

**Response of the UK Government and the Devolved Administrations of Northern Ireland, Scotland and Wales to the Committee on Radioactive Waste Management's (CoRWM) report on "*National Research and Development for Interim Storage and Geological Disposal of Higher Activity Radioactive Wastes, and Management of Nuclear Materials*".**

**19 November 2010**



Llywodraeth Cynulliad Cymru  
Welsh Assembly Government



Department of the  
**Environment**  
[www.doeni.gov.uk](http://www.doeni.gov.uk)



## 1. INTRODUCTION

- 1.1 The role of the Committee on Radioactive Waste Management (CoRWM) is to provide independent scrutiny and advice to UK Government and Devolved Administrations on the long term management, including storage and disposal, of radioactive waste. The primary task of CoRWM is to provide independent scrutiny of the Government's and Nuclear Decommissioning Authority's (NDA) proposals, plans and programmes to deliver geological disposal, together with robust interim storage, as the long-term management option for the UK's higher activity wastes.
- 1.2 The Scottish Government announced a different policy for its higher activity waste in 2007. It has subsequently developed a Detailed Statement of policy which was published for consultation in January 2010. The Scottish Government's proposed policy for higher activity waste is to "... support long-term near surface, near-site storage or disposal facilities so that the waste is monitorable and retrievable and the need for transporting it over long distances is minimal." The final policy is expected to be published by the end of 2010. However, it continues to sponsor CoRWM on storage and related research and development (R&D) matters. The Welsh Assembly Government continues to play a full part in the Managing Radioactive Waste Safely (MRWS) programme including sponsorship of CoRWM. It has however reserved its position on proposals for taking forward geological disposal.
- 1.3 In July 2009, sponsor Ministers from DECC and the three Devolved Administrations agreed CoRWM's 2009/10 work programme<sup>1</sup>. This included production of a report on R&D covering: establishing R&D requirements, the current work of UK R&D programme providers and facilitators, R&D skills, infrastructure for R&D, specific UK R&D issues, and international programmes in relation to interim storage and geological disposal of higher activity radioactive wastes and management of nuclear materials.
- 1.4 CoRWM's report on "National Research and Development for Interim Storage and Geological Disposal of Higher Activity Radioactive Wastes, and Management of Nuclear Materials" (document number 2543) was published on 30 October 2009 and covers CoRWM's scrutiny of current provision and future R&D needs for management of radioactive wastes and nuclear materials that may be declared to be wastes. The full report is available on the CoRWM website at [www.corwm.org.uk](http://www.corwm.org.uk).

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<sup>1</sup> Committee on Radioactive Waste Management. Proposed programme of work, 2009-2012. 2009. <http://www.corwm.org.uk/Pages/Current%20Publications/2515%20%20-%20CoRWM%20Work%20Programme%202009-2012%20-%20final%2031%20March.pdf>

- 1.5 CoRWM's report is part of the 3 year rolling work-plan which is agreed with Government on an annual basis. The plan includes scrutiny of progress on the implementation of geological disposal<sup>2</sup> and of the Scottish Government's policy on higher activity radioactive waste.
- 1.6 This document is the response of the UK Government, the Department of the Environment Northern Ireland, the Welsh Assembly Government and the Scottish Government (hereafter collectively referred to as 'Government') to the recommendations in the CoRWM report. In line with CoRWM's Terms of Reference<sup>3</sup>, this document will be made available along with CoRWM's report to respective UK Parliaments and Assemblies.
- 1.7 Government's policy (noting that the Scottish Government does not support geological disposal and the Welsh Assembly Government reserve their position on geological disposal of higher activity radioactive waste) as stated in the response<sup>4</sup> to CoRWM's original recommendations in 2006 and further reiterated in the 2008 MRWS White Paper is that there will be ongoing R&D to support optimised delivery of the geological disposal programme, and the safe and secure storage of radioactive waste in the interim.

