



Department
of Energy &
Climate Change

Implementing Geological Disposal: Annual Report

April 2014 - March 2015

July 2015

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Introduction and background

Introduction

1. In its November 2010 response¹ to the House of Lords Science and Technology Select Committee's report 'Radioactive Waste Management: a Further Update'² (March 2010), the UK Government committed to producing an annual report to Parliament, setting out progress in relation to the management of higher activity radioactive waste. This is the fifth annual report.

Background

2. In July 2006, the Committee on Radioactive Waste Management (CoRWM) recommended that geological disposal, coupled with safe and secure interim storage, was the best available approach for the long-term management of the UK's legacy of higher activity radioactive wastes. CoRWM's task was to make recommendations that not only provided for safety and security, but which would do so in a way that would be acceptable on environmental and societal grounds, and at a cost that was not disproportionate. CoRWM stated that the Government's aim should be to progress disposal as soon as practicable, consistent with developing and maintaining public confidence.
3. Geological disposal involves isolating radioactive waste within an engineered, multi-barrier Geological Disposal Facility (GDF), typically between 200m and 1000m deep, inside a suitable rock formation, to ensure no harmful quantities of radioactivity ever reach the surface environment.
4. UK Government accepted CoRWM's recommendations and published the Managing Radioactive Waste Safely (MRWS) White Paper in 2008³. The siting process set out in this White Paper operated for five years. A number of communities engaged with the process, and participated in its early stages, however, by February 2013, there were no longer any communities actively involved in this siting process and Government therefore decided to review the process.
5. The UK Government remains committed to the policy of geological disposal, for the reasons set out in CoRWM's original 2006 report and subsequent UK Government policy documents

¹ <http://www.parliament.uk/documents/lords-committees/science-technology/ScienceGovandPolicy/RespRWM.pdf>

² <http://www.publications.parliament.uk/pa/ld200910/ldselect/ldscitech/95/95.pdf>

³ Managing Radioactive Waste Safely: A Framework for Implementing Geological Disposal. June 2008
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228903/7386.pdf

on radioactive waste management. In 2011 The European Directive 'Establishing a community framework for the responsible and safe management of spent fuel and radioactive waste' established a framework for the responsible and safe management of spent fuel and radioactive waste⁴, recognising that deep geological disposal represents the safest and most sustainable option as the end point of the management of high level waste and spent fuel considered as waste. The UK Government continues to favour an approach to siting a GDF that is based on the willingness of local communities to participate in the siting process.

6. The UK Government considered what lessons could be learned from the operation of the siting process in the UK since 2008, from overseas experience in similar programmes and from extensive public and stakeholder engagement on the subject. Following public consultation on draft proposals in 2013, the Government published a renewed process for siting a Geological Disposal Facility in 2014. The Implementing Geological Disposal White Paper⁵ outlined an approach based on working with interested communities, beginning with two years of initial actions overseen by Government and intended to address issues raised by the public and stakeholders.
7. This document sets out progress made in relation to the management of higher activity radioactive waste for the period April 2014 to March 2015.

⁴ <http://eur-lex.europa.eu/legal-content/EN/ALL/?jsessionid=06bLTMHxTYX2F65QT2pQLQJPBP61vQ4NWLngTs2tyQNJ18knHny!1630458347?uri=CELEX:32011L0070>

⁵

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332890/GDF_White_Paper_FINAL.pdf

2014-15 Update

Publication of Implementing Geological Disposal White Paper

8. In July 2014, the UK Government published a new White Paper – Implementing Geological Disposal⁶ (referred to as ‘The White Paper’ throughout this document). The White Paper followed a public consultation carried out during 2013 on potential amendments to the existing siting process established in 2008 for a GDF and reflected key messages from that consultation, as well as lessons learned during the previous siting process.
9. To identify potential sites where a GDF could be located, the UK Government favours a voluntarist approach based on working with communities that are willing to participate in the siting process.
10. The White Paper provides background information in relation to the radioactive waste that will be disposed of in a GDF and how it is currently managed; the history of how geological disposal became UK government policy, and that it is in line with the preferred approach internationally; and information on what geological disposal is, including aspects of its design, how it is constructed and regulated, and the roles and responsibilities of those organisations involved in its implementation.
11. The White Paper then sets out a policy framework for the future implementation of geological disposal and explains the Initial Actions that will happen before formal discussions between interested communities and the developer of a GDF, Radioactive Waste Management Limited (RWM) begin. These ‘Initial Actions’ will be overseen by Government and are intended to address issues that are important to the public and stakeholders in advance of the formal siting process re-starting. No sites have been selected or are currently under consideration. Formal discussions to start to identify potential sites will begin once the outputs from this initial work have been completed. This will ensure that any community wanting to engage with the process at that point can do so with more information and greater clarity about the nature of a GDF development.
12. These ‘Initial Actions’ include:
 - Bringing development of a GDF in England within the definition of a ‘Nationally Significant Infrastructure Project’ in the Planning Act 2008, including the production of a National Policy Statement and accompanying Appraisal of Sustainability;
 - A national geological screening exercise, which will consider what level of information is already available about geology across the country, how this could usefully be related to the safety case for a GDF and how this could help RWM engage openly with interested communities;

