

## **THE GEOLOGICAL SOCIETY OF LONDON**

### **RESPONSE TO DECC CALL FOR EVIDENCE: MANAGING RADIOACTIVE WASTE SAFELY (MRWS) SITING PROCESS**

1. The Geological Society is the UK's learned and professional body for geoscience, with more than 10,500 Fellows (members) worldwide. The Fellowship encompasses those working in industry, academia and government with a broad range of perspectives on policy-relevant science, and the Society is a leading communicator of this science to government bodies, those in education, and other non-specialist audiences.
2. The call for evidence is broad in scope. A wide variety of views has been expressed by various Fellows of the Geological Society regarding the use, planning and communication of geoscientific work in the existing MRWS siting process, and how these matters might be handled differently in future. As a result, this document does not represent a corporate 'Geological Society view'. Rather, it sets down some observations about our understanding of DECC and NDA's objectives and emerging plans for a revised siting process. It draws in particular on discussions which have been held over the last few months between Fellows and staff of the Geological Society, NDA staff and advisers, and DECC staff.
3. We understand that it is intended to provide more and better geoscience information at early stages in the siting process, to support understanding of geological disposal and informing communities' thinking about whether to enter and continue in the siting process. Fellows of the Society who have spoken with us about this matter strongly support this objective. We are pleased that careful attention is being paid not just to what information will be made available at each stage, but also to how it is to be communicated.
4. We understand that communities will be able to learn about the process and access relevant geoscience information during an informal learning stage, before signalling any intention to participate in the process. If done well, this could contribute significantly to communities' interest in moving ahead in the process. As we have pointed out in other consultations and discussion relating to MRWS, paying proper attention to geoscientific factors in decision-making about radioactive waste management, and to communicating the supporting science, should underpin public engagement, confidence building and voluntarism. Geoscience and public engagement should not be seen as competing factors to be 'traded off' against each other.

5. Provision of information about the regional geology of the UK in a form accessible to non-specialists in potential volunteer communities prior to their entering the process should help them to understand whether there are geological settings in their locale which may be suitable for a geological disposal facility (GDF). Given the range of potentially suitable geological settings, this may prompt communities which would not otherwise have considered entering the process to do so. We understand that it is intended to use the content of the BGS Regional Guides as the basis for this information, rewritten for a less geologically expert readership. This is a sensible approach. Careful attention will have to be paid to how best to communicate this content, both using text and images, and possibly other means such as audio-visual and interactive content.
6. We understand the rationale for the decision not to draw up and make public a map of areas of the UK which can be ruled out as the location of a GDF on geological grounds, or whose geology is thought to be more or less suitable. Maps are nonetheless a powerful means of conveying geoscience information more generally, at this and other stages in the process. NDA and others involved in geoscience communication in the MRWS process should not be unduly nervous of using maps (for instance, for fear of being perceived as overly prescriptive). There is also scope for innovative forms of visualisation and communication of geoscience information to be deployed, and NDA should seek to draw on a wide base of expertise in geoscience communication.
7. To complement information on the regional geology of the UK it is important that, from the outset, information is made publicly available in an accessible form on the functions that the geosphere will play in any GDF, the requirements this places on the geological setting, and the types of geological setting which can meet these requirements. It would also be valuable at this stage to acknowledge what is uncertain or unknown about the subsurface, and how it is intended sequentially to address this uncertainty as the siting process continues. Only by considering these types of information together can a local community develop an understanding of the prospect of there being suitable geological settings for a GDF in their area, and confidence in the geoscientific work which will underpin the siting process.
8. We understand that once any community enters the siting process, it is intended at an early stage to prepare a high-level report on the geology of the area (and another on socio-economic considerations). This is a welcome proposal. Fellows of the Society have expressed a variety of views on the suggestion that these geological reports be based on a BGS model to be constructed principally using existing fence diagrams and a limited set of 'golden spike' boreholes across the country. We would be pleased to provide further comment on this

proposal once we understand better the detail of how it is to be implemented. The challenge is to build as accurate and reliable a three-dimensional model as possible based on limited data. As is the case under the approach proposed, such a model may depend on other existing models – fence diagrams themselves being two-dimensional models/interpretations of data. It is important not to reify the fence diagrams or other meta-models – that is, inadvertently to invest in them a concrete reality that they do not have. They are useful only insofar as they contribute to the reliability and accuracy of the eventual three-dimensional model, and it should always be borne in mind that using an alternative methodology and different meta-models would lead to a different end result.

9. We are pleased that NDA Radioactive Waste Management Directorate is strengthening its in-house geoscience (and geoscience communication) capacity, and is giving careful thought to the staffing, internal skills and external expertise it will need to draw on as the process moves forward. This will be particularly important if NDA is to take on an explicit advocacy role both for geological disposal in general and for local communities' participation in the siting process.

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