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<sup>2</sup> Defra, BERR and the devolved administrations for Wales and Northern Ireland 'Managing Radioactive Waste Safely: A Framework for Implementing Geological Disposal', (Cm 7386), June 2008. [www.decc.gov.uk/mrws](http://www.decc.gov.uk/mrws)

<sup>3</sup> Terms of Reference for the Committee on Radioactive Waste Management, October 2007. Available at [http://www.corwm.org.uk/Pages/Lnk\\_pages/about\\_us.aspx#reference](http://www.corwm.org.uk/Pages/Lnk_pages/about_us.aspx#reference)

<sup>4</sup> The UK Government and the devolved administrations. Response to the Report and Recommendations from the Committee on Radioactive Waste Management (CoRWM). October 2006. <http://www.corwm.org.uk/Pages/Current%20Publications/2069%20-%20corwm%20recommendations%20gov%20response.pdf>

## **2. GOVERNMENT RESPONSE**

- 2.1 Government thanks the Committee for its report and welcomes the recommendations. Government acknowledges the level of detail the Report covers; this is noted and will continue to be taken into consideration as work is developed to address R&D issues. However, this response focuses on the six specific recommendations made to Government.
- 2.2 The report provides the opportunity to evaluate progress made on the R&D aspects of the MRWS programme since the publication of the MRWS White Paper in June 2008. It also provides an opportunity to clarify how Government sees provision of radioactive waste R&D progressing and highlight work that is being undertaken to support it.
- 2.3 Government welcomes the open and consultative manner in which the Committee has drafted its report and engaged with key organisations, stakeholders and the public.
- 2.4 The following sections provides the Government's response to the Committee's six specific recommendations in more detail.

### 3. RECOMMENDATION 1

**CoRWM recommends to Government that it ensures that there is strategic co-ordination of UK R&D for the management of higher activity wastes. Such co-ordination is required within the NDA, between the NDA and the rest of the nuclear industry, amongst the Research Councils and between the whole of the nuclear industry, its regulators and the Research Councils.**

- 3.1 Government agrees on the principle of strategic coordination across the bodies concerned with R&D for higher-activity radioactive wastes that could help ensure progress of the framework in the UK for managing these wastes. As set out below, Government will continue to work with the NDA, nuclear industry representatives, the Research Councils and the Regulators to improve coordination.
- 3.2 At present there is a Research Board on Decommissioning and Clean-up<sup>5</sup> in the UK that was set up by the NDA. Current members of this Board include Government representatives, regulators, Engineering and Physical Sciences Research Council (EPSRC) and NDA. Sitting underneath the Research Board is the Nuclear Waste Research Forum (NWRF) which is focussed on sharing nuclear waste R&D needs, risks and opportunities across the nuclear site licence holders. Membership of the forum also includes regulators and other industry participants such as Atomic Weapons Establishment (AWE), Ministry of Defence (MOD) and British Energy (BE), so runs wider than just NDA and its sites. Specialist topic subgroups have been formed by NWRF to focus on common areas and make progress collectively thus reducing duplication of work.
- 3.3 The NDA Research Board on decommissioning and clean-up also approved the setting up of an R&D advisory panel<sup>6</sup> specifically for geological disposal, that reports to this Board. The advisory panel held its inaugural meeting in October 2009.
- 3.4 With regard to nuclear safety, the Health and Safety Executive's Nuclear Directorate utilises an independent Research Review Group (RRG) to provide assurance that the safety related research commissioned either by the nuclear site licensees or directly by HSE is adequate and appropriately prioritised. The RRG is made up of leading academics and former industry personnel who also provide the chair. The RRG meets formally twice a year in the presence of HSE, site licensees, government representatives and the

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<sup>5</sup> The Board will cover wider radioactive waste management R&D as defined in the Energy Act 2004. <http://www.legislation.gov.uk/ukpga/2004/20/part/1/chapter/1>

<sup>6</sup> The R&D advisory panel consists of representatives from: ITC School of Underground Waste Storage and Disposal, Switzerland; Department of Environmental and Occupational Toxicology at the University of Central Lancashire; Volcanology and Geological Fluid Dynamics Research Group in the Department of Earth Sciences at the University of Bristol; and the Dalton Nuclear Institute at the University of Manchester.