⁶ Implementing Geological Disposal. A Framework for the long-term management of higher activity radioactive waste, July 2014 <http://bit.ly/1NtEcUi>

- Working with experts and stakeholders by convening a Community Representation Working Group (CRWG), chaired by Department of Energy and Climate Change (DECC), to develop the processes for working with communities including community representation, the test of public support, and details of community investment.
13. The White Paper was issued jointly by the then UK Government and the Northern Ireland Executive. The Welsh Government is currently undertaking a wider review of its higher activity radioactive waste management policy and implementation approach⁷. The Scottish Government has a separate higher activity radioactive waste policy.
14. Alongside the White Paper, Government published a response to the 2013 consultation in July 2014⁸, which included a high level summary of public consultation responses and the UK Government's response to points raised.

⁷ At the time of publication of this report, the Welsh Government had issued a policy statement adopting geological disposal as the long term management route for higher activity radioactive waste (HAW):

<http://gov.wales/topics/environmentcountryside/epq/chemicalsradioactivity/radioactivity/radioactivewastemanagement/?lang=en>

The statement makes clear that the Welsh Government considers that geological disposal can only be delivered in Wales on a voluntary basis following discussions with a willing potential host community or communities. The Welsh Government has issued a further consultation on proposals for arrangements for engaging with potential volunteer host communities:

<http://gov.wales/consultations/environmentandcountryside/geological-disposal-of-higher-activity-radioactive-waste-community-engagement-and-implementation-processes/>

⁸

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332886/Government_response_to_GDF_siting_consultation_FINAL.pdf

Initial Action Project

National Geological Screening

15. The objective of the National Geological Screening initial action is to provide authoritative information that can be used in discussions with communities and may help RWM focus its engagement activities. Screening will focus on the relationship between geology and the long term safety of a GDF.
16. The National Geological Screening initial action will not definitively rule all areas as either 'suitable' or 'unsuitable'; it will not seek to target individual sites for development; select sites; or replace the statutory planning and regulatory processes that will continue to apply to a development of this nature.
17. The process is being carried out in an open and transparent way with the draft screening guidance first being developed by RWM, informed by discussions with experts and interested stakeholders. RWM is holding various meetings with interested stakeholders; more information relating to these meetings and updates on progress are provided on the RWM website⁹.

National Land-use Planning

18. The objective of the National Land-use Planning initial action is to develop a clear and transparent process for GDF land-use planning decisions in England. It will put in place a process that is appropriate for an infrastructure project of this scale and importance, in line with a range of existing major energy, transport and waste projects.
19. Since publication of the White Paper, the Planning Act 2008 has been amended by the Infrastructure Planning (Radioactive Waste Geological Disposal Facilities) Order 2015, bringing GDFs and their related deep borehole investigations (in England within the definition of nationally significant infrastructure projects, with effect from 27 March 2015).
20. The amending Order was subject to the affirmative resolution procedure, and so was debated, prior to securing approval, in both Houses of Parliament. Issues raised in the debates in the Lords and the Commons centred around conflation of the (quite separate) local partnership-based siting process and the statutory land-use planning process that will then be used to seek planning permission at whatever sites are ultimately identified and agreed through the site selection process¹⁰.

⁹ <http://www.nda.gov.uk/rwm/national-geological-screening/detail/>

¹⁰ <http://www.legislation.gov.uk/ukxi/2015/949/contents/made>

21. The inclusion of GDFs and investigatory boreholes within the definition of nationally significant infrastructure projects enables further work to develop a National Policy Statement, and accompanying assessments, in respect of geological disposal infrastructure that will further define the planning process for a GDF.

Working with Communities

22. The White Paper set out a number of commitments on how the GDF siting process should engage with willing communities and started further work, through this initial action, to develop the detail of how these commitments could be delivered. UK Government recognises the variety of community settings and local authority structures across the UK. There are many different ways in which people identify with areas, or define themselves against localities within those areas. The White Paper set out the objective of working with communities – to ensure that the developer is held to account, tasked with providing communities with all the information they require and with listening and responding to views in an open and responsive way with communities retaining the ability to withdraw from the process. It underlined the importance of an open and transparent process of working with communities throughout the duration of the voluntarist siting process and set out some high level principles, including that local representative bodies – including all levels of local government – will need to have a voice in the process.

