



Committee on Radioactive Waste Management

COMMITTEE ON RADIOACTIVE WASTE MANAGEMENT

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CHAIR'S FOREWORD

This past year has been a period of change in which CoRWM has refreshed its membership and observed the decisions in West Cumbria, which have brought an end to the current MRWS process in West Cumbria after three years of information gathering. The Committee has been focussed on the development of a new, three-year proposed work programme that reflects the implications of the West Cumbria and Shepway decisions. The proposed work programme is now with Ministers for their approval but not surprisingly we will be focussing most of our attention on the lessons that can be learned from the recent decisions and their implications for the eventual delivery of a geological disposal facility.

On a personal note, I feel very privileged to have been appointed as the new Chair of CoRWM at this critical and challenging time. I am taking over the role from Professor Robert Pickard, who has successfully led the committee since 2007, and under whom the Committee has shown great commitment to delivering strong and authoritative advice on radioactive waste management and geological disposal to UK Government and those of the Devolved Administrations. I believe that the new Committee with its new mix of skills, including for the first time an eminent expert on geological disposal from the United States, will allow us to provide a renewed focus on critical areas such as the delivery of large infrastructure projects, environmental law, public and stakeholder engagement, facility safety cases and nuclear regulation all of which are crucial to fulfilling our role.

I am sorry to report that the deputy Chair, Professor Bill Lee of Imperial College will be leaving CoRWM on 30 June 2013 due to other work commitments. I would like to personally thank Bill for the important contribution that he has made to the subject of radioactive waste management and to geological disposal over the years and to his commitment and service to CoRWM and Government. He will be missed but we wish him well with his new and important responsibilities.

In spite of the recent decisions and difficulties with the current MRWS process that have been highlighted, CoRWM remains committed to its original view that geological disposal is the most appropriate solution to the management of those radioactive wastes that need to be isolated from mankind for tens or hundreds of thousands of years. We have a challenging time ahead of us and I will be fully focused on ensuring that the Committee maintains its independence so that it is able to form its own views and effectively carry out its scrutiny role. I will also be ensuring that CoRWM provides the advice to the UK Government and those of the Devolved Administrations that is necessary to ensure the delivery of the vital task of safe and secure disposal of our nuclear waste.

Laurence G Williams

Professor Laurence Williams FEng.

1. EXECUTIVE SUMMARY

- 1.1. During 2012/13 CoRWM continued to provide independent scrutiny of the UK's management of radioactive waste and advice to the UK Government and Devolved Administrations in accordance with the Committee's terms of Reference (Annex C). In line with the current policy for refreshing the membership of the Committee, Ministers appointed a new Chair and six new members in November 2012. These appointments have broadened the Committee skills base and for the first time have included an eminent expert on geological disposal from the United States. The appointments will allow us to provide a renewed focus on critical areas such as the delivery of a large infrastructure projects, environmental law, public and stakeholder engagement, facility safety cases and nuclear regulation, all of which are crucial to fulfilling our role. Members biographies can be found in Annex B.
- 1.2. During the year, CoRWM monitored the Managing Radioactive Waste Safely (MRWS) activities in West Cumbria and observed the decision that brought a conclusion to the current MRWS process in West Cumbria. In spite of the recent decisions and difficulties with the current MRWS process that have been highlighted, CoRWM remains committed to its original view that geological disposal is the most appropriate solution for the management of those radioactive wastes that need to be isolated from mankind for tens or hundreds of thousands of years.
- 1.3. CoRWM also continued to monitor Scottish Government's development of plans for managing its radioactive waste and welcome the recent progress on preparing an implementation strategy for its HAW.
- 1.4. CoRWM is encouraged by the renewed levels of commitment given at the Geological Disposal Steering Group (GDSG), which is the main working level focus for delivery of Geological Disposal in England and Wales. The Committee believe that this reinvigorated commitment to the Group has enabled control of the MRWS programme to focus on delivery and the important issues. CoRWM would like to see this commitment maintained and the growth and strengthening of appropriate resources with Department of Energy and Climate Change (DECC) and the Radioactive Waste Management Directorate (RWMD)¹ over the coming years to further underpin delivery.
- 1.5. CoRWM has scrutinized the development of derived inventories for geological disposal and would welcome greater consistency with the UK Radioactive Waste Inventory which is due to be published later in 2013. The Committee also considers that more realistic scenarios would be beneficial in defining the derived inventories for the Geological Disposal Facility (GDF), or Facilities.
- 1.6. CoRWM's scrutiny of the Nuclear Decommissioning Agency's Research Board (NDARB) has revealed a lack of strategic focus and the Committee believes that consideration should be given to reviewing the operation of NDARB to enable more opportunity to consider strategic matters.

¹ the directorate of NDA responsible for geological disposal

- 1.7. Towards the latter part of the year, the Committee has been focussed on the development of a new, three-year proposed work programme that reflects the implications of the West Cumbria and Shepway decisions. This new proposed work programme is now with Ministers for their approval but not surprisingly we will be focussing most of our attention on the lessons that can be learned from the recent decisions and their implications for the eventual delivery of a geological disposal facility.

- 1.8. This year has been one of change but the Committee has continued its role of providing independent advice to, and scrutiny of, the UK Government and those of the Devolved Administrations.

2. INTRODUCTION

Scope of CoRWM's work

2.1. This is the ninth Annual Report of the Committee on Radioactive Waste Management (CoRWM). It describes the Committee's work in the financial year from April 2012 to March 2013 and reflects on the past year and implications for the future for the long-term management of higher activity radioactive wastes.

2.2. CoRWM's remit for 2012-2013 was given in the June 2011 version of its Terms of Reference (CoRWM doc. 2235, Annex C), which stated that:

".....The role of the reconstituted Committee on Radioactive Waste Management will be to provide independent scrutiny and advice to UK Government and devolved administration Ministers on the long-term management, including storage and disposal, of radioactive waste. CoRWM's primary task is to provide independent scrutiny on the Government's and Nuclear Decommissioning Authority's 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."

2.3. In November 2012, CoRWM took the opportunity to review its terms of reference, in consultation with its sponsors (the Department of Energy and Climate Change and the Devolved Administrations). The new Terms of Reference are with Ministers for approval before publication (CoRWM doc. 3097).

Summary of Year

2.4. Until 31 October 2012, the Committee focused its attention on the following topics which are set out in CoRWM's 2012-13 work programme (CoRWM doc. 3022):

- *Advice and scrutiny on MRWS and geological disposal*
- *Advice and scrutiny of interim storage, conditioning and packaging*
- *Advice and scrutiny of Scottish Government's policy and strategy*
- *Advice and scrutiny on R&D*
- *Use of international experience*
- *Scrutiny of others' PSE*

Progress on each of these is reported in later chapters.

2.5. From 1 November 2012, there was a change in membership of the Committee when the outgoing Chair and eight members came to the end of their term of appointment. In November 2012, the incoming Chair commenced his appointment, together with four new members and the re-appointment of two existing members. A list of members for 2012-13 is given in Annex B. In the following months, the Committee

focused its attentions on inducting the new members, and reformulating Ways of Working (CoRWM doc. 3088), whilst continuing to take forward its advisory and scrutiny roles, the main focus of which was on the MRWS process as it was applied in West Cumbria.

Public and Stakeholder Engagement and Communications

- 2.6. CoRWM has in the past undertaken public and stakeholder engagement (PSE) to support its work programme and in general uses PSE to assemble evidence, obtain the views of stakeholders, check the factual accuracy of its draft documents and seek comments on its proposed advice.
- 2.7. In the period April to October 2012 the Committee held four open plenary meetings that were open to the public (CoRWM docs 3042, 3055, 3072, 3079). At each meeting there was an opportunity for the public to ask questions as part of the formal meeting and to talk informally to Committee members during refreshment breaks.
- 2.8. In June 2012, after its plenary meeting, CoRWM held an open evening in Largs for stakeholders and the public to discuss matters associated with the management of HAW in Scotland and the rest of the UK. The evening was well-attended and there was a lively discussion of Scottish Government HAW policy, HAW management at Hunterston and other topics (CoRWM doc. 3056). Scottish Government officials participated in the open evening, which followed a CoRWM meeting with them on various topics (CoRWM doc. 3058).
- 2.9. There has been much informal engagement with stakeholders and some with the public. For example, members of CoRWM met local residents and others when they attended West Cumbria Managing Radioactive Waste Safely Partnership meetings and events as observers (para 4.9).
- 2.10. A CoRWM member presented the Committee's work at the Nuclear Industry Forum in June 2012.
- 2.11. Updates on CoRWM's progress and plans have regularly been posted on the CoRWM website (www.corwm.decc.gov.uk) and e-bulletins were sent out to a wide range of stakeholders in May, June and October 2012.
- 2.12. Since the Committee reformed in November 2012, the initial meetings were closed whilst Ways of Working were agreed. Under the review of CoRWM's Terms of Reference since November 2012, CoRWM has been reviewing its stakeholder engagement strategy (CoRWM doc. 3119). The Committee has agreed that it should continue to engage with stakeholders who have a direct interest in radioactive waste matters to inform CoRWM's scrutiny role. It was also agreed that, with low public interest in recent years and financial constraints, open plenaries cannot be justified in CoRWM's 2013/14 work programme.

Use of International Experience

- 2.13. CoRWM uses several means of keeping in touch with international developments. Through literature and websites searches, it monitors progress in various countries on the long term management of HAW, especially progress with geological disposal. It also monitors the work of the European Commission, the Nuclear Energy Agency (NEA), and the International Atomic Energy Agency (IAEA). When opportunities arise it meets with those involved with HAW management in other countries. CoRWM members also gather information when they visit other countries as part of their non-CoRWM work.
- 2.14. In April 2012 six members of CoRWM visited France (CoRWM doc. 3050). In Paris they held discussions with various organisations, including the Commission Nationale d'Evaluation (CNE2) and the Commissariat à l'Energie Atomique et aux Energies Alternatives (CEA). During the visit to the Departements of Meuse and Haute Marne they visited the Underground Research Laboratory at Bure and held discussions with public interest groups and local government officials. CoRWM has produced a paper setting out issues raised by the visit (CoRWM doc. 3051).
- 2.15. CoRWM noted the report by the Swedish waste management organisation (SKB) for RWMD, the directorate of NDA responsible for geological disposal (SKB International, 2012). The report described the potential benefits of technology transfer for geological disposal. It was also noted that RWMD intends to commission a report on the same subject from the French waste management organisation ANDRA (DECC, 2012a).
- 2.16. The CoRWM Deputy Chair attended a meeting of the NEA Radioactive Waste Management Committee's Forum on Stakeholder Confidence in Prague in October 2012. He gave a presentation on CoRWM's role and its outlook on the UK's MRWS process.
- 2.17. In December 2012, The Chair and two members met with the Japan Environmental Safety Corporation (JESCO), as part of a wider visit organised by the NDA. CoRWM shared experiences and expertise in stakeholder engagement and consultation.

