely social and economic impacts arising from the programme and how the community is likely to change as a result of hosting the GDF.

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