23. The White Paper did not set out to prescribe a detailed process of how community representation should operate. Responses to the 2013 GDF Siting Process Review made it clear that addressing the challenging and complex issues related to community representation in this context would require further work – work that should be carried out in an open and transparent fashion, drawing on the expertise and advice of those with relevant experience.

24. One of the key actions in the White Paper, which has since been taken forward, was for DECC to convene a Community Representation Working Group (CRWG)¹¹. This group has been set up to address the issues of community representation, investment and engagement at potential GDF sites. It is the role of the CRWG to help develop approaches to working with communities, in an open and transparent fashion.

25. The group is chaired by DECC and has a core membership comprising relevant other government departments, the GDF developer - RWM and voluntary representatives with experience and expertise in local government issues, delivery of large infrastructure projects, GDF siting, and academia.

26. The CRWG consists of people with skills and expertise relevant to helping UK government develop processes for working with communities; it is not intended to be representative of particular constituencies or special interests, but will draw on the views of interested stakeholders through wider engagement.

¹¹ <https://www.gov.uk/government/groups/implementing-geological-disposal-community-representation-working-group>

27. The White Paper stated that the activities of the CRWG are likely to include, but will not be limited to:

- Developing approaches to defining 'communities' in areas interested in learning more about a GDF, and options for effective community representation;
- Defining roles and responsibilities for community representatives and an understanding of how those roles could evolve alongside the GDF siting process;
- Developing options for ensuring that all levels of local government have a voice in the GDF siting process;
- Providing greater clarity around the point at which a test of public support might be considered appropriate, and the method by which such a test could be carried out;
- Developing options for future disbursement of community investment, including management of any investment package, assessment of any funding applications and the ability of communities to influence investment within their geographic areas.

International Developments

28. Geological disposal is the preferred approach internationally for safely and securely managing higher activity radioactive waste in the long-term. There are a number of geological disposal programmes in other countries, which are at various stages of development. Key recent developments in some of these programmes are set out below:

- Germany - The German Commission for High Level Waste Disposal is expected to report to the German Bundesrat in 2016 providing recommendations on site selection criteria, the selection process and participation. Building on the Commission's report, the German Bundestag is expected to adopt a law laying down exclusion criteria, minimum requirements, evaluation criteria and other decision-making criteria for the identification and selection of potential final repository sites. Once the Commission has completed its assigned work and the Bundestag has laid down the decision-making criteria in a law the actual site selection process will begin.
- Switzerland - In January 2015 Nagra proposed two geological siting regions (Zürich Nordost and Jura Ost) for further investigation in Stage 3 of its Sectoral Plan process. The proposed siting regions are suitable for both deep geological repositories for low- and intermediate-level waste and high-level waste. Nagra's proposals are currently being reviewed by the Swiss Federal Nuclear Safety Inspectorate.
- Canada - The Nuclear Waste Management Organization (NWMO) is carrying out assessments with communities that have expressed interest in learning more about Canada's plan for the long-term management of used nuclear fuel. Preliminary Assessments are the third of nine steps in a multi-year process for evaluating potential suitability of communities to host a deep geological repository and an associated Centre of Expertise. Studies and engagement associated with this step are ongoing in areas in or near nine Ontario communities. The programme of preliminary assessments will build information to guide a decision on one or two sites to proceed to site characterisation.
- France - In May 2014 Andra set out its response to the public debate held during 2013. Andra proposes to develop the licence application for the GDF in two stages in 2015 and 2017. Subject to approvals, the construction of the disposal facility could begin in 2020 and the commissioning, beginning with a pilot industrial phase, could take place in 2025.
- Finland – In February 2015 the Finnish regulators produced a safety evaluation and issued a statement to the Finnish Government confirming that the spent nuclear fuel encapsulation plant and final disposal facility designed by Posiva can be built to be safe. Waste emplacement, provided a licence is granted, is expected to start in the 2020's.

International Developments

- Sweden – The Swedish Radiation Safety Authority has continued its review of the Swedish Nuclear Fuel and Waste Management Company's (SKB) application to construct a geological disposal facility for disposal of spent nuclear fuel. Preliminary outcomes of the assessment will be published over the course of 2015 and in spring 2016 the report of the assessment is expected to be presented to the land and environmental court. In 2017 the Authority will forward its comprehensive final assessment to the Swedish Government¹²¹³.

In December 2014, SKB applied for permission to expand the SFR repository at Forsmark for short-lived low and intermediate level radioactive waste, to enable disposal of waste from dismantling of Swedish nuclear power reactors¹⁴.

29. While there are many countries that have yet to decide or issue long-term waste management policies, no country has adopted a permanent solution other than geological disposal.

¹² <https://www.stralsakerhetsmyndigheten.se/In-English/About-the-Swedish-Radiation-Safety-Authority1/The-site-for-a-spent-nuclear-fuel-repository1/>

¹³ <http://www.stralsakerhetsmyndigheten.se/In-English/About-the-Swedish-Radiation-Safety-Authority1/News1/First-preliminary-outcomes-from-review-work-related-to-the-proposed-repository/>

¹⁴ <https://www.stralsakerhetsmyndigheten.se/In-English/About-the-Swedish-Radiation-Safety-Authority1/News1/The-Authority-has-received-an-application-for-expansion-of-the-SFR-repository-/>

Work of the Committee on Radioactive Waste Management (CoRWM)

30. CoRWM is an advisory non-departmental public body, and provides independent scrutiny and advice to the UK governments on the long-term management of higher activity radioactive wastes.
31. CoRWM has continued to provide scrutiny and advice on the UK Government and Devolved Administrations' management of Higher Activity Radioactive Waste. In particular, it has provided advice to DECC and RWM on the development of the White Paper and on the associated Initial Actions.
32. CoRWM's work over 2014/15 has focussed on the following areas (percentages denote the proportion of time CoRWM has spent on each issue):
- GDF Siting Policy - providing advice and scrutiny of the DECC GDF Siting Process Review and any subsequent revision of the policy and its implementation (50%)
 - Welsh Government - providing advice to the Welsh Government on its review of radioactive waste policy in respect of HAW (20%)
 - RWM Transition – providing advice to DECC and other sponsors on the transition of the NDA (RWMD) to an effective GDF "delivery organisation" (10%)
 - Scottish Government – providing advice and scrutiny of the Scottish Government's radioactive waste management strategy (5%)
 - Interim Surface Storage – reviewing the current status of interim storage of radioactive waste, spent fuel and other nuclear materials in the UK and its implications for the GDF (5%)
 - Spent Fuel and Plutonium Management – reviewing the current position on spent fuel and plutonium management and the implications for the GDF (5%)
 - CoRWM Outreach – providing effective engagement with the public and other stakeholders to raise the profile of CoRWM and help inspire confidence in its work (5%)

CoRWM's Public and Stakeholder Engagement and Communications

33. CoRWM held six open plenary meetings throughout the year, at which members of the public were free to attend and observe the Committee in action. The Committee also held a number of public meetings when it visited the nuclear sites at Dounreay in Scotland, Wylfa in Wales and Sellafield in England.

Second Triennial Review of CoRWM

34. The second Triennial Review of CoRWM was announced on 27 January 2015. The public consultation ran from 27 January to 10 March 2015, with 22 responses received. The Triennial Review will conclude later in 2015.

Next steps

35. **National Geological Screening** - The draft screening guidance will be reviewed by an Independent Review Panel that has been established by the Geological Society of London at the request of DECC¹⁵. The updated draft screening guidance will then be subject to public consultation before it is finalised at the end of 2015. Once finalised, the guidance can be applied by RWM, with the British Geological Survey and others, to develop outputs showing information about geological settings across the country relevant to the potential development and long-term safety of a GDF.
36. **National Land-use Planning** - A generic GDF National Policy Statement (NPS) will be developed and issued for public consultation. It will then be put before Parliament for its scrutiny and designation. The NPS will be subject to an Appraisal of Sustainability (AoS). A generic Habitats Regulation Assessment (HRA) will be developed to consider the potential effects at a national level on protected habitats and identify and assess alternative solutions. A consultation on the proposed scope of the AoS and HRA will be run in summer 2015. The final AoS and HRA will be released for public consultation (alongside the draft NPS) in early 2016.
37. **Working with Communities** – A call for evidence in summer 2015¹⁶, to draw together evidence and information on processes for working with communities in the siting of a GDF. In particular, it will focus on the issues of community representation, community investment and the test of public support. The responses to this call for evidence will be used to help the CRWG develop proposals for how each of these areas will work in practice during the siting process.

¹⁵ <http://www.geolsoc.org.uk/irp>

¹⁶ At the time of publication of this report, the Call for Evidence had been launched <https://www.gov.uk/government/consultations/implementing-geological-disposal-working-with-communities>

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