NDA. The RRG members also attend key research related events during the year and provide feedback to HSE. Each year a summary report is written by the RRG chair to provide an independent view of the research activities being undertaken and any potential gaps. The RRG chair also sits on the NDA Research Board.

- 3.5 To complement the NDA Research Board's work there are a variety of other existing mechanisms for national and international coordination such as the Euratom FP7 Technology Platform<sup>7</sup> which encourages collaboration and the sharing of research into geological disposal, thus seeking to avoid unnecessary duplication.
- 3.6 As CoRWM mentions in its Report, EPSRC was involved in setting up the Letter of Arrangement Group (now called the Nuclear Research Coordination Group), which is a strategic group that includes NDA, National Nuclear Laboratory, Health and Safety Executive, Environment Agency, government and industry representatives. This Group shares strategic priorities and identifies research opportunities of common interest. The Government supports this Group and is of the view that this Group contains the appropriate membership to identify research needs and help develop the strategy for delivering EPSRC funded research and thereby enhancing the skills base. It should be noted that this Group covers a wider nuclear research scope than radioactive waste management and NDA research needs. Accordingly, Government would expect synergies across wider research topics to be explored through this route.
- 3.7 EPSRC also leads one of the major cross-council initiatives, the Research Councils Energy Programme (RCEP), which encompasses all aspects of energy generation and supply, including nuclear. Funding for energy research, including that on the management of higher activity radioactive waste, is coordinated through the RCEP Programme Coordination Group (PCG), which has officers from EPSRC, Natural Environment Research Council (NERC), Economic and Social Research Council (ESRC), Biotechnology and Biological Sciences Research Council (BBSRC) and Science and Technology Facilities Council (STFC), and liaison from the Department for Business, Innovation and Skills (BIS). The PCG takes advice from a wide range of stakeholders, including an RCEP Science Advisory Committee of academic, industry and Government representatives. A number of activities relevant to CoRWM's areas of interest are currently being worked up through the PCG, in areas such as geological disposal of waste and

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<sup>7</sup> The mission of the Implementing Geological Disposal – Technology Platform (IGD-TP) is to be a tool to support confidence-building in the safety and implementation of deep geological disposal solutions. Further information available at <http://www.igdtp.eu/>

international collaborations. Indeed, EPSRC, under the auspices of RCEP, has been working with the NDA's Radioactive Waste Management Directorate (RWMD) to identify research challenges associated with the implementation of a geological disposal facility. A call for research proposals has been published with up to £4M available over the next four years.

- 3.8 NERC sets its energy research priorities via partnerships under RCEP and the Living with Environmental Change (LWEC) programme, informed by the NERC strategy process and implemented through Theme Action Plans (TAPs). Theme Action Plans set out activities to address the strategy challenges in NERC's seven science themes, but like the strategy itself, these plans are updated regularly. The theme leader for Environment Pollution and Human Health (EPHH) is currently scoping an action relevant to radioactive waste disposal, which if approved by NERC Council, will lead to a programme of research in radioactivity and the environment being commissioned during 2011.
- 3.9 The research requirements for higher activity radioactive waste management, whether fundamental or applied, are wide-ranging and not for Government to micro-manage, but Government expects that most of the research will be issue-focussed and, where gaps are identified by the organisations listed above, actions to fill these gaps will be coordinated through the relevant expert groups such as those set out here. Each of these groups has a particular focus and constituency of members that can apply an appropriate balance of expertise and resource to the relevant areas and Government will look to these groups to work together and be cognisant of each other's priorities to ensure any gaps are identified and addressed in the most appropriate way. Clearly the NDA will play a lead role in developing and ensuring the implementation of an ongoing programme of needs-focussed R&D dedicated to meet its future radioactive waste management requirements including geological disposal.
- 3.10 Government is of the opinion that there is a requirement for a hierarchy of coordination and is of the opinion that there is potential for the Research Board to take a broader strategic role for the UK. The NDA considers there is potential for the Research Board to be extended to include AWE, MOD, BE and other stakeholders at focussed theme meetings and the terms of reference are being reviewed. The Government will consider with the NDA whether a re-focussed Board can determine how best to get broader strategic coordination. In addition we will examine with the NDA the possible appointment of an independent chair for this Board.