Government Triennial Review of CoRWM

- 2.18. Triennial reviews of non-departmental public bodies (NDPBs) are carried out by Government as part of fulfilling its commitment to ensuring accountability in public life. The triennial review of CoRWM, which is an advisory NDPB, began in March 2012. Its aims were:
- *to challenge the continuing need for CoRWM to carry out its role, both in terms of its function and form;*
 - *if it is agreed that CoRWM should remain as an advisory NDPB, to review its control and governance arrangements to ensure it is complying with recognised principles of good corporate governance.*

2.19. The review was completed in May 2012 (DECC, 2012b). It concluded that CoRWM should continue as an advisory NDPB that provides scrutiny of, and advice to, Government on issues relating to the management of radioactive waste in the UK. It made two suggestions for improvement of the governance arrangements for CoRWM; these relate to appraisal procedures for the Chair and members.

CoRWM's Assessment of its Performance

2.20. In 2012 the Committee felt that it was also appropriate to reflect on its performance over the five years since it was reconstituted in October 2007. It therefore produced a "performance narrative" (CoRWM doc. 3037) in October 2012. This captures the main outcomes of the Committee's work and indicates areas where it might have been more effective. CoRWM also produced a paper on the lessons it has learnt about its ways of working in October 2012 (CoRWM doc. 3064).

2.21. In light of the in-year review reported in the performance narrative and lesson learnt (CoRWM docs 3037 and 3064), the Committee will not assess its performance for this annual report. However, members will be subject to an annual assessment for their individual performance.

3. SCRUTINY AND ADVICE ON TREATMENT, PACKAGING, STORAGE AND TRANSPORT

Treatment, packaging, storage and transport of higher activity wastes (HAW), spent fuels (SFs) and nuclear materials (NMs).

- 3.1. The work in this area includes:
- *NDA HAW strategy (part of NDA's Integrated Waste Management strategy development programme)*
 - *Consolidation of treatment and storage of HAW on fewer nuclear sites*
 - *HAW and SFs in the Sellafield Legacy Ponds and Silos*
 - *Co-ordination of work on long-term management of legacy and new build HAW, SFs and NMs*
 - *Version 2 of the Industry Guidance on interim storage, and*
 - *RWMD work on waste package specifications*
- 3.2. Much of CoRWM's work on this topic was carried out through meetings with NDA (separate meetings with its HAW and spent fuels – nuclear materials teams) and regulators (Office for Nuclear Regulation (ONR) (safety, security and transport teams), Environment Agency (EA) and Scottish Environment Protection Agency (SEPA).

Development and Implementation of NDA's HAW Strategy

- 3.3. CoRWM discussed NDA's HAW strategy with NDA (CoRWM doc. 3081) and with regulators (CoRWM docs. 3049, 3086). The discussions covered NDA's overall approach to strategy development and implementation, as well as specific topics. The Committee also saw some HAW management activities during its visit to Hunterston A in June 2012 (CoRWM doc. 3057).
- 3.4. NDA's further development of its HAW strategy is part of its programme of work on development of its strategy for integrated waste management (NDA, 2012b). CoRWM welcomed NDA's plans for producing strategic guidance to its Site Licence Companies (SLCs) and to RWMD on HAW treatment, storage and disposal, as well as guidance on specific waste streams. The Committee understood (CoRWM doc. 3036) that NDA was going to produce a standalone HAW Strategy. The Committee believes that the production of such a standalone strategy is desirable before the NDA produces the third NDA Strategy (which is due to be published by the end of March 2016).
- 3.5. CoRWM has agreed with regulators that there is a need for a UK HAW Strategy, of which the NDA Strategy would be the largest part (CoRWM doc 3049). The UK Strategy would in turn be part of the UK submission that is required for compliance with the European Directive on the safe management of spent fuel and radioactive waste (EU, 2011). Regulators have told CoRWM that NDA cannot itself decide to produce a UK HAW strategy because it would involve wastes that were not within their remit and the NDA would need a direction from Government to take the lead.

Consolidation of Treatment and Storage of HAW on Fewer Sites

- 3.6. CoRWM stated in its 2011-12 Annual Report (CoRWM doc. 3036) that it considers that there is no need for an NDA estate-wide consolidation strategy and that further consolidation opportunities can be pursued as part of the tactics of HAW management. It notes that, in effect, this is the course of action that NDA is pursuing.
- 3.7. Consolidation activities in England include the movement of some HAW from Harwell to Sellafield, for treatment and storage (NDA, 2011a, b). In August 2012 NDA published a paper on credible options for the storage of intermediate level waste (ILW) in central and southern Scotland (NDA, 2012c). Current work is focused on evaluating the option of using the Hunterston A store for Hunterston B sludge and resins.

Graphite Wastes

- 3.8. In its 2011-12 Annual Report (CoRWM doc 3036), CoRWM welcomed the more strategic approach to be taken by NDA in respect of graphite waste. NDA updated CoRWM on how it was taking this work forward at a meeting in September 2012 (CoRWM doc. 3081). At that time, NDA's intention was to have a preferred option paper for near-term arisings of graphite (primarily the fuel sleeves at Sellafield and Hunterston) complete by the end of 2012. The paper was being prepared by the relevant SLCs, who would indicate their preferred option. There will be a credible options paper for longer-term arisings of bulk graphite in due course but a decision on a preferred option (or options) will not be taken for some time.
- 3.9. A review of the baseline assumptions about geological disposal of core graphite (NDA, 2012d) has shown that this option would be less expensive than previously thought. This is largely a result of revised packaging assumptions and the consequent decrease in the space that core graphite would take up in a geological disposal facility (GDF).

National Alpha Waste Strategy

- 3.10. Regulators told CoRWM that they are pleased that NDA has formed an Alpha Waste Strategy Group involving AWE as well as their relevant SLCs (CoRWM doc. 3049). In the near term the emphasis is in dealing with the plutonium contaminated materials (PCM) at Sellafield, including continuing treatment, moving it to modern stores and commissioning a new characterisation facility (CoRWM doc. 3081).

HAW Treatment Post-2023

- 3.11. CoRWM welcomed the NDA project to identify and evaluate treatment options for HAW that, with appropriate R&D, could be implemented in about ten years' time. The project was due to be completed by the end of March 2013. It will identify the wastes that, under current plans, will not have been processed by 2023, the options for treating them and the plants required. It will enable NDA to produce strategic guidance for its SLCs on HAW treatment and to identify the R&D needed in order to construct new treatment plants and bring them into operation (CoRWM doc. 3081).

Thermal Treatment

- 3.12. CoRWM understands that NDA is now developing a business case for use of thermal treatment for HAW, focusing on alpha contaminated waste in the first instance. This work will be included in the HAW treatment project.

Industry Guidance on Interim Storage

- 3.13. CoRWM welcomes the second issue of the Industry Guidance on interim storage of HAW (*Industry Guidance - Interim Storage of Higher Activity Waste Packages – Integrated Approach*) which was launched at an event on 26 September 2012 (CoRWM doc. 3084) and has been in effect since November 2012 (NDA, 2012r). CoRWM recognises that issue 2 of the Industry Guidance is much more than a document. It is a package of information that will be available, electronically, to store operators, store owners, regulators and others. In addition to the main guidance document (the “Integrated Approach”), there are 30 appendices containing toolkits of potential solutions to storage issues and other information to support the guidance.
- 3.14. Presentations at the launch event (CoRWM doc. 3084) showed that there is an increasingly strategic approach to interim storage of HAW across the NDA estate. Examples include the review of store lifetimes and asset care requirements at Sellafield, the Magnox programme of designing and constructing buildings to hold ductile cast iron containers (DCICs, “ministores”) and HAW storage plans at Dounreay and Harwell.
- 3.15. There were also presentations at the event about R&D related to interim storage (CoRWM doc. 3084). These showed that issue 2 of the Industry Guidance is well-underpinned by R&D, much of which was undertaken specifically to assist the production of the guidance. They also showed that there is considerable R&D in progress that will help to improve the guidance, and storage practices, in the future.
- 3.16. In its 2009 report to Government on interim storage (CoRWM doc. 2500), CoRWM expressed the view that UK HAW storage arrangements, while adequate, lacked robustness and were fragmented. The Committee considers that there have been substantial improvements over the last three years, driven largely by the Industry Guidance project, which has been very successful and worthwhile.
- 3.17. In its 2011-12 Annual Report (CoRWM doc. 3036) CoRWM suggested that, to assist continuing improvement of storage arrangements, NDA should adopt a rigid approach to ensure that its SLCs use the Industry Guidance, for example by including a requirement to use it in Site Strategic Specifications. The Committee understands that NDA is considering such an approach, to complement less formal means of obtaining SLC acceptance of the Guidance (CoRWM doc. 3084).

Upstream Optioneering

- 3.18. This project involves RWMD looking upstream of a GDF to enable optimisation of the management of HAW throughout its lifecycle. The project, which started in 2010, involves collaboration between RWMD, SLCs and NDA. In its 2011-12 Annual Report

(CoRWM doc 3036), CoRWM reported NDA's intended timelines for completion of Phase 2 of the project and commencement of Phase 3. CoRWM is pleased that NDA has been able to keep to this timetable.

Wastes in Legacy Ponds and Silos at Sellafield

- 3.19. CoRWM monitors progress in planning and preparing for retrieval of wastes from the Legacy Ponds and Silos (LP&S) at Sellafield and for treating and packaging the wastes to make them suitable for interim storage and geological disposal. The Committee held a meeting with NDA in February 2012 to obtain an update on plans for LP&S waste retrieval, treatment and packaging, including RWMD progress with disposability assessments of proposed waste forms (CoRWM docs. 3020, 3036). It has also discussed LP&S wastes with regulators (CoRWM doc. 3049).
- 3.20. At its meetings with NDA in September and October 2012 on HAW, spent fuels and nuclear materials strategies (CoRWM doc. 3073, 3081), CoRWM learnt that treatment options for metallic fuels retrieved from the Legacy Ponds are now being considered jointly by NDA's spent fuel and HAW strategy teams. The Committee hopes that this joint approach will enable the LP&S project to take advantage of the work by NDA and Sellafield Ltd on contingency and alternative treatment options for unprocessed Magnox fuel (para 3.28).
- 3.21. The Committee noted ONR's concerns about whether Sellafield Ltd will be able to meet its target dates for hazard reduction at the LP&S and ONR's plans for monitoring the performance of Sellafield Ltd (ONR, 2012a).

