Department for
Business, Energy
& Industrial Strategy

IMPLEMENTING GEOLOGICAL DISPOSAL – ANNUAL REPORT

April 2015 - March 2016

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Introduction and background

Introduction

1. In its November 2010 response[1] 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 sixth annual report.

2. This document sets out progress made in relation to the management of higher activity radioactive waste for the period April 2015 to March 2016.

Background

3. 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 on radioactive waste management. All major nuclear nations are actively pursuing geological disposal. It is internationally recognised that 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 Geological Disposal Facility (GDF) that is based on the willingness of local communities to participate in the siting process.

4. Geological disposal involves isolating radioactive waste within an engineered, multi-barrier GDF, typically between 200m and 1000m deep, inside a suitable rock formation, to ensure no harmful quantities of radioactivity ever reach the surface environment.

[1] http://www.parliament.uk/documents/lords-committees/science-technology/ScienceGovandPolicy/RespRWM.pdf
[2] http://www.publications.parliament.uk/pa/ld200910/ldselect/ldsctech/95/95.pdf

5. Government published a renewed process for siting a GDF in 2014 – the Implementing Geological Disposal White Paper[3] (referred to as 'The White Paper' throughout this document).

6. The White Paper sets out a policy framework for the future implementation of geological disposal and explains the Initial Actions that will happen before formal discussions begin between interested communities and the developer of a GDF, Radioactive Waste Management Limited (RWM). 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.

7. These 'Initial Actions' include:

- 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;

- Bringing development of a GDF in England within the definition of a 'Nationally Significant Infrastructure Project' in the Planning Act 2008, as well as production of a National Policy Statement (NPS) with accompanying Appraisal of Sustainability (AoS) and Habitats Regulation Assessment (HRA); and

- Working with experts and stakeholders by convening a Community Representation Working Group (CRWG), chaired by Department of Energy and Climate Change (DECC; now Department for Business, Energy and Industrial Strategy - BEIS), to develop the processes for working with communities including community representation, the test of public support, and details of community investment. A mechanism will also be established by which communities, the developer, and Government itself can access independent, third party views on issues contested during the GDF siting process.

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

8. The White Paper also stated that a GDF would be a nuclear installation under the Nuclear Installations Act 1965. As such, it will be the Office for Nuclear Regulation's (ONR) role to ensure that, prior to construction of a GDF, a working process is in place such that ONR can consider the granting of a licence for the site; with the requisite site licence conditions attached, and enforce the requirements of that licence.

9. The White Paper was issued jointly by the UK Government and the Northern Ireland Executive. The Scottish Government has a separate higher activity radioactive waste policy.

10. The Welsh Government adopted a policy for the geological disposal of higher activity radioactive waste in May 2015[4]. The policy confirms 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. In December 2015, the Welsh Government issued a further policy statement confirming its intention of working with the CRWG with a view to adopting arrangements for engaging with potential volunteer host communities that are compatible with those arrangements being proposed for England, providing that they are compatible with the needs of communities in Wales and with those of Wales as a whole. The Welsh Government is considering the outcomes of CRWG's work and will consult further before any arrangements for engaging with potential volunteer host communities are adopted. As part of implementing its policy for the geological disposal of radioactive waste the Welsh Government is considering how the current Welsh planning system should be applied to any geological disposal facility in Wales. This will need to take into account the Planning (Wales) Act 2015.

[4] The Welsh Government policy statements adopting geological disposal as the long term management route for higher activity radioactive waste, and engagement with potential volunteer host communities can be found at:

http://gov.wales/topics/environmentcountryside/epq/chemicalsradioactivity/radioactivity/radioactivewastemanagement/?skip=1&lang=en

Initial Actions Project

National Geological Screening

11. 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.

12. 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.

13. 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. A public consultation took place in autumn 2015.

14. The Geological Society of London established an Independent Review Panel (IRP), on behalf of DECC (now BEIS), with access to a broad range of well-respected national and international geoscience expertise. The remit of the IRP is to assess whether the national geological screening Guidance developed is technically robust, whether it can be implemented using the existing geological information available, and whether it provides an appropriate assessment of the prospects for developing a robust long-term safety case in a range of geological settings to accommodate the UK inventory of higher activity waste.

15. The IRP endorsed the national geological screening Guidance and detailed technical instructions, and these, along with the consultation response report were published in April 2016. [5]

[5] https://www.gov.uk/government/consultations/public-consultation-on-national-geological-screening

National Land-use Planning

16. 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.

17. In March 2015, the Planning Act 2008 was 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.

18. The inclusion of GDFs and investigatory boreholes within the definition of nationally significant infrastructure projects enables further work to develop a National Policy Statement (NPS), in respect of geological disposal infrastructure that will further define the planning process for a GDF. The primary purpose of NPS is to guide the Planning Inspectorate and the Secretary of State when examining and making decisions on applications for development consent; it will also aid the developer in their application for development consent.