#### 4. RECOMMENDATION 2

**CoRWM recommends to Government that it ensures that the Environment Agency and the Scottish Environment Protection Agency obtain the resources that they need to access and commission the additional independent research required to support them fully in their regulation of the management of higher activity wastes.**

- 4.1 The Government agrees with CoRWM that independent research is needed to underpin regulation. Safety, security and environmental protection are paramount in taking forward the process for managing and disposing of radioactive wastes. For example the Radioactive Waste Management Directorate of the NDA (the geological disposal delivery organisation) has begun operating as a “prospective Site Licence Company (SLC)” under voluntary regulatory arrangements, and this voluntary scrutiny will continue until the start of any formal regulatory process in the future. Under the voluntary scrutiny programme between RWMD and the regulators, one of the topic areas covered is RWMD's R&D programme. Meetings have taken place between the RWMD and the Regulators and the latter have commented on the RWMD's R&D programme
- 4.2 The NDA and existing nuclear site licence companies will continue implementing programmes of R&D that support their business needs, in particular to satisfy the requirements of the regulators. Government would not expect the regulators to duplicate those programmes, rather they will scrutinise them to ensure that issues of regulatory concern are being addressed and that there are no omissions.
- 4.3 The MRWS framework provides a staged process for developing a geological disposal facility. After one or more candidate sites have been selected for characterisation, the regulators have powers to impose hold points in the development process to ensure they are satisfied with the NDA's delivery organisation's proposals before granting approval for work to proceed. R&D may be necessary to provide the evidence needed to inform the regulators' decisions and this R&D will be carried out primarily by or for the NDA. Where there are issues of regulatory concern, regulators may undertake research to provide further information or require the NDA to undertake additional research work. Approvals by regulators will not be given unless they are satisfied that required safety case criteria are met and that any necessary research has been undertaken.
- 4.4 Government considers that the involvement of the regulators with the NDA Research Board and the site licence companies' Nuclear Waste Research Forum (NWRP) as well as direct involvement in research based programmes of work, provides opportunities for regulatory issues to be identified and



addressed. Following on from Recommendation 1, continuous development of strategic co-ordination of R&D can provide improvements in the way the regulators ensure the R&D evidence they require is obtained and may result in the regulators obtaining additional leverage to address their own work through other organisations' R&D programmes, such as those funded by the Research Councils or overseas organisations.

- 4.5 The independent regulators currently have procedures in place that enable them to pursue the research required to support their work on higher-activity radioactive wastes. The regulators already have advanced technical and scientific programmes underway. For example the Environment Agency is providing evidence to support its regulatory decisions across the areas of radioactive substances regulation, air pollution, waste treatment and disposal and contaminated land. In addition, the Agency's dedicated Nuclear Waste Assessment Team commissions specific studies to support its work on radioactive waste management and disposal. Both the Health and Safety Executive and the Environment Agency have undertaken collaboration with overseas regulators on the R&D required to support geological disposal, this has included discussions on the type of R&D issues regulators have had to look at to support their national geological disposal programmes and visits to research facilities. It is also recognised that the Environment Agency and Scottish Environment Protection Agency collaborate where their interests overlap with respect to specific research programmes. This is encouraged by Government to avoid duplication of effort.
- 4.6 As further regulatory research needs are identified, the Government would expect the regulators to provide appropriate resources to implement research required to ensure effective regulation. Research by regulators would be funded through cost recovery from the NDA and the nuclear site licence companies and where appropriate, by Government grant-in-aid. The Government will expect the Research Councils to continue to work with the regulators on research priorities. The availability and allocation of resources for the regulatory bodies to carry out further regulatory research on radioactive wastes is a matter for the independent Boards and executive management of each regulatory body.

