



Committee on Radioactive Waste Management

**CoRWM Report: Progress Towards the
Delivery of an Operational GDF**

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Contents

Foreword	3
1 Introduction	4
2 Organisational Capability	4
3 Community Partnerships	4
4 Suitability of Sites	6
5 Policy and Regulation	6



Sir Nigel Thrift
Chair of CoRWM

Foreword

This is the second in a series of CoRWM Reports on the progress being made towards the delivery of an operational Geological Disposal Facility (GDF).

The aim is to set out how the GDF project is progressing from the Committee's perspective, as an independent arm's length body which has a wide range of expertise so that it can provide advice on public engagement, planning, regulation, and the many scientific and technical aspects of the project.

To be maximally useful, we have made this report – as with the previous one - short and to the point. We have concentrated mainly on areas where we think there are key challenges which merit further exploration and clarification.

This is in no way meant to take away from the areas where we have seen real progress towards a GDF. Rather it is to highlight certain facets of the project where issues and choices may exist and to provide a commentary on the degree to which these issues and choices may affect the achievement of the project's nationally important objectives.

1 Introduction

Nuclear Waste Services (NWS), a subsidiary of the Nuclear Decommissioning Authority, continues to develop its programme to deliver an operational GDF, with a planning assumption for the first emplacement date for radioactive waste scheduled for the period 2050-2060.

The programme implements the UK and Welsh Governments' Working with Communities Policies. These can be found in Appendices 1 and 2 in the UK Policy Framework for Managing Radioactive Substances and Nuclear Decommissioning.¹ The Policies require both community consent and a suitable site. NWS is currently undertaking work that will enable it to make decisions on which communities should progress to deep borehole characterisation. NWS decisions will be submitted to the Secretary of State for approval.

2 Organisational Capability

NWS continues to build the organisational capability necessary to meet the demands of the programme, for example, strengthening its programme management, permissioning and geological characterisation capabilities.

NWS has continued to strengthen its programme management capability. An interim Director with wide industry experience reshaped the structure to reflect modern methodology. A GDF Programme Director has since been appointed, new team members have relevant industrial background, and market soundings for

specialist skills has begun. This effort across the programme management disciplines puts NWS in a much better position to move forward quickly to the next phase of the programme. It also enables NWS to understand what technical judgements are needed on an opportunity and to mobilise the right resources; and has the potential to provide greater confidence in cost and schedule.

In contrast to the development of programme management and technical capability, CoRWM notes that social scientific and community engagement expertise are capabilities that NWS are taking longer to establish. CoRWM is pleased that NWS has responded to its advice on the need to build social science expertise. A Subject Matter Expert (SME) for Social Sciences has been appointed, new social science research has been initiated, and a social science strategy is being developed. CoRWM also notes the recent introduction of a management structure to co-ordinate activities across search areas, and to align with insights from international comparisons and from academic research through the RSO. Nevertheless, the need to demonstrate an *actively* willing community, remains a major challenge. CoRWM stresses the urgent need to further involve communities in co-creating their siting and engagement frameworks.

3 Community Partnerships

The formation of four Community Partnerships was a significant achievement in progress towards an operational GDF. NWS subsequently withdrew Allerdale from the

¹ <https://www.gov.uk/government/consultations/managing-radioactive-substances-and-nuclear-decommissioning>

working with communities process. CoRWM is of the view that bringing new communities into the process could, depending on the context, strengthen the programme, and could offer an alternative should the remaining partnerships not result in a feasible option either due to lack of community support or unsuitable geology.

The abrupt withdrawal of South Holderness from the GDF siting process demonstrates the importance of establishing the diverse positions, concerns and aspirations of key stakeholders, and of identifying and strengthening relationships with local champions from a very early stage.

CoRWM understands that there is the potential for the formation of at least one further Working Group and that lessons from Allerdale and from South Holderness are informing the process.

CoRWM acknowledges that NWS distinguishes the specific roles and responsibilities of its function as the GDF developer, from those of the Community Partnership. Among other things, the Partnerships are expected to review and refine the general search area, to build awareness and understanding of geological disposal and the siting process in the wider community, and to consider and recommend the bids for community investment. NWS has a key role to play as a member of the Community Partnership, and it is encouraging to see the efforts to recruit local people to the NWS community engagement teams. As the GDF developer NWS acts also as a source of information and expertise. Feedback from initial 'meet the expert' sessions on 'geology' indicates that these sessions can generate

very useful and engaged conversations. Future sessions will include 'safety' and the 'environment'. CoRWM suggests that NWS might also think about future 'meet the expert' sessions that acknowledge local expertise on issues such as community development, environmental change, and social histories.

CoRWM is aware of improvements to the way in which the costs of the Partnerships are recovered. We welcome the initiative to use honorarium payments to ensure that CP members can cover the costs of participation without having to make numerous small expense claims. CoRWM has also recommended investment in adequate local premises from which the community engagement teams can establish and normalise their presence in the general search areas and build trust with the wider population. Having a visible and accessible local presence is known to be a key factor in generating greater understanding and potential acceptance for such projects.