19. The Planning Act 2008 requires that an Appraisal of Sustainability (AoS) of the NPS must be carried out before it can be designated; the White Paper also stated that a Habitats Regulation Assessment (HRA) of the NPS would be carried out. As part of the first stage of this process, a technical consultation on the AoS scoping report and HRA Methodology report associated with a draft NPS took place in summer/autumn 2015. The Government response was published in February 2016.[6]

20. We have produced a draft NPS and will carry out the AoS and HRA appraisals of this document during 2016, prior to publically consulting on all three documents (NPS, AoS, HRA) in 2017. Parliamentary scrutiny will also occur in parallel with the public consultation.

[6] https://www.gov.uk/government/consultations/appraisal-of-sustainability-scoping-and-habitats-regulations-assessment-methodology-reports-for-geological-disposal-national-policy-statement

Working with Communities

21. The objective of the Working with Communities initial action is to provide clarity on the processes for the developer and communities to work together in the GDF siting process, including Community Representation, Community Investment and the Test of Public Support.

22. A Community Representation Working Group (CRWG)[7] was convened in early 2015, to help DECC (now BEIS) develop approaches for working with communities in an open and transparent fashion. The group was chaired by DECC (now BEIS) and had 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. In total eight formal meetings of the CRWG were held, supplemented by meetings with specific members on issues as they arose during the work programme, which fed into policy development. Detailed discussions took place on community representation, including early representation and constructive engagement, community investment, the test of public support and the right of withdrawal.

23. Evidence was gathered from a variety of sources to help develop policy proposals for how the developer will work with communities in the GDF siting process. A call for evidence took place in summer 2015 to draw together evidence and information on processes for working with communities in the siting of a GDF, and the responses were published[8]. Further to this, a literature review was carried out in 2016 which includes examples of relevant national and international projects.

24. As part of an innovative 'open policy making approach', a number of 'public dialogue' events took place in Manchester and Swindon in February and March 2016. These were intended to help achieve better policy making through engaging with a broad range of people who have no prior knowledge of, or involvement in, nuclear-related business, on the approach to siting a GDF and specifically what an effective community engagement process could look like.

[7] https://www.gov.uk/government/groups/implementing-geological-disposal-community-representation-working-group

[8] https://www.gov.uk/government/consultations/implementing-geological-disposal-working-with-communities

Preparation for Siting

25. The GDF will be delivered over an unusually long lifecycle and as such the requirements for the delivery organisation will change as the project progresses through distinct phases.

26. During the year, RWM continued its work to transform into a developer that will deliver the revised GDF siting programme. RWM set out its vision, mission and values in the RWM Corporate Strategy 2015-18[9].

27. RWM filled two key new leadership roles in its Siting Director and Stakeholder Engagement and Communications Director – both have experience of leadership and delivery roles for large infrastructure projects. The appointments bring a wealth of relevant experience to help RWM make a successful transition. Following recruitment of the new directors, RWM carried out an organisational review to align its structure with the new strategy and to take account of siting requirements. RWM continues to review its business model and organisational structure/culture to ensure that it is ready to undertake the next phase of the programme.

28. To support delivery of the strategy, RWM began development of a GDF Prospectus. The document is intended to communicate the potential benefits of hosting a GDF, engage community leaders in the process of finding a suitable site for a GDF and provide a clear route map to the siting process. The Prospectus, and the proposals it contains, will be tested and refined via presentations and discussions with stakeholders before the launch of the siting process.

29. RWM also began development of a Site Selection Framework which will be used to set out the mechanism by which RWM and communities will identify a site (or sites) for construction of a GDF.

[9] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/451924/Radioactive-Waste-Management-Corporate-Strategy-2015-to-2018.pdf

International Developments

30. 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:

31. Germany - The German Commission for High Level Waste Disposal reported to the German Bundesrat in July 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.

32. Switzerland - The proposed siting regions proposed by Nagra[10] in January 2015 for further investigation of their suitability for deep geological repositories for low- and intermediate-level waste and high-level waste are currently being reviewed by the Swiss Federal Nuclear Safety Inspectorate (ENSI). In December 2015, ENSI requested additional documentation which Nagra submitted in August 2016. The results of the evaluation are expected in 2017.

33. Canada - The Nuclear Waste Management Organization[11] (NWMO) is continuing its 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 in 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.

[10] http://www.nagra.ch/en/disposalwhere.htm

[11] https://www.nwmo.ca/en/Canadas-Plan/Canadas-Used-Nuclear-Fuel/How-Is-It-Stored-Today

34. France - Andra[12] is continuing to develop its licence application for the GDF near Bure in the north-east of the country. 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.

35. Finland – In November 2015 the Finnish government granted a construction licence to the waste management organisation Posiva[13] for a used nuclear fuel encapsulation plant and final disposal facility at Olkiluoto. Waste emplacement is expected to start in the 2020's.

36. Sweden – 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 has continued. In June 2015, the Swedish Radiation Safety Authority SSM concluded that the Swedish Nuclear Fuel and Waste Management Company (SKB) has the potential to fulfil the Authority's nuclear safety and radiation protection requirements in relation to the development and operation of an encapsulation facility for spent nuclear fuel[14]. SSM plans to present its final assessment in 2017. By 2019, SKB hopes to have obtained a positive decision by the Swedish government. Construction and commissioning of the repository could then begin. This is expected to be completed by 2028, when trial operations would begin. Commercial operation is scheduled for 2030. 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.

37. United States – The Waste Isolation Pilot Plant, a GDF in New Mexico for defence-related waste containing long-lived radionuclides, first opened in 1991. It has been closed following an incident in February 2014 but expected to reopen at the end of 2016. The USA continues to prepare for a phased, adaptive, and consent-based approach to siting a disposal facility for used nuclear fuel and high-level radioactive waste. It is also carrying out research into an alternative disposal concept based on deep boreholes and plans to drill a test borehole to over 16,000 feet in the crystalline basement rock formation.

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[12] http://www.andra.fr/international/index.html

[13] http://www.posiva.fi/en/final_disposal#.V1fnhKNwbIU

[14] http://www.stralsakerhetsmyndigheten.se/In-English/About-the-Swedish-Radiation-Safety-Authority1/News1/SKBs-licence-applications-for-final-disposal-of-used-nuclear-fuel-are-now-sufficiently-complete-for-public-technical-scrutiny/

Work of the Committee on Radioactive Waste Management (CoRWM)

38. CoRWM is an advisory non-departmental public body, and provides independent advice, based on informed scrutiny of the available evidence, to the UK governments on the long-term management of higher activity radioactive wastes.

39. 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 BEIS and RWM on the key work packages arising from the White Paper.

40. CoRWM's work over 2015/16 has focussed on the following areas (percentages denote the proportion of time CoRWM has spent on each issue):

- GDF Siting Policy – providing advice to BEIS on the work packages arising from the White Paper (55%)
- Welsh Government - providing advice on its review of radioactive waste policy in respect of HAW (15%)
- Scottish Government – providing advice on its radioactive waste management strategy (10%)
- 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 a GDF (10%)
- Safety Case Development – providing advice to BEIS and other sponsors on RWM's development of the GDF Safety Case (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

41. CoRWM held five open plenary meetings throughout the year, at which members of the public were free to attend and observe the Committee in action. CoRWM published four quarterly reports which reported on the progress of the work of the Committee against its work plan.

42. In 2015 the Committee revived its e-bulletin to keep members of the public and other key stakeholders up to date on CoRWM activities. The news bulletin currently has over 6800 subscribers.

43. Members of the Committee attended a number of meetings in the UK and international conferences in Finland and Germany. CoRWM also visited the French Underground Laboratory to better understand the French geological disposal programme.

Second Triennial Review of CoRWM

44. The second Triennial Review of CoRWM concluded in December 2015[15]. The Review concluded that CoRWM should continue in its role as an advisory Non-Departmental Public Body providing independent advice, based on informed scrutiny of the available evidence, to UK Government and Devolved Administration Ministers on the long-term management of higher activity radioactive wastes, including the geological disposal programme.

CoRWM members appointment process

45. In early 2016, an appointments process commenced to refresh the membership of the entire Committee. Members posts were advertised in February 2016, with interviews and appointments expected to be made early in the reporting year 2016/17.

[15] https://www.gov.uk/government/consultations/committee-on-radioactive-waste-management-corwm-triennial-review-2015

Next steps

46. Over the next reporting year (2016-17), Government will continue to progress the Initial Actions Project with a view to launching the revised siting process once they are complete. This is when formal discussions between interested communities and RWM can commence.

National Geological Screening

47. RWM will work closely with the British Geological Survey to apply the national geological screening Guidance to develop outputs showing existing information about geological settings across the country relevant to the potential development and long-term safety of a GDF. The IRP will also be asked to give their view on the application of the Guidance.

National Land-use Planning

48. A draft NPS will be developed and issued for public consultation in 2017 (alongside the AoS and HRA reports). It will also be laid in Parliament and be subject to scrutiny by the relevant House of Commons select committee, which will produce a report and recommendations based on outputs from the public consultation and evidence sessions. There may also be Parliamentary debate in either or both Houses of Parliament on the NPS if the select committee makes a recommendation to this effect.

Working with Communities

49. A policy proposal will be developed that draws on the input of the Community Representation Working Group, and the evidence base, including a literature review, case studies and public dialogue workshops. A further public consultation on the draft policy may be held in 2017.

Preparation for Siting

50. RWM will continue to develop its organisational structure, resources and capability to deliver the next phase of the programme.

51. RWM will work closely with BEIS to prepare to undertake activities described in the Working with Communities policy as it is developed. RWM will produce information for communities about the project and guidance on how they can become involved in the siting process. The information will be made available at the time the siting process is launched. The launch will be preceded by proactive communications delivered by RWM at a national level and stakeholder engagement, including with any interested parties arising from these activities.

52. RWM will continue to develop a Site Selection Framework that will take into account learning from overseas Waste Management Organisations and relevant UK projects.

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