## 5. RECOMMENDATION 3

**CoRWM recommends to Government that it assigns to a single organisation the responsibility for providing national leadership and strategic direction for provision of R&D skills relevant to the long-term management of radioactive wastes.**

- 5.1 Government recognises that the landscape for UK skills around nuclear R&D, including for the long-term management of radioactive wastes, involves a number of key organisations, including the NDA, the site licence companies, Research Councils, National Nuclear Laboratory, Cogent, the National Skills Academy for Nuclear and Government. Although their activity is not managed centrally, a strong network has developed between all of the organisations concerned. Government considers that this network provides a more appropriate capability for delivering the required direction through collaboration across the research organisations than expecting a single organisation to impose a top-down view across the entire R&D skills landscape.
- 5.2 The NDA has published its Skills Strategy<sup>8</sup>, which includes identification of key scientific and technical skills. A large portion of the Strategy focuses on working with academic and industrial partners to ensure required skills and sustainable capabilities are delivered to meet future demands.
- 5.3 The National Nuclear Laboratory (NNL) was established in 2008, amongst other things to safeguard the nuclear skills and capabilities needed to support a number of the UK's strategic nuclear programmes, e.g. operation, decommissioning, clean up and power generation. The NNL maintains this emphasis on skills and capability and aims to become an employer of choice for nuclear scientists and engineers.
- 5.4 The Research Councils have various mechanisms and approaches to help the Higher Education (HE) sector respond to high-level skills demands and to ensure that industry is actively engaged in the identification of needs and the development and delivery of training activities to address these. In general this involves ensuring stakeholder engagement both directly with the HE sector and with the Research Councils strategic advisory bodies. The CoRWM report accurately describes the range of such routes to engagement and also the mechanisms within the Research Councils to ensure co-ordination of individual Research Councils' responses. It is clear that the Research Councils have existing routes to engage with stakeholders relevant

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<sup>8</sup> Nuclear Decommissioning Authority. NDA Skills and Capability Strategy. November 2008.  
<http://www.nda.gov.uk/documents/upload/NDA-Skills-and-Capability-Strategy-November-2008.pdf>

to radioactive waste management and geological disposal (e.g. NDA, NNL etc.).

- 5.5 In addition, there is direct funding flowing from the Research Councils to support the development of R&D skills. For example, Nuclear FiRST was established in January 2009 at the University of Manchester, with a £6.3M investment from EPSRC, to provide a national training centre for doctoral scientists and engineers in nuclear fission science and technology.
- 5.6 The Government accepts that in the early years of the National Skills Academy for Nuclear (NSA Nuclear), it has not focused on the expansion of postgraduate study that leads to the development of the skills essential to good research. NSA Nuclear is an employer-led organisation, and its priorities are determined by the requirements of the member employers, which encompass businesses working in all elements of the sector, including decommissioning and waste management, as well as those covering existing operations and new build. However, NSA Nuclear, working with employers and related organisations, does take forward activity to support skills development in the appropriate part of the sector, i.e. the skills required for qualified technician staff to support research activity, including through the roll-out of foundation degrees in relevant areas, for example a Foundation Degree in nuclear decommissioning. NSA Nuclear is aware of the skills requirements and development needs for radioactive waste management and research activity, indeed Board of Directors includes representation from the NDA and the National Nuclear Laboratory<sup>9</sup> (NNL), as well as Sellafield Ltd.
- 5.7 In December 2009 Cogent, the Sector Skills Council for nuclear business published the *Technically Higher*<sup>10</sup> Report which sets out a roadmap for higher level skills for the science-based industries represented by Cogent. *Technically Higher*, the Cogent Higher Level Skills Strategy, details how Cogent will work with employers to inform and develop higher level skills provision. By undertaking employer research, Cogent will determine the higher level skills needs of the nuclear industry and look to bridge skills gaps by informing, developing and delivering suitable provision. The framework for future skills will develop and deliver industry specific Continuing Professional Development (CPD) at Masters and PhD levels.
- 5.8 Additionally in March 2010 Cogent, supported by Government, NSA Nuclear and others, published a new nuclear skills and capability plan<sup>11</sup> which details

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<sup>9</sup> Note: one of the purposes of the NNL is to identify and preserve key nuclear scientific and technical skills and facilities that cannot be reliably supplied by the marketplace.

<sup>10</sup> Cogent Sector Skills Council. *Technically Higher: Securing Skills for Science and Innovation*. December 2009. [http://www.cogent-ssc.com/Higher\\_level\\_skills/Publications/EmergingHigher.pdf](http://www.cogent-ssc.com/Higher_level_skills/Publications/EmergingHigher.pdf)

<sup>11</sup> Cogent. *Next Generation Skills for New Build Nuclear*. March 2010 <http://www.cogent-ssc.com/research/Publications/Renaissance2.pdf>

the volume of different skills and when they will be needed to have new nuclear power plants built as well as an indication of critical skills shortages and actions to address these. The report contains a number of recommendations to address the key findings, one of which being for the sector skills councils, industry, professional bodies, and funding councils to work collaboratively to ensure availability of relevant Masters and PhD programmes and to consider workforce development qualifications that are fit for employers' purposes. Although this report is aimed at new nuclear build many of the recommendations will benefit the wider nuclear industry, including those skills needed for taking forward Managing Radioactive Waste Safely.

- 5.9 The Government welcomes these developments and will monitor their effectiveness, alongside the ongoing development of the NNL, in addressing issues around UK availability of skills in nuclear and radioactive waste management.

## 6. RECOMMENDATION 4

**CoRWM recommends to Government that it ensures that facilities for research with highly radioactive materials are improved and their capability enhanced so that they can be used for the full spectrum of research relevant to the long-term management of higher activity wastes. These facilities should be accessible to all researchers who need them.**

- 6.1 Government will keep under review what additional facilities may be required to undertake research relevant to the long-term management of higher activity radioactive wastes.
- 6.2 The National Nuclear Laboratory (NNL), launched in 2008, brings together within a single organisation a major part of the UK's nuclear R&D capabilities. The business model for the NNL is a Government owned, commercially-operated, customer-funded arrangement. The Government's vision is for a successful organisation, serving primarily the needs of legacy nuclear waste cleanup but also extending beyond this to seek wider opportunities. Government's belief is that a soundly based commercial model offers the greatest chance of success in the longer term.
- 6.3 The National Nuclear Laboratory (NNL) is examining the arrangements which will permit access to their facilities by researchers. The NNL is working with NDA, the Research Councils and regulators to find the optimum arrangements for this to occur. For commercial projects normal contractual arrangements will cover costs, however for longer term projects the arrangements may need further consideration and development to provide adequate funding.
- 6.4 The NNL has recently opened a new laboratory that provides facilities for research work involving plutonium<sup>12</sup>. This strengthens the UK's capability for undertaking research and will help NNL play a major role in the European wide ACSEPT programme which aims to come up with innovative ways of managing plutonium and other nuclear materials. Following Government approval to proceed NNL will, in conjunction with NDA, be carrying out an investment programme to improve the shielded facility at Windscale that will enable operational and supporting analytical work on highly irradiated materials and components. NNL will also be commissioning Phase 2 of the Plutonium Research (Central Laboratory) Facility to enable further R&D work on plutonium to be undertaken, subject to a satisfactory business case.
- 6.5 There is also support available through the Joint Research Centre (JRC) as part of the Euratom Framework Programme. The JRC focus on providing customer driven scientific and technical support to address the major issues

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<sup>12</sup> <http://www.nnl.co.uk/news/state-of-the-art-plutonium-lab-goes-live.html>

and challenges in nuclear energy research. The JRC's activities include research into the management of high level nuclear waste and geological disposal<sup>13</sup>.