Waste Packaging

NDA Strategic Work on HAW Disposal Containers

- 3.22. CoRWM heard at its meeting with NDA on HAW in September (CoRWM doc 3081) about recent NDA work on potential collaboration across the NDA estate, and with other nuclear industry organisations, on usage of containers. This has shown that the number of different types of container in use, and that are planned to be used, is not large. At a meeting, the NDA informed CoRWM (CoRWM doc 3081) that there are only nine basic types of container. Although there are variations in each of these, they are mainly in features to enable handling.
- 3.23. The work has also highlighted the importance, in strategic terms, of container requirements at Sellafield. Excluding final site clearance, Sellafield will need about 100,000 containers for its HAW, compared to a few thousand at Magnox and RSRL and of the order of 10,000 at DSRL. Opportunities for further collaboration on container type selection and on procurement will need to take this into account.

RWMD Disposability Assessments and Waste Package Specifications

- 3.24. CoRWM met RWMD in April 2012 to discuss the Disposability Assessment process and updating of packaging specifications (CoRWM doc. 3048). RWMD described the improvements it was making to its procedures for carrying out disposability

assessments and for issuing and periodically reviewing Letters of Compliance (LoCs). It also outlined the hierarchy of waste package specifications and noted that the new, Level 1, Generic Waste Packaging Specification had been published in March 2012 (NDA, 2012g). CoRWM was particularly interested in RWMD progress with LoC reviews and in RWMD's technical audits of waste packagers' operations.

- 3.25. The Committee subsequently discussed waste packaging matters with regulators (CoRWM doc. 3049). It heard that regulators welcomed the improvements RWMD was making to its procedures, particularly the earlier interactions with waste packagers. There was also some discussion of the use of DCICs. These are covered by the new, Level 2, Generic Specification for Waste Packages Containing Low Heat Generating Waste, which was published in August 2012 (NDA, 2012h).

HAW Management at Hunterston A

- 3.26. During its visit to Hunterston A in June 2012 (CoRWM doc. 3057) CoRWM observed a presentation on the principal projects at the site. The Committee then saw the solid active waste bunker retrieval (SAWBR) project, the wet ILW retrieval and encapsulation plant (WILWREP) and the ILW store. Discussion topics at the wash-up session included progress in England with the implementation of geological disposal and whether the lack of an endpoint for long-lived ILW for Scotland was affecting the site's decommissioning and clean-up programme.

Spent Fuels and Nuclear Materials

- 3.27. CoRWM met NDA in September 2012 to discuss its strategies for spent fuels and nuclear materials (CoRWM doc. 3073). It also discussed these topics with regulators (CoRWM docs. 3049, 3086).

Spent Magnox Fuel

- 3.28. The ninth edition of the Magnox Operating Plan (MOP9) was published in July 2012 (NDA, 2012i), as was the NDA's Magnox Fuel Strategy Position paper (NDA, 2012j). Unlike previous versions, MOP9 does not set a date for the completion of Magnox reprocessing but presents a series of scenarios with differing reprocessing rates. With the fastest rate, Magnox reprocessing would be complete by the end of March 2017; with the slowest rate it would not be complete until about 2028. NDA said it was in discussion with Government and others about the implications of continuing reprocessing beyond 2020 for both the UK Strategy for Radioactive Discharges (DECC et al., 2009) and the UK's obligations under the 1993 Oslo and Paris Convention on the Protection of the Marine Environment of the North East Atlantic (OSPAR).
- 3.29. The Magnox Fuel Strategy Position Paper considers various strategic options and explains why reprocessing in existing plant is the preferred one. It also explains why NDA and Sellafield Ltd are working on near-term contingencies for use in the event of an acute, irrecoverable loss of reprocessing capability and on alternatives to reprocessing for use if there is a gradual and irrecoverable loss of reprocessing

capability. Both contingencies and alternatives were discussed at the September 2012 meeting (CoRWM doc. 3073).

Spent Oxide Fuels

- 3.30. NDA published its Oxide Fuels Preferred Option document in June 2012 (NDA, 2012k). The preferred option is the current strategy of completing the THORP reprocessing contracts and storing unprocessed AGR fuel. This will mean that THORP will close in 2018 and that the existing highly active liquor storage tanks (HASTs) at Sellafield will not be replaced.
- 3.31. NDA's preferred option for unprocessed spent AGR fuel is wet storage in the THORP Receipt and Storage Pond. A safety case for this is being developed, following agreement of the approach with regulators. CoRWM agrees there are advantages in delaying decisions on disposal canisters until the requirements for a GDF to take the fuel are clearer. There are also advantages in not removing fuel from the pond, drying it and placing it in disposal canisters until a GDF is available (CoRWM doc. 3073).

Exotic Fuels

- 3.32. During 2011 NDA decided that the preferred option for Dounreay Fast Reactor (DFR) breeder fuel is to transport it to Sellafield and reprocess it in the Magnox reprocessing plant. The Committee noted that on 17 December 2012, the NDA announced that the first transfer had taken place. (CoRWM doc. 3073, NDA 2012s).

Plutonium

- 3.33. CoRWM heard from NDA in September 2012 that it has work in progress to provide Government with further information to support a business case for re-use of plutonium in MOX fuel in LWRs (CoRWM doc. 3073). RWMD is assessing the disposability of spent MOX fuel. NDA also has work in progress on burning plutonium in PRISM or CANDU reactors, as an alternative to re-use in MOX fuel in LWRs..

Uranics

- 3.34. NDA provided CoRWM with information about management of uranic materials following a meeting in September 2012. In the near future the prospects for selling large quantities of uranics for re-use are not good. NDA therefore expects to continue to regard most of its uranics as a strategic reserve for the foreseeable future. However, opportunities are being taken at Springfields and Capenhurst to reduce liabilities to the tax payer from some uranics (CoRWM doc. 3073).

MOD HAW from Submarine Dismantling

- 3.35. CoRWM does not scrutinise MOD but it does keep itself informed about MOD plans and activities, particularly its co-ordination with NDA. The Committee has been following MOD progress with its Submarine Dismantling Project (SDP) and noted the publication of the post-consultation report in July 2012 (MODa, 2012), the Strategic Environmental Assessment (MODb March 2013). Work on where the resulting ILW

will be stored pending geological disposal continues, including discussions with NDA about possible use of its sites.

Management of New Build ILW and Spent Fuels

- 3.36. CoRWM has been following developments in the management of new build ILW and spent fuels. It has also had contact with prospective new build operators at the RWMD GDF Users Group and the DECC Geological Disposal Implementation Board (GDIB) (para 4.3).
- 3.37. NDA has been given the responsibility of advising Government on the Funded Decommissioning Programmes (FDPs) for proposed new nuclear power stations. It is currently reviewing the FDP for Hinkley Point C (CoRWM doc. 3073).
- 3.38. CoRWM had previously understood that the NDA and RWMD were to be carrying out a further study, under contract to potential new build operators, of options for the management of new build spent fuels. Following their involvement in the GDF Users Group, it was understood that new build operators were of the view that the existing technical programme would address their interests sufficiently and therefore there was no need to commission an additional study (NDA, 2012I), see also para 4.29, GDF Users' Group). New build spent fuels are also included in the RWMD integrated project team's work on high heat generating wastes.

UK Radioactive Waste Inventory

- 3.39. CoRWM attended the start-up meeting for the production of the 2013 UK Radioactive Waste Inventory (RWI). The Committee's impression is that this is a well-organised project that will result in an improved RWI. It has noted that legacy spent fuels and nuclear materials that are to be dealt with as wastes will be included in the 2013 RWI. It understands that the baseline inventory for geological disposal will be closely based on the 2013 RWI and that new build spent fuels will be included in an RWI scenario and in an "upper inventory" for geological disposal.

4. SCRUTINY AND ADVICE ON GEOLOGICAL DISPOSAL

4.1. The topics in CoRWM's 2012-13 work programme (CoRWM doc. 3022) on geological disposal were:

- *Managing Radioactive Waste Safely (MRWS) programme in general*
- *MRWS in West Cumbria*
- *Proposals for acceleration of the geological disposal programme, including changes to RWMD's Provisional Implementation Plan*
- *Preparations for MRWS Stage 4 (site identification and assessment)*
- *RWMD Technical Plan*
- *RWMD safety case development for a geological disposal system*
- *RWMD geological disposal concept selection*
- *RWMD development of a Strategic Environmental Assessment (SEA) for a geological disposal facility*
- *RWMD Issues Management Process*
- *Near-surface disposal of some types of HAW (as an alternative to geological disposal)*

4.2. Prior to 1 November 2012, CoRWM actively engaged with RWMD and provided a range of informal advice under various tasks under CoRWM's work on geological disposal. Since the changeover of CoRWM members, a lower level of engagement with RWMD has taken place partly due to the focus of the Committee's attention on re-establishing ways of working but also in light of the results of the votes in West Cumbria, which has caused RWMD to pause much of its activity in relation to stage 4 of the process (desk based studies) since the end of January 2013.

Governance and Management Arrangements for Implementing Geological Disposal

4.3. The CoRWM Chair attended the July 2012 GDIB meeting as an observer. The meeting heard updates from DECC and NDA (DECC, 2012a). It also noted the publication of the second DECC annual report to Parliament on the MRWS programme (DECC, 2012c).

4.4. CoRWM attended five meetings of the Geological Disposal Steering Group (GDSG), as an observer. There is a standing agenda item to review progress in terms of programme and risk management by both DECC and RWMD². GDSG minutes are published on the DECC website.

4.5. CoRWM believes that the GDSG is an extremely important steering group as it provides the main, working level mechanism for delivery of Geological Disposal. CoRWM members have attended the meeting in observer status and have noted that

² RWMD also publishes a high-level risk register for geological disposal on the NDA website, www.nda.gov.uk/aboutus/geological-disposal/rwmd-work.

although the Terms of Reference (DECC 2012e) for GDSG state that meetings should be held every 6 weeks, there was often deviation from this interval, with meetings cancelled on occasions. In addition, there were changes in attendance over the year. However, in recent months, CoRWM observers have been encouraged by a greater level of commitment to GDSG.