The Siting and Engagement teams are aware of the need to invest early and effectively in local community development if they are to establish and maintain the level of local support that will be required. The visioning process is key to this phase of the project, offering an opportunity to build awareness and support, and to build meaningful relationships between residents, local leaders, and the NWS siting teams. The potential benefits of an 'early win', a demonstration that the GDF process can address an issue of substantive concern, should not be underestimated. As NWS builds awareness of the technical work involved in delivering a GDF they also need to consider what it will take for a community to positively 'buy in' to a GDF. The visions that

will form the foundation of such calculations are very important for framing discussions with Government.

In this context, CoRWM notes that it will take time for the relationship between the NWS local team and the Community Partnership to form and build, and for practical incentives to evolve based on a maturing dialogue.

4 Suitability of Sites

As noted above, NWS has built its specialist technical capability to support the site characterisation workstream. This has enabled the production of the first Site Descriptive Models for use in feasibility studies by the Engineering and Safety Case teams. CoRWM consider this to be a robust process and recognises its importance in selecting sites for further evaluation.

NWS has also made progress in planning characterisation borehole drilling. CoRWM notes that NWS's plans indicate submission of the development consent order (DCO) application in 2027 or 2028 and to commence drilling in 2029 or 2030 in a selected community.

CoRWM also notes that this next phase of the programme will result in a significant increase in spend as NWS proceeds with preparations for borehole drilling (subject to the Government's spending review). The cost of borehole drilling is affected by the need for inshore drilling to obtain deep cored boreholes and then monitor them in the inshore environment. This is not a routine exploration activity and is expensive of time and resources. Its success will rely on NWS's ability to specify the work and on the

appointment of a Site Characterisation Delivery Partner with the requisite experience and capability.

Since CoRWM's previous report NWS has prepared potential GDF repository 'target zones' for both East and West coast settings. The target zones are all inshore with the West coast target area potentially 20km and certainly 15km from the onshore access point. This will present very significant technical and practical challenges for delivery of an operational GDF.

In the longer term, the geological site characterisation of the rock selected for a GDF will be of major significance in securing the necessary permits for construction and operation of the GDF. At the time of writing, the publication of revised Environment Agency Guidance on Requirements for Authorisation and Staged Permitting are anticipated. This guidance will set out requirements and expectations on the way in which staged permitting will lead to the need for an appropriate programme of underground investigation that will build confidence in the case for safe geological disposal.

5 Policy and Regulation

CoRWM remains agnostic regarding any preference for an onshore GDF – that is, one sited and accessed underground on the mainland as opposed to an inshore GDF – sited "offshore" beneath the seabed within the inshore area but accessed from facilities on land. There are potential advantages and disadvantages to both approaches and much depends on the specific locations being considered. These may relate to public

perception, both positive and negative, to engineering in terms of the relative ease or difficulty of undertaking surveys and constructing access, as well as the legal implications under both domestic and public international law. For example, an inshore GDF may well give rise to legal objections from other states or non-governmental organisations, which would not apply to an onshore facility.

From a regulatory perspective, it will be important when making in due course the application for a DCO for the GDF, to demonstrate that meaningful alternatives to the proposed GDF site have been considered. Very different impacts may result from the choice of an onshore or an inshore site. This would not only be in terms of construction and long-term monitoring costs, but also in terms of waste transport, environmental effects and upon different types of stakeholder. As a consequence, CoRWM believes that potential onshore as well as inshore options for locating a GDF could still be identified. CoRWM notes that it is not sufficient to identify a “preferred” site – the DCO process will require demonstration that alternative options have been considered and assessed carefully and the respective merits and detriments weighed.

The Planning Act 2008 currently designates two types of Nationally Significant Infrastructure Project (NSIP) which are relevant to the GDF process, namely Deep Boreholes (s. 30A(4) and (5)), and a GDF (s. 30A(6)). CoRWM has been following NWS’ comprehensive approach to site characterisation in preparation for deep borehole investigations with interest. As previously noted, deep borehole

investigations for the zone of interest for an inshore GDF present particular challenges, in terms of resourcing and operating suitable drilling equipment, and the associated cost of working in a marine environment. Similarly, preparation for obtaining the DCO for this work requires substantial attention to detail in order to submit a robust application for examination.

Finally, CoRWM has noted the ongoing programme of NWS work on transport considerations for the GDF. While industry experience in the safe and secure transport of radioactive waste and spent fuel is considerable, it is also clear that the materials, techniques, modes and interfaces within the overall transport system for the GDF are developing and will continue to change through time. Given that transport of radioactive waste and spent fuel (should it become waste) to a GDF is likely to be a significant and potentially controversial focus of public interest, CoRWM sees transport of radioactive materials as a dynamic and developing area for its consideration.

Feedback

We welcome feedback on the content, clarity and presentation of this CoRWM publication.

Please do not hesitate to contact us if you would like to provide feedback or if you would like further information about radioactive waste management issues.

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