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<sup>13</sup> Further details about the Joint Research Centre can be found at <http://ec.europa.eu/dgs/jrc/index.cfm?id=1690>

## 7. RECOMMENDATION 5

**CoRWM recommends to Government that an underground research facility be constructed at any site where it is proposed to construct a geological disposal facility.**

- 7.1 Government (noting that the Scottish Government does not support geological disposal and the Welsh Assembly Government reserve their position on geological disposal of higher activity radioactive waste) agrees that underground research will be needed during the development of a geological disposal facility (GDF) and will need to continue in the longer-term as the GDF is operated and new disposal vaults developed. The NDA has undertaken preliminary work to scope the types of underground research that may need to be undertaken. This can only be generic at this stage and there needs to be further consideration about what form this research may take, and what facilities may be necessary, as we move towards identifying a site and the type of geology that will potentially host the facility. At present it is too early to commit to what exact scope of on-site research will ultimately be needed during the GDF development, in the absence of clarity on the particular site, accompanying geology and detailed facility design concept for that site. Any sub-surface investigation on a site for a geological disposal facility would be required to have an Environmental Permit granted by the Environment Agency as the first step in granting a permit for the construction and operation of the facility. This would describe the investigations to be undertaken, the benefits provided by them and any potential impacts on the site for the future operation of the facility.
- 7.2 The R&D carried out by the NDA will need to be sufficient to satisfy the independent regulators that an appropriate safety case can be made at each stage in developing a GDF. The NDA would need to submit a safety case demonstrating that a GDF would meet the required standards for safety, environmental protection and security before the regulators grant approval for disposal of radioactive waste. The Government recognises that the safety case for development of the GDF will be a continually developing process made up of a number of documents, with appropriate documentation at each stage
- 7.3 The NDA published, in October 2009, a position paper on Planning for Underground Investigations<sup>14</sup>. CoRWM accepted<sup>15</sup> that this paper “*envisages extensive underground R&D*”. Government supports the flexible way that the

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<sup>14</sup> NDA Radioactive Waste Management Directorate. Planning for Underground Investigations: NDA Radioactive Waste Management Directorate Position Paper. 12 October 2009.

<sup>15</sup> CoRWM. Log of responses to consultation. Document 2630. Page 51. 30 October 2009. <http://www.corwm.org.uk/Pages/Current%20Publications/2630%20Final%20Consultation%20Response%20log%20RD%20report.pdf>

NDA has indicated carrying out R&D to progress the GDF. As the NDA states *“the requirements for underground investigations will depend strongly on the results of surface-based investigations conducted previously at the preferred site. A flexible approach is therefore being maintained as to the extent and nature of the requirements.”*

- 7.4 Government (noting that the Scottish Government does not support geological disposal and the Welsh Assembly Government reserve their position on geological disposal of higher activity radioactive waste) also expects the NDA to engage in international collaboration to ensure that the underground research taking place in other countries and the resulting conclusions drawn are fed into the development process. This may involve the broader learning from those programmes, as well as specific research results. It is recognised that differences in geology, waste types, quantities and other relevant conditions will not make the research carried out in other countries exactly transferrable to the circumstances in the UK, but there will be lessons to be learned and similarities that should be recognised and exploited, especially in the early stages of the GDF programme.



## 8. RECOMMENDATION 6

**CoRWM recommends to Government that mechanisms are put in place to ensure that a wider range of stakeholders than to date will be involved in establishing R&D requirements for the long-term management of higher activity wastes and that accessible information will be made available to the public about R&D needs, plans and progress.**

- 8.1 Government agrees the importance of making technical information as accessible as possible and notes that the sharing of knowledge in relation to research into the management and disposal of higher-activity radioactive wastes could assist in accelerating that research, reduce unnecessary duplication, and identify areas where further work is needed.
- 8.2 Government and the NDA are aware of the importance of this issue and significant steps have already been taken by the NDA with the setting up of a Research Board. As highlighted in the response to Recommendation 1 Government believes there is potential to extend the membership and role of this group and charge it with finding the right way to take this issue forward and understand how it could be achieved. The Nuclear Waste Research Forum (NWRFF) currently has a broader membership.
- 8.3 Government supports NDA's intention to: disseminate widely the results of future research programmes; raise awareness of the research that is required to be undertaken, and; make information available on progress made. NDA have taken steps to address this by creating a section on their website dedicated to research and will continue to populate this with reports on previous work and share future plans at the NDA strategic level. ([www.nda.gov.uk/research](http://www.nda.gov.uk/research) and [research@nda.gov.uk](mailto:research@nda.gov.uk))
- 8.4 The NDA's RWMD report<sup>16</sup> on R&D for geological disposal sets out plans to:
- *“continue to make R&D results available through publication on our bibliography, which is available on the NDA's website;*
  - *encourage publication of R&D findings in learned journals and at conferences;*
  - *organise R&D topic days to enable interested parties to share ideas.”*
- 8.5 The NDA is committed to ongoing review of stakeholder involvement mechanisms. For example, the Radioactive Waste Management Directorate (RWMD) report<sup>17</sup> on R&D states that *“We will build stronger relationships with*

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<sup>16</sup> The NDA's Research and Development Strategy to Underpin Geological Disposal of the United Kingdom's Higher-activity Radioactive Wastes. March 2009.

<http://www.nda.gov.uk/documents/upload/Research-and-Development-Strategy-to-Underpin-Geological-Disposal-of-the-UK-Higher-Activity-Radioactive-Wastes-March-2009.pdf>

<sup>17</sup> *ibid*

*our stakeholders and seek to increase their involvement in our programme planning and evaluation. We plan to set up a programme of technical workshops to engage with our stakeholders on R&D and to help them influence our future programme.”*

- 8.6 The regulators will make details of their research programmes available to stakeholders and publish reports arising from their research work.

## 9. SUMMATION

- 9.1 CoRWM's report is detailed and wide-ranging and this response does not seek to address every detail. Government will continue to take account of the six recommendations above, and the extensive supporting work that CoRWM undertook to support their recommendations, as plans and programmes develop in future. We shall work with the NDA and other involved parties to take forward the R&D required to deliver a robust radioactive waste management and geological disposal programme.
- 9.2 Government will have continuing engagement with CoRWM as we move the R&D agenda forward and this will be reflected in CoRWM's future work programmes.

## 10. ENDNOTE

10.1 Although CoRWM does not specifically raise the ethical values of researchers and research in their recommendations, Government considers that ethics within the research community is an essential part of good science. Therefore the Government supports the scientific and engineering institutions' ethical codes and codes of conduct, and also supports the Universal Ethical Code (UEC)<sup>18</sup> for scientists. The aims of the UEC are to:

- foster ethical research;
- Encourage active reflection among scientists on the wider implications and impacts of their work;
- support constructive communication between scientists and the public on complex and challenging issues.

10.2 By following the UEC scientists commit to a public statement of values and responsibilities, which can only aid researchers and research in the field of radioactive waste management and disposal.

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<sup>18</sup> <http://www.bis.gov.uk/policies/science/science-and-society/public-engagement/ethical-code>

**URN 10D/990**