- 4.6. In addition, CoRWM has observed that there has been significant turnover of DECC personnel supporting the Senior Reporting Officer which may have put DECC's governance of this fast moving and high profile programme under pressure.

Shepway District Council Consultation

- 4.7. In May 2012 Shepway District Council began to take local soundings on whether it should submit an Expression of Interest (EoI) in hosting a GDF in the Romney Marsh area. A number of public meetings were held in connection with the soundings. DECC and RWMD attended to provide information and CoRWM attended some meetings as an observer. CoRWM also wrote to the Chief Executive of the Council to introduce the Committee and its role (CoRWM doc. 3070).
- 4.8. The local soundings were brought to a close in July 2012. Shepway District Council discussed whether it should submit an EoI at its meeting on 19 September 2012. Members voted against submitting an EoI. The minutes of the meeting, and the Council's report are on the Shepway District Council Website (SDC 2012a, SDC 2012b).

MRWS Process in West Cumbria

- 4.9. CoRWM's role in respect of the MRWS process in West Cumbria was to scrutinise the role of Government and NDA. The Committee fulfilled its role primarily by attending meetings of the West Cumbria MRWS Partnership (www.westcumbriamrws.org.uk) as an observer, and holding meetings with the Steering group of the Partnership, and reporting on the role played by DECC and RWMD. It also responded to requests by the Partnership for information, for example on what is known about the suitability of the geology of West Cumbria to host a GDF (CoRWM doc. 3053).
- 4.10. The three local authorities that were involved (Copeland Borough Council, Allerdale Borough Council and Cumbria County Council) held meetings on 30 January 2013 to decide whether to proceed to MRWS Stage 4 (site identification and assessment *via* desk-based studies) following a postponement of the decision from October 2012 and a period of further clarification. On 30 January 2013, the two borough councils voted to proceed in the process, but the County Council voted to stop the process. As Ministers had indicated that agreement of both County and Borough levels was required in order for the process in west Cumbria to proceed, the MRWS process in West Cumbria was brought to a close.
- 4.11. In the plenary meetings of February and March 2013 (CoRWM docs 3105 and 3112), CoRWM debated the lessons learned from West Cumbria and any potential

improvements that CoRWM might propose for any future changes to the MRWS process. These included discussion of: the role of DECC and NDA in any future Partnerships; the scrutiny role of CoRWM; timing of the decision and opinion polls; the perceived lack of knowledge of MRWS and GDF concept; at the local level advertising and publicity; the option of an independent overseeing body; the need for greater clarity as to responsibility for decision making at the local level; geological pre- screening; trust; timing and amount of community benefits; firmer legal basis for the rights of withdrawal; and the need for more information on the inventory. These observations were informally compiled to provide feedback to DECC on the MRWS process.

- 4.12. The committee believe that on the whole, the efforts of DECC (and the NDA) to support Councils in Cumbria and the Partnership were satisfactory. However the Committee believe that a more proactive approach, compatible with the principle of voluntarism should be incorporated in any future changes to the process.

RWMD Organisational Development

- 4.13. Plans for RWMD to become a wholly-owned subsidiary of NDA did not progress as expected over the past year because of the outcome of the MRWS process in West Cumbria.
- 4.14. CoRWM noted in its 2011-12 Annual Report (CoRWM doc. 3036) that MRWS Stage 5 will require considerable programme management expertise, both for the surface-based investigation activities and for handling and interpreting the large amounts of site characterisation data that will be generated. MRWS Stage 6 involves construction of surface and underground facilities and is a major nuclear project that needs to be managed as such. The structure and size of organisation required for Stage 5 is thus different to that which is appropriate for Stage 4 and further changes will be needed for Stage 6.
- 4.15. CoRWM was told at its June 2012 update meeting with RWMD (CoRWM doc. 3066) that the latter had carried out an organisational review after six months of operating its current structure. This had recommended a review of geoscience and geo-engineering skills. Following this review, it had been concluded that RWMD had a reasonable number of geoscientists and engineers but additional capability would be required for MRWS Stage 4 and preparations for Stage 5. At the October 2012 update meeting (CoRWM doc. 3083) RWMD informed the Committee that it planned to recruit two further geoscientists for MRWS Stage 4. It also intended to make more use of members of its Technical Advisory Panel to provide it with geoscientific advice. In addition, consideration was being given to employing a senior geoscientist, possibly a professor, for 2 to 3 days per week to be an RWMD representative on geological matters. At the same meeting, CoRWM emphasised to RWMD the importance of being aware of the capabilities that will be required for Stages 5 and 6, and of making preparations to acquire them.
- 4.16. Although not an immediate priority, CoRWM would support the review of RWMD's skill base, for example project management skills, to ensure that appropriate and adequate expertise can be brought in as and when necessary.

RWMD Approach for MRWS Stage 4

4.17. CoRWM met with RWMD at the end of August 2012 to discuss the latter's proposed approach to identification and assessment of potential candidate sites for geological disposal in MRWS Stage 4. Points made by CoRWM included the need for:

- a document on the approach that is accessible to lay audiences and thus suitable for discussion with any future Community Siting Partnership
- a transparent process to agree the relative weightings of local and national criteria for site assessment
- a recognition that the criterion "geological setting" is a potential showstopper and should be treated as such.

4.18. The RWMD approach to MRWS Stage 4 was briefly discussed at the October 2012 update meeting with RWMD (CoRWM doc. 3083). On the issue of geology, CoRWM reiterated its view (CoRWM doc. 3036) that, because of the uncertainties about geological conditions at potential GDF depths, it would be necessary in MRWS stage 4 to consider a full range of geological models consistent with the available data at the site identification stage. RWMD indicated that it only intended to do this later during site assessment. CoRWM remains of the view that it should be done during site identification, so as both to minimise the chances of missing a potentially suitable host rock volume and to reduce the risk of losing public confidence by selecting an area for stage 5 that would rapidly prove to be unsuitable on geological grounds (e.g. insufficient rock volume). The Committee emphasised to RWMD that it need not be time-consuming or expensive to evaluate a number of geological models. CoRWM learnt at its October 2012 meeting with regulators (CoRWM doc. 3086) that EA had discussed with RWMD the need to avoid focusing on a single conceptual geological model of a region in the early phases of stage 4 investigation of potential GDF sites. This work will be re-examined when any changes to the MRWS process have been finalised.

Accelerating the Implementation of Geological Disposal

4.19. In 2011-12, in response to a Ministerial request, RWMD carried out a programme of work to explore the possibility of accelerating the implementation of geological disposal. RWMD's report on its work was published in December 2011 (NDA, 2011c).

4.20. DECC formally requested CoRWM's views on RWMD's work and the Committee gave its advice in March 2012. The advice was published in July 2012 (CoRWM doc. 3006).

4.21. DECC then asked RWMD to carry out further work on acceleration options and RWMD provided CoRWM with some information about this work after the October 2012 update meeting (CoRWM doc. 3083). CoRWM understood that RWMD is progressing options to optimise its programme but is not currently planning to accelerate its generic programme timescales.

Assessment of RWMD's Generic Disposal System Safety Case

- 4.22. At the request of DECC, CoRWM carried out an assessment of RWMD's generic Disposal System Safety Case (gDSSC) suite of documents. CoRWM published its assessment as a position paper (CoRWM doc. 2994) in March 2012.
- 4.23. CoRWM concluded that, in general, the gDSSC shows that RWMD's understanding of the scientific and technical knowledge underpinning geological disposal is sufficiently comprehensive for the current stage of its work. CoRWM identified some topics for which it appears that RWMD's understanding and ability to use knowledge will need to be increased before any site specific DSSC is produced. However, the Committee believes that it will be straightforward for RWMD to make any improvements that are required. CoRWM also concluded that RWMD has, or will have, appropriate processes in place to fill gaps in its knowledge through R&D. CoRWM concluded that RWMD's site characterisation strategy and plans are not yet comprehensive but that they are developing in appropriate directions at this stage of the implementation of geological disposal (CoRWM doc. 2994).
- 4.24. In summer and early autumn 2012 CoRWM had some interactions with RWMD about how points from the gDSSC assessment would be picked up in RWMD's forward programme. The Committee commented on drafts of RWMD's detailed response to the gDSSC assessment. RWMD told CoRWM that it would not publish a response but it will be used by RWMD in formulating its future technical programme and for reporting to CoRWM on progress with points raised by the gDSSC assessment (CoRWM doc. 3083).

Geological Disposal Concept Selection Process

- 4.25. RWMD published a document on its geological disposal concept selection process in June 2012 (NDA, 2012m). CoRWM discussed this document at its September 2012 plenary meeting (CoRWM doc. 3072). Issues raised in the discussion related to the definition of "concept", a perceived over-reliance on engineered barriers and on off-the-shelf concept designs, and the approvals process for designs. It was noted that some CoRWM comments on a draft of the note had not been taken into account, especially those about the potential need for changes to the design of a GDF as more information became available from surface-based and underground investigations. The document did not have the detail that CoRWM would expect for later stages in the MRWS process. Members also felt that there was too little recognition by RWMD of the importance of underground investigations and R&D. These issues were drawn to RWMD's attention at the October 2012 update meeting (CoRWM doc. 3083), together with the wider question of RWMD capabilities (para 4.13). At this meeting, the wording of related issues was agreed and these have been reported in the RWMD's March 2013 issues register.

RWMD Issues Management Process

- 4.26. In the period April – October 2012 CoRWM and RWMD met three times to discuss the RWMD Issues Management Process (CoRWM docs. 3067, 3075, 3082). The meetings covered general progress in developing the process and how RWMD

planned to handle CoRWM's issues. As a result of the first two meetings, the large number of CoRWM issues on the RWMD register (NDA, 2012n) was reduced to a small number of headline issues by agreement (CoRWM docs. 3068, 3075).

- 4.27. At the third meeting (CoRWM doc. 3082) agreement was reached on the wording of CoRWM's headline and component issues. The issues are published on NDA's website. CoRWM will now receive an update on progress with the Issues Register on an annual basis.

Inventory of Wastes for Geological Disposal

- 4.28. The inventory of wastes for geological disposal was mentioned briefly at CoRWM's October 2012 update meeting with RWMD (CoRWM doc. 3083). CoRWM told RWMD that it was pleased that the 2013 derived inventories for geological disposal would be more closely based on the RWI (para 3.39) than had been the case in the past to ensure greater consistency. CoRWM also said that it considered it essential that both the baseline and upper derived inventories for geological disposal were more realistic and more consistent with the plans of waste producers than had been the case previously.

RWMD Technical Advisory Panel

- 4.29. CoRWM accepted an invitation to attend meetings of RWMD's Technical Advisory Panel (TAP) as an observer. The Panel was established in 2012 to provide strategic advice to the RWMD Executive on the delivery of its technical programme. It will also advise the NDA Research Board on research to support geological disposal³. Members observed the October 2012 and January 2013 meetings of the Panel.
- 4.30. CoRWM believes the present form of TAP is effective and is suitably challenging regarding the detail and strategy of RWMDs technical programme (CoRWM doc 3083).

GDF Users Group

- 4.31. CoRWM attends meetings of RWMD's GDF Users Group as an observer (NDA, 2012o, p). The group involves NDA (as an owner of legacy wastes), EDF Energy, MOD, Urenco, GE Healthcare and developers of new nuclear power stations. CoRWM considers that the Group is a useful forum, particularly for ensuring that new build and other non-NDA wastes are fully taken into account in RWMD's work. Members observed this group in April 2012, October 2012 and January 2013⁴.
- 4.32. CoRWM believe the GDF Users Group is a useful forum for getting the views and input of those bodies who will be putting wastes into GDFs and is highly successful.

³ www.nda.gov.uk/aboutus/geological-disposal/rwmd-work/advisory-panel.cfm

⁴ <http://www.nda.gov.uk/stakeholders/newsletter/gdf-user-group.cfm>

Review of Alternatives

- 4.33. Government stated in the 2008 MRWS White Paper (Defra *et al.*, 2008) that NDA would keep alternatives to geological disposal in a mined facility under review. In response to a query from CoRWM in March 2012, RWMD stated that it would be progressing its work on alternatives during 2012-13. RWMD also said that it would need to take account of insights gained during the assessment of acceleration options (e.g. about developments in the use of deep boreholes) and to consult DECC about the scope of what was required to meet the commitment in the White Paper. At the October 2012 update meeting with RWMD, CoRWM was told that the RWMD report on alternatives was at an advanced stage of preparation (CoRWM doc. 3083).
- 4.34. CoRWM had expected that the report on alternatives would now be available but has not yet observed its publication.

Estimated Costs of Geological Disposal

- 4.35. CoRWM noted that NDA's Annual Report and Accounts for 2011-12 (NDA, 2012q) gave an estimated cost to NDA of geological disposal of £3.840 billion (discounted). This was lower than the previous estimate of £3.844 billion and CoRWM asked RWMD why it had changed. RWMD responded that the cost reduction was the net effect of the latest disposal inventory and of revised packaging assumptions for Sellafield wastes and spent fuels (particularly AGR fuel).
- 4.36. CoRWM also asked RWMD about the basis for the statement in the 2011-12 NDA Annual Report and Accounts (NDA, 2012q) that the cost to NDA of geological disposal could be £1.6 billion higher, depending on the type of host rock. RWMD replied that the £3.84 billion estimate is based on implementation of the reference conceptual design of GDF, to the reference case programme, in higher strength rock. RWMD has estimated that in lower strength rock the cost could increase by £1.6 billion, primarily because the rock would require more support and there would be a need for more, smaller openings in the GDF for a given inventory.

Strategic Environmental Assessment

- 4.37. In March 2013, CoRWM requested and attended a meeting with DECC officials to understand DECC's current plans for Strategic Environmental Assessment (SEA) in relation to geological disposal in the MRWS programme.

Nuclear Legacy Advisory Forum (NuLeAF)

- 4.38. In March 2013, the Committee met with NuLeAF to share thoughts on the MRWS process in West Cumbria. A note of the meeting is included in the March plenary minutes (CoRWM doc. 3112).

5. SCRUTINY AND ADVICE ON SCOTTISH GOVERNMENT HAW POLICY AND STRATEGY

- 5.1 In 2012-13, CoRWM provided advice to and scrutiny of the development of a strategy to implement the Scottish Government HAW policy of near-surface, near-site storage and disposal (CoRWM doc. 3022).
- 5.2 CoRWM's scrutiny of Scottish Government's HAW Implementation Strategy (HAWIS) project and the advice that the Committee has given on HAWIS is summarised in CoRWM doc. 3063. In 2011 and the early part of 2012 Scottish Government encountered a number of problems in setting up arrangements to develop the HAWIS. Scottish Government have started to put in place more robust arrangements for project management and to ensure the scope and objectives of the HAWIS are clear, and although progress remains slow with only one project board held in 2012-13, the pace and direction of the strategy is now starting to gain momentum. CoRWM understand that there is the prospect of a Consultation this coming year.
- 5.3 Scottish Government policy is to store HAW that is not suitable for near surface disposal. This might mean that waste is in stores with 100 year lifetimes before having to be moved to subsequent new stores. CoRWM consider this model to be expensive and welcome Scottish Government's plan to take a closer look at the inventory in 2013 and characterise waste according to half-life as well as radioactivity in order to identify how much waste will have to be managed in this way.
- 5.4 The Scottish Government will be contributing to the UK's national programme report to the European Commission on the implementation of the Spent Fuel and Radioactive Waste Directive in August 2015.
- 5.5 The scope of the HAWIS will be limited to aspects of HAW management where Scottish Government could usefully influence the work of waste owners and producers, and to aspects of the Scottish Government HAW policy that require further explanation. CoRWM has encouraged Scottish Government to maintain its focus on producing a straightforward HAWIS that summarises current implementation activities, identifies what still needs to be done and is fit for purpose in present circumstances (CoRWM doc. 3063).

6. SCRUTINY AND ADVICE ON R&D

6.1 The topics on research and development (R&D) set out in CoRWM's 2012-13 work programme (CoRWM doc. 3022) are:

- *Expansion of geological disposal R&D beyond needs-driven and co-ordination of the expanded programme*
- *Co-ordination of R&D on treatment, packaging, storage and transport of legacy and new build HAW, spent fuels and nuclear materials*

NDA Research Board (NDARB)

6.2 The CoRWM Chair attended the April 2012 meeting of the NDA Research Board (NDARB). Topics discussed included the Board's response to four CoRWM questions on R&D, the NDA Technical Baseline Report that was in preparation, a summary and analysis of R&D needs for decommissioning and radioactive waste management, and the Board's forward programme.

6.3 The Deputy Chair attended the October 2012 meeting of NDARB (NDA, 2012u). He reported on this at CoRWM's October 2012 plenary meeting (CoRWM doc. 3079). Most of the NDARB meeting was taken up by various presentations. Items included:

- NDA's R&D communication strategy including having an R&D conference every 3 years
- SLC R&D communications
- RCUK approach to communications
- Update on Government response to the House of Lords Science and Technology Committee nuclear R&D capability report
- Overview of European decommissioning programmes
- EDF decommissioning strategy
- CEA approach to international relations
- NWRF update including their plans for an Annual Report

6.4 There was also a brief discussion of the need to coordinate UK high level involvement in international programmes. CoRWM's Deputy Chair raised some issues about communications. He highlighted the impact on communications of closing the Sellafield visitors centre but noted there was not a lot of support from NDA for it to be re-opened. The lack of information about NDARB on the NDA website over the last 12 months was also noted but this seemed to have been rectified after the meeting.

6.5 NDARB is attended by very senior people from Government, academia and industry and, in CoRWM's view should play a major role in driving progress. CoRWM's Chair and the Deputy Chair who observed the NDARB meetings, felt that the forum was disappointing and did not meet its intended objectives. CoRWM is concerned that the meetings are dominated by presentations leaving little opportunity for strategic discussions and the CoRWM Chair will raise this with the NDARB Chair to see how improvements can be made.

Nuclear Waste Research Forum (NWRF)

- 6.6 NWRF is sponsored by NDA and participants include all NDA's SLCs, some other nuclear site licensees, MOD, ONR, EA and SEPA. CoRWM attends NWRF meetings as an observer. One of the Co-Chairs of NWRF attends each NDARB meeting.
- 6.7 In April 2012 NWRF agreed new terms of reference following the reconstitution of NDARB and in the light of views expressed by regulators and CoRWM. The new terms of reference are intended to give NWRF a greater focus on ensuring that R&D that is relevant to several organisations is commissioned and the results disseminated. Experience at meetings in July and October 2012 suggested that this objective is being achieved. A member attended in January 2013 and noted that the forum was seeking to drive R&D progress and appeared to be succeeding. The problem is that the initiative is based on the efforts of like-minded individuals, rather than driven by a system which promotes and rewards such aspirations and attitudes. With very little 'top cover' from policy or the industrial structure, even a small change of personnel could compromise the whole process (CoRWM doc. 3106).

Government Ad Hoc Nuclear R&D Advisory Board

- 6.8 Two members of CoRWM sat on the Ad Hoc Nuclear R&D Advisory Board in their personal capacities. This Board was set up by Government following the 2011 report of the House of Lords Select Committee on Science and Technology on nuclear R&D (HoLSTC, 2011, 2012). In March 2013, the Government published a review of the Civil Nuclear R&D Landscape in the UK.
- 6.9 CoRWM welcome the reports relevant to CoRWM's work especially the R&D Roadmap (BIS, 2013b), the review of the R&D Landscape (BIS, 2013a) and the report of the Ad Hoc Board (2013). In particular CoRWM welcome the Recommendations of the Ad Hoc Board that:
- A nuclear R&D Advisory Board is set up to provide national coordination and implement the roadmap.
 - A National Nuclear Users Facility is set up to widen access to active facilities and samples.
 - The mission of the NNL is balanced and its remit enhanced to improve collaboration with academic and industrial sectors, and
 - Development and regulatory scrutiny of the safety cases and technologies supporting geological disposal are underpinned by transparent, robust R&D which develops confidence among all stakeholders including the public.
- 6.10 These are in line with recommendations CoRWM has previously made to Government in its R&D report (CoRWM doc. 2543) and to the DECC Chief Scientific Advisor (CoRWM docs. 2973, 2995) and the HoLSTC (CoRWM docs. 2927 and 2947).

Natural Environment Research Council

- 6.11 CoRWM commented on the recommendations of an expert group set up by the Natural Environment Research Council (NERC) to advise it on science priorities and capacity

needs for its Radioactivity and the Environment (RATE) programme. CoRWM focused on the geological disposal part of the programme.

- 6.12 The NERC call for proposals for the RATE programme was issued in October 2012. It covers three areas: geosciences, environmental radioactivity and radioecology, and multi-disciplinary research. The total funding for the programme is £7.5 million and there is an emphasis on capacity building. It is envisaged that there will be one consortium for each area. CoRWM discussed the programme at its October 2012 plenary meeting (CoRWM doc. 3079).

7. SCRUTINY AND ADVICE ON PSE OF OTHER ORGANISATIONS

7.1 In the first part of 2012-13, CoRWM monitored developments, particularly on concerns raised in the past that fewer resources would be devoted to PSE in the current economic climate.

NDA

7.2 NDA regularly updates the stakeholder engagement plans that are published on its website. There is an overall plan for engagement on the development and implementation of NDA strategy and engagement plans for each theme in the NDA Strategy (NDA, 2011d). Geological disposal is included in the overall engagement plan. CoRWM notes these plans and follows developments as part of its scrutiny of NDA work on topics within its remit. One CoRWM member observed the NDA stakeholder workshop in October 2012 which was well attended and covered various areas of NDA's programme including Geological Disposal. Whilst CoRWM fully supports the general intentions of this event, they would welcome a more interactive and consultative programme at future events which would provide NDA with a larger collation of feedback and views.

DECC

7.3 DECC PSE related to geological disposal is referred to in section 4. CoRWM also notes that a discussion of geological disposal took place at the October 2012 meeting of the Nuclear NGO Forum. Meeting notes are published on the DECC website (DECC 2012d).

MRWS in West Cumbria

7.4 CoRWM noted in its 2011-12 Annual Report (CoRWM doc. 3036) that the PSE process that was conducted in Cumbria by the West Cumbria MRWS Partnership was probably one of the most extensive that has ever been undertaken in the UK on nuclear issues. The Committee also stated that NDA and DECC made constructive inputs to the process and provided information and assistance on factual matters, including answering queries related to the Partnership's final report (West Cumbria MRWSP, 2012).

7.5 It is the CoRWM view that the quality of the consultation was high regardless of the outcome of the decision about participation. After the Partnership produced its final report, the PSE process de facto ceased. This was detrimental to the MRWS process in the 5 month period before the three local authorities voted as to whether or not to proceed to Stage 4.

Regulators

7.6 At its various meetings with regulators (e.g. CoRWM doc. 3049) CoRWM takes the opportunity to discuss PSE. The Committee has noted that there has been no decrease in the resources that regulators are devoting to PSE.

- 7.7 ONR has continued to emphasise its commitment to openness and transparency. Its interactions with stakeholders have included an Engagement Forum for communities neighbouring Hinkley Point to hear from ONR inspectors who regulate safety and security at the existing power stations and also for the proposed Hinkley Point C station (ONR, 2012b). ONR has continued to improve its website⁵.
- 7.8 EA published an independent evaluation of its consultation on its findings from the Generic Design Assessment (GDA) for new reactors (Warburton, 2012). This contained recommendations that, in CoRWM's view, should be useful for other organisations as well as EA. CoRWM noted that EA had taken the recommendations into account in drafting the August 2012 consultation documents for its environmental permits for Hinkley Point C, particularly the summary document (EA, 2012). CoRWM also took part in an EA telephone survey of the views of its stakeholders on how it works.

⁵ <http://www.hse.gov.uk/nuclear/background.htm>

8. REFLECTIONS ON THE PAST YEAR AND IMPLICATIONS FOR THE FUTURE

- 8.1 This has been a year of change for CoRWM. The decision not to continue with the MRWS process in West Cumbria has meant that the priorities of the Committee in relation to the MRWS programme changed focus mid-way through the year. In addition, CoRWM underwent a refresh of its membership including the appointment of a new Chair in November 2012.
- 8.2 The refreshed Committee has reaffirmed its commitment to geological disposal as being the most appropriate solution to the management of those radioactive wastes that need to be isolated from mankind for tens or hundreds of thousands of years. CoRWM also believes that the selection of a suitable site (or sites) for geological disposal should be based upon a volunteer approach.
- 8.3 As the MRWS process has to date not secured a volunteer community to host a GDF, CoRWM welcomes the current review of the MRWS siting process that includes the recent "Call for Evidence" (June 2013), that invited the public to give their views on the process. The process for attracting volunteer communities is a vital part of the MRWS approach and the Committee will look at what lessons have been learned from the events in West Cumbria and Shepway. The Committee has been working, and will continue to work with DECC to provide advice that will improve the MRWS siting process.
- 8.4 As the shape of any revised process emerges, the Committee will scrutinize the outcome to ensure that appropriate capability exists to deliver the new programme. The Committee has concerns that to date the MRWS programme has not had the recognition across Government that is necessary to ensure the success of the programme. As part of this, over the coming year CoRWM will be focusing on how DECC responds to the "Call for Evidence" and how the NDA's Radioactive Waste Management Directorate transitions to a wholly owned subsidiary. CoRWM's focus will be on how NDA ensure that the new company is set with the management structure and resources necessary to undertake its responsibilities for the delivery of a GDF.
- 8.5 The national strategy for the management of radioactive waste is dependent upon both current and future nuclear energy programmes. Without clarity on the size, scope and timing of new nuclear energy programmes the suitability of any radioactive waste strategy will always be subject to question. Given CoRWM's focus on safe and secure interim storage of radioactive waste and eventual geological disposal, CoRWM welcomed the publication of the Nuclear Energy Research and Development Roadmap (BIS 2013b) in March 2013. In the coming year CoRWM will be looking at the implications of the scenarios set out in the Roadmap for the GDF programme.
- 8.6 The need to implement a long-term solution to the management of the UK's radioactive waste, both current and that expected to arise in the future, is of paramount importance. The provision of a safe, secure GDF is central to the current strategy for England and Wales. CoRWM expects that the current year will be extremely busy and new ways of working are being developed to provide more effective scrutiny of DECC,

the Devolved Administrations, the NDA, the Regulators and those parts of the nuclear industry that produce or manage radioactive waste.

- 8.7 CoRWM continued to monitor Scottish Government's development of plans for managing its radioactive waste and welcome the recent progress on preparing an implementation strategy for its HAW.
- 8.8 CoRWM's currently planned activities for the coming year are set out in its rolling three-year proposed work programme which will be available on the CoRWM website once it has been approved by Ministers.
- 8.9 One important change that has taken place during the year relates to plenary meetings. In light of the low public attendance in recent years at CoRWM plenary meetings, the Committee decided that the practice of holding open meetings was no longer appropriate in view of current financial constraints (CoRWM doc. 3119). This change in no way changes CoRWM's commitment to being open and transparent. Minutes of plenary meetings will continue to be published on the CoRWM website. CoRWM will also focus on engaging with stakeholders who have a direct interest in radioactive waste matters and will ensure that all other interested parties are fully informed of its activities via the CoRWM website and regular e-bulletins.

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Acronym List

AGR	Advanced gas cooled reactor (A type of reactor with a graphite core, and Uranium oxide fuel in steel cladding with a graphite sleeve).
ANDRA	Agence Nationale pour la Gestion des Déchets Radioactifs
AWE	Atomic Weapons Establishment (at Aldermaston). (AWE plc is the company that runs Aldermaston and Burghfield under contract to the Ministry of Defence.)
BIS	Department for Business, Innovation and Skills
CANDU	Canada Deuterium Uranium (reactor)
CEA	Commissariat à l'Energie Atomique et aux Energies Alternatives
CNE2	Commission Nationale d'Evaluation
CoRWM	Committee on Radioactive Waste Management
DCIC	Ductile cast iron container
DECC	Department of Energy and Climate Change
DFR	Dounreay Fast Reactor
DSRL	Dounreay Site Restoration Limited
EA	Environment Agency, England and Wales
EDF	Electricité de France (trades in the UK as EDF Energy)
EoI	Expression of Interest
EU	European Union
FDP	Funded Decommissioning Programme (for a new nuclear power station)
FED	Fuel element debris (a type of ILW)
GDF	Geological disposal facility
GDIB	Geological Disposal Implementation Board (set up by DECC and chaired by a DECC Minister)
GDSG	Geological Disposal Steering Group (a UK Government group that

	reports to GDIB)
gDSSC	generic Disposal System Safety Case (produced by RWMD)
HAST	Highly active liquor storage tank
HAW	Higher Activity Waste
HAWIS	HAW Implementation Strategy
HMT	Her Majesties Treasury
HoLSTC	House of Lords Select Committee on Science and Technology
IAEA	International Atomic Energy Agency (a United Nations agency)
ILW	Intermediate level waste
JESCO	Japan Environmental Safety Corporation
LoC	Letter of Compliance (previously Letter of Comfort)
LP&S	Legacy Ponds and Silos (at Sellafield)
m³	Cubic metre
MOD	Ministry of Defence
MOP9	Magnox Operating Plan
MOX	Mixed oxide fuel (contains uranium and plutonium oxides)
MRWS	Managing Radioactive Waste Safely (the UK programme for the management of higher activity wastes)
NDA	Nuclear Decommissioning Authority
NDARB	Nuclear Decommissioning Authority Research Board
NDPB	Non-departmental public body
NEA	Nuclear Energy Agency (part of the Organisation for Economic Cooperation and Development)
NERC	Natural Environment Research Council
NNL	National Nuclear Laboratory
NM	Nuclear Materials
NuLeAF	Nuclear Legacy Advisory Forum

NWRF	Nuclear Waste Research Forum (a group convened by NDA)
ONR	Office for Nuclear Regulation (An agency within HSE that regulates safety, security and safeguards at nuclear facilities and transport of radioactive materials. ONR will in due course become an autonomous organisation, legally separated from but still supported by HSE)
OSPAR	Oslo and Paris Convention on the Protection of the Marine Environment of the North East Atlantic
PRISM	Power Reactor Innovative Small Module
PSE	Public and stakeholder engagement
RATE	Radioactivity and the Environment (a NERC research programme)
RCUK	Research Councils UK
R&D	Research and development
RSRL	Research Sites Restoration Limited
RWI	Radioactive Waste Inventory
RWMD	Radioactive Waste Management Directorate (of NDA)
SAWBR	solid active waste bunker retrieval
SEA	Strategic environmental assessment
SEPA	Scottish Environment Protection Agency
SKB	Svensk Kärnbränslehantering AB (Swedish nuclear fuel and waste management company)
SLC	Site licence company (a company that runs an NDA site, under contract to the NDA, and holds the nuclear site licence)
SF	Spent Fuel
TAP	Technical Advisory Panel
THORP	Thermal Oxide Reprocessing Plant (at Sellafield)
WILWREP	Wet ILW retrieval and encapsulation plant

ANNEX A CORWM EXPENDITURE 2012-13

Table 1 shows CoRWM's budget out-turn for the year, broken down by main spending areas. The budget was set at £450k. DECC undertook an exercise in August 2012 for budget holders to declare underspends and CoRWM's budget was reduced to £363k. There was an expectation that all DECC budget holders should minimize expenditure where possible.

Table 1 CoRWM's Budget Out-Turn

<i>Budget Item</i>	<i>Budget (£k)</i>	<i>Out-turn (£k)</i>
Member fees and expenses ¹	355	295.9 ²
Plenary meetings	40	23.1
Website	12	0
Technical support	3	0
Public and stakeholder engagement	5	0 ³
Visits	5	1.5
DECC advertisement and recruitment costs for new Chair and Members ⁴	30	26.4
Total	450	346.9
	Reduced to £363k in Aug 2012	

¹ Member fees and expenses include attendance at CoRWM plenaries, meetings with stakeholder, public-facing meetings and presenting at/attending conferences.

² This figure includes Employer National Insurance Contributions charged to CoRWM's cost centre.

³ Costs for PSE have been included in member's fees and expenses

⁴ Charged to CoRWM's cost centre

CoRWM is not required to report the fees that individual members received, but it publishes this information in the interests of transparency. These are shown in Table 2.

The standard fees are those paid at the rates specified in Members terms of appointment. These state that the Chair can claim £450 a day for 1.5 days a week, the Deputy Chair can claim £380 for 1 day a week and Members can claim £300 a day for 1 day a week (all for 52 weeks in a year).

Table 2 Fees Paid to CoRWM Members

<i>Name</i>	<i>Standard Fees (£k)</i>
Laurence Williams (CD)	4.0
Laurence Williams (Chair)**	12.2
Robert Pickard (Chair)*	20.6
William Lee (Deputy Chair)	19.8

<i>Name</i>	<i>Standard Fees (£k)</i>
David Broughton*	9.0
Margaret Burns*	8.4
Gregg Butler**	4.0
Brian D Clark***	14.4
Paul Davis**	5.4
Mark Dutton*	5.0
Fergus Gibb*	9.2
Simon Harley	15.6
Marion Hill*	9.3
Francis Livens	13.2
Rebecca Lunn	15.6
Leslie Netherton*	7.8
Helen Peters**	2.5
John Rennilson	12.5
Stephen Newson***	14.7
Lynda Warren***	13.5
Janet Wilson**	1.0
Total	217.7

*Appointment expired on 30 October 2012.

**Appointed on 1 November 2012.

***Reappointed on 1 November 2012.

(CD) – Chair Designate, July-October 2012.

ANNEX B CORWM MEMBERSHIP FROM 1 NOVEMBER 2012



Laurence Williams FEng (Chair) - is the Professor of Nuclear Safety and Regulation at the University of Central Lancashire, a Visiting Professor at King's College London, a Visiting Senior Fellow at the National Nuclear Laboratory, a Member of the Higher Scientific Council of the European Nuclear Society, Chair of the Nuclear Institute Editorial Board for Nuclear Future, a Member of the Defence Nuclear Safety Committee, an external examiner for the Nuclear Department of the Defence Academy, a Member of the Chernobyl International Advisory Group to the European Bank for Reconstruction and Development. Formerly, Laurence was the

Chief Engineer and Director for Nuclear Safety, Security and Environment at the Nuclear Decommissioning Authority. He was a Member of the Board of the Health and Safety Executive and Her Majesty's Chief Inspector of Nuclear Installations. As Chairman of the IAEA Commission on Safety Standards he was responsible for overseeing the development of international standards in the areas of nuclear safety, radiation protection, radioactive waste management and the transport of nuclear materials. Laurence is an international authority on nuclear safety and security regulation. He is a Fellow of the Royal Academy of Engineering, a Fellow of the Institution of Mechanical Engineers and a Fellow of the Nuclear Institute.

Current term of office ends: 31 October 2016



William Lee (Deputy Chair) – is Director of the Centre for Advanced Structural Ceramics and Co-Director of the Centre for Nuclear Engineering at Imperial College London. He has a Physical Metallurgy BSc from Aston, a DPhil in Radiation Damage Studies from Oxford and has held academic positions in the USA (Case Western Reserve University, Cleveland and Ohio State University) and in the UK, notably at Sheffield University where he was Director of BNFL's University Research Alliance on Waste Immobilisation. He is a Fellow of the American Ceramic Society, the City and Guilds Institute and the Institute of Materials, Minerals and Mining. He acts as technical expert

for the International Atomic Energy Agency.

Current term of office ends: 31 October 2014



Gregg Butler is Co-Director of Integrated Decision Management Ltd and a Professor of Science in Sustainable Development at the University of Manchester, attached to the Dalton Nuclear Institute. He has a BSc and PhD in metallurgy from Swansea University, and has over 45 years' experience in the nuclear industry, having worked in most parts of the fuel cycle in R&D, planning, commercial, plant operations, plant and site management and director roles. He

was a member of the Radioactive Waste management Advisory Committee from 1994 – 2004. Current research interests include the sustainability of nuclear power and its regulation, and effectiveness of decision making methodologies in bringing economics, regulatory outcomes, stakeholder views and values to a robust conclusion.

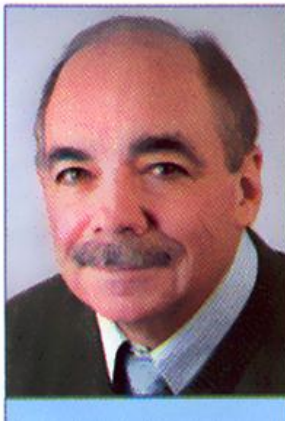
Current term of office ends: 31 October 2016



Brian D Clark is Professor of Environmental Management and Planning at Aberdeen University. He was a Board Member of the Scottish Environment Protection Agency (SEPA) and Chairman of the North Region Board and the Planning & Finance Committee of SEPA from 2000 to 2008. He has served on CoRWM since 2003. With forty years' experience, he is a specialist in environmental impact assessment (EIA), strategic environmental assessment (SEA) and urban and rural planning. He was honoured in 1987 by being made a founder member of UNEP's Global 500 Award. He is a governor of the James Hutton Institute, a member of the Scottish Government Local Boundary Commission and a founder member of the Institute of

Environmental Assessment (IEA), now the Institute of Environmental Management and Assessment (IEMA).

Current term of office ends: 31 October 2014



Paul Davis is the owner of EnviroLogic Inc., an environmental and water resources consulting company in Durango, Colorado, USA. He has over 30 years of experience in the geologic disposal of radioactive waste, starting with site characterization of the Waste Isolation Pilot Project (WIPP) for the United States Geological Survey. At Sandia National Laboratories, he participated in and led the development of performance assessment methodologies for geologic repositories in bedded salt, basalt, and volcanic tuff for the US Nuclear Regulatory Commission, specializing in groundwater flow and transport modelling and the quantification and propagation of uncertainty. He also provided technical support for the development

of safety standards for high-level waste disposal for the U.S. Environmental Protection Agency and led the WIPP team responsible for the integration of site characterization, research, performance assessment and regulatory compliance. He is currently collaborating with Los Alamos National Laboratories in the quantification of uncertainty in stable isotope analyses and with Moscow State University, Russia in the development of regional groundwater flow models.

Current term of office ends: 31 October 2016



Simon Harley is Professor of Lower Crustal Processes in the School of Geosciences at the University of Edinburgh. An international expert on the evolution of continental crust, his research integrates geological mapping with experimental and microanalytical studies of the stabilities of minerals and their behaviour at high temperatures and pressures. He has conducted geological mapping projects in diverse and complex basement areas in Australia, India, Norway, Greenland, Scotland and Antarctica. Professor Harley is a Fellow of the Royal Society of Edinburgh and in 2002 was awarded the Imperial Polar Medal in recognition of his contributions to Antarctic Earth Science.

Current term of office ends: 31 October 2014



Francis Livens has held a radiochemistry position at the University of Manchester since 1991. He worked for over 25 years in environmental radioactivity and actinide chemistry, starting his career with the Natural Environment Research Council, where he was involved in the response to the Chernobyl accident. At the University of Manchester, he has worked in many aspects of nuclear fuel cycle research, including effluent treatment, waste immobilisation and actinide chemistry. He was the founding director of the Centre for Radiochemistry Research, established in Manchester in 1999 and is now Research Director of the Dalton Nuclear Institute and Director of the EPSRC-funded, Manchester/Sheffield Nuclear Fission Doctoral Training Centre. He has acted as an advisor to the nuclear industry both in the UK and overseas.

Current term of office ends: 31 October 2014



Rebecca Lunn is a Professor in Civil Engineering at the University of Strathclyde. She has over 20 years of research experience in hydrogeology, with a particular focus on deep flow systems, hydromechanics and the spatial and temporal evolution of rock permeability. In 2011, she was awarded the Geological Society Aberconway Medal for research of particular relevance within industry. Her research experience is multi-disciplinary and she currently collaborates closely with structural geologists, seismologists, mathematicians, microbiologists, psychologists and statisticians. She leads the multi-partner EPSRC research consortium, 'Biogeochemical Applications in Nuclear

Decommissioning and Disposal' (BANDD). Current research interests include: development of computer models to simulate changes in rock permeability over time surrounding geological faults, with a view to improving flow predictions for deep radioactive waste disposal and carbon dioxide sequestration; understanding the relationship between

subsurface groundwater flow and earthquakes; and exploring public understanding of uncertain science, such as flood prediction, to inform the regulators' approach to public information and decision making.

Current term of office ends: 31 October 2014



Stephen Newson is a Chartered Engineer and Fellow of the Institute of Materials, Minerals and Mining and is currently working as a Mining Consultant on a range of underground projects in the UK and overseas. He has over 40 years of mining experience including operational management, research and development, business planning and the design and construction of large underground excavations. He spent 16 years with British Coal, latterly responsible for the specification and approval of underground tunnel and coalface support systems on a national basis. During this time his was also a UK representative on the European Experts' Committee on tunnelling systems. He has worked for a number of major companies on new mine construction and expansion projects in Australia, Asia, North America and Africa. He has also, as a consultant, previously worked on underground design and planning projects related to the potential disposal of radioactive waste underground.

Current term of office ends: 31 October 2016



Helen Peters is a Legal Director at Pinsent Masons LLP. She is a solicitor specialising in all aspects of UK, EU and international environmental law and policy with significant experience in nuclear regulation and waste management. Helen is recognised as a leading UK environmental lawyer by Chambers Legal Directory and Legal 500. She is a member of the WNA Licensing and Permitting Task Force and a corporate member of the Nuclear Industries Association. She is also the UK Environmental Law Association regional convenor for the North East and member of the UKELA waste working party. Helen has been engaged in several of the leading nuclear transactions in the UK in recent years, advising on environmental and regulatory matters for public authorities and owners, operators and contractors.

Current term of office ends: 31 October 2016



John Rennilson is a Chartered Town Planner and a Chartered Surveyor with over 37 years' experience in local government. He served as County Planning Officer of North Yorkshire County Council (1984-1996) and as Director of Planning & Development for Highland Council (1996-2008). His career has involved balancing development needs and environmental issues at a strategic, as well as at a local,

level. He has had considerable experience of the energy industry, including development of the Selby Coalfield, coal-fired electricity generation at Drax and Eggborough, and decommissioning Dounreay, as well as renewable electricity generation and transmission issues across the Highlands.

Current term of office ends: 31 October 2014



Lynda Warren is Emeritus Professor of Environmental Law at Aberystwyth University and visiting Professor at Birmingham City University. She is a member of the Board of Natural Resources Wales, which will be taking over the functions of the Environment Agency in Wales from April 2013, and sits on Defra's Science Advisory Council. She was a member of the Royal Commission on Environmental Pollution until its closure in March 2011. She has postgraduate degrees in marine biology and law and has pursued an academic career first in biology and latterly in environmental law. She has over 100 academic publications, including a number on radioactive waste management law and policy. Lynda has over 15 years' experience of radioactive waste management policy. She has been a member of CoRWM since 2003 and, before that, was a member of the Radioactive Waste Management Advisory Committee (RWMAC), chairing its working group on Dounreay. She was on the Board of British Geological Survey until the Board was disbanded in April 2011 and is an associate of IDM, a consultancy engaged in environmental policy advisory work, mainly in the nuclear sector.

Current term of office ends: 31 October 2016



Janet Wilson is a recognised authority known internationally throughout the nuclear community. Specialities include government policy, national strategy, regulation and advising on sensitive nuclear safety and non-proliferation issues, most recently as Associate Director Energy for Atkins Global. Her breadth of experience and technical knowledge enable her to not only provide strategic support and advise to nuclear clients but also to develop new business opportunities for this international engineering and design consultancy. Immediately before joining the private sector she was Director of Nuclear Assurance for the Nuclear Decommissioning Authority and a Non-Executive Director for the Civil Nuclear Police Authority. Prior to this she held a series of senior management roles in the UK nuclear regulatory body now known as ONR regulating high profile civil and defence facilities, representing the UK internationally in emergency preparedness and regulatory matters and developing UK decommissioning and clean-up policy and regulation. Janet holds a PhD, is a Fellow of the Institution of Mechanical Engineers, is a European Engineer and is a Liveryman of the Worshipful Company of Engineers.

Current term of office ends: 31 October 2016

ANNEX C CoRWM'S TERMS OF REFERENCE

Introduction

1. Following the announcements by UK Government and the devolved administrations (Government), on 25 October 2006, a new Committee on Radioactive Waste Management (CoRWM) was appointed under these revised terms of reference designed to meet the future needs of the Government's Managing Radioactive Waste Safely (MRWS) programme. The Committee is jointly appointed by UK Government and relevant devolved administration Ministers. Details of its roles, responsibilities and membership are outlined below.

CoRWM's Role and Responsibilities

2. The role of the reconstituted Committee on Radioactive Waste Management is to provide independent scrutiny and advice to UK Government and devolved administration Ministers on the long-term management of radioactive waste, including storage and disposal. CoRWM's primary task is to provide independent scrutiny on the Government's and Nuclear Decommissioning Authority's (NDA's) 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.
3. Sponsoring Ministers (from the Department of Energy and Climate Change (DECC) and the devolved administrations) will agree a three-year rolling programme and budget for CoRWM's work on an annual basis. Any in-year changes will be the subject of agreement by sponsoring Ministers.
4. CoRWM will provide appropriate and timely evidence-based advice on Government and NDA plans for the delivery of geological disposal under the Managing Radioactive Waste Safety programme. The work programme may include review of activities including waste packaging options, geological disposal delivery programmes and plans, site selection processes and criteria, and the approach to public and stakeholder engagement. Testing the evidence base of the plans for the delivery of geological disposal will be a key component of the work. As well as ongoing dialogue with Government, the implementing body, local authorities and stakeholders, CoRWM will provide an annual report of its work to Government.
5. CoRWM shall undertake its work in an open and consultative manner. It will engage with stakeholders and it will publish advice (and the underpinning evidence) in a way that is meaningful to the non-expert. It will comply, as will sponsoring departments, with the Government Chief Scientific Advisor's Guidelines on the Use of Scientific and Engineering Advice in Policy Making⁶ as well as other relevant Government advice and guidelines. Government will respond to all substantive advice. Published advice and reports will be made available in respective Parliaments/Assemblies, as will any Government response. CoRWM's Chair will attend Parliamentary/Assembly evidence sessions as and when required.
6. With the agreement of CoRWM's sponsoring Ministers, other parts of Government, the NDA and the regulatory bodies may request independent advice from CoRWM. Relevant Parliamentary/Assembly Committees may also propose work to sponsoring Ministers, for consideration in the work programme. CoRWM's priority role is set out in paragraph 2

⁶ www.bis.gov.uk/assets/bispartners/goscience/docs/g/10-669-gcsa-guidelines-scientific-engineering-advice-policy-making.pdf

although sponsoring Ministers may also ask the Committee to provide advice on other radioactive waste management issues as necessary.

7. In delivering its annual work programme, and where there is a common interest, the Committee will liaise with regulators and any bodies established to advise Government and the regulators.
8. CoRWM shall consist of a Chair and up to fourteen members, one of whom will be appointed by Ministers as Deputy Chair on the recommendation of the Chair. Members will not be mandated representatives of organisation or sectoral interests and the skills and expertise which will need to be available to the Committee will vary depending on the programme of work. For example, the relevant skills may include: radioactive waste management, nuclear science, radiation protection, environmental law, environment issues, social science (including public and stakeholder engagement), geology/geochemistry/ hydrogeology, finance/economics, civil engineering/underground construction technology, geological disposal facility performance/safety issues, materials science, environmental impact assessment, local government, planning, regulatory processes and ethics. Sponsoring Ministers may review the membership of the Committee, and the skills and expertise required.
9. Appointments will be made following the Office of the Commissioner for Public Appointments (OCPA) code of practice. Appointments will usually be for two to four years and sponsoring Ministers retain the right to terminate appointments at any time in light of individual members' performance, changes in CoRWM's work requirements, or completion of the work required of CoRWM.
10. The Committee, as agreed in the annual plans, may co-opt additional expertise to form or support temporary sub-groups set up to examine specific and defined problems.

Programme of Work

11. To support its work, CoRWM will need to familiarise itself with Government policy in this area, including ongoing meetings with relevant government departments and the NDA. The outline framework within which CoRWM is then expected to work is:
 - (i) *recognising the policy framework within which it will operate including the roles and responsibilities of Government and the NDA in relation to CoRWM's own advisory role;*
 - (ii) *scrutinising Government and NDA proposals, plans and programmes to implement geological disposal and other radioactive waste management issues on which Government might seek advice as agreed in CoRWM's work plan;*
 - (iii) *formulation of advice and reporting to Government based on the best available evidence and informed by the views of stakeholders and the public;*
12. Each year, CoRWM will prepare its proposed work programme for the next three years, in conjunction with Government, the NDA and regulators, taking account of work by other advisory bodies (see paragraph 7 above). The programme will include details of specific areas of work, reports which it intends to produce, the proposed use of sub-groups and any other activities or events, including proposals for public and stakeholder

engagement. CoRWM will submit its proposed three-year work programme to its sponsoring Ministers for discussion and agreement.

13. In familiarising themselves with the relevant background and issues, Members will make themselves aware, and take account, of previous engagement and reports in the Managing Radioactive Waste Safely programme, the UK Radioactive Waste Inventory and the nature of current and expected future UK holdings of nuclear materials. CoRWM will take account of existing technical assessments and research into radioactive waste management in the UK and elsewhere. In particular, it is recognised that CoRWM will need to engage with NDA given that the Committee's advice will directly impinge on the long-term responsibilities of NDA. CoRWM will also take account of other relevant policy developments.
14. The Chair will submit a report to Ministers by 30 June each year on the delivery of the agreed work programme. This will be made available in the UK and Scottish Parliament, the National Assembly for Wales and the Northern Ireland Assembly.

Access to Other Sources of Expertise

15. Members of CoRWM itself will not have all the skills and expertise necessary to advise Government. The Committee will need to decide how best to secure access to other appropriate sources of expert input during the course of its work. Within this, it will have option of setting up expert sub-groups containing both Members of CoRWM itself and other appropriate co-opted persons. A member of CoRWM will chair any sub-group of this nature and ensure its effective operation, as well as provide a clear line of responsibility and accountability to the main Committee, and hence to Ministers. This approach will enable the Committee to draw on a broad range of expertise in the UK and elsewhere.
16. The number of such sub-groups will be kept to the minimum necessary. Their role will be that of providing advice for the main Committee to consider and assess as it sees fit, and managing any activity which CoRWM delegates to them. It will be for the main Committee to assess and decide upon the advice it receives from such sub-groups. CoRWM may also utilise other appropriate means of securing expert input, such as sponsored meetings and seminars. The Chair will ensure that sub-group work and all other activities are closely integrated.

Public and Stakeholder Engagement

17. CoRWM must continue to inspire public confidence in the way in which it works. In order to secure such confidence in its advice it will work in an open and transparent manner. Hence, its work should be characterised by:
 - a published reporting and transparency policy;
 - relevant public and stakeholder engagement as required;
 - clear communications including the use of plain English, publishing its advice (and the underpinning evidence) in a way that is meaningful to the non-expert;
 - making information accessible;
 - encouraging people to ask questions or make their views known and listening to their concerns;
 - providing opportunities for people to challenge information, for example by making clear the sources of information and points of view on which the Committee's advice is based;
 - holding a number of its meetings in public.

Responsibilities of the Committee and its Members

18. CoRWM will have a corporate responsibility to deliver its advice to sponsoring Ministers in accordance with agreed work plans. It will be for Ministers, with appropriate reference to their respective Parliaments and Assembly, to take decisions on the advice it receives and to give directions to the NDA as necessary on any subsequent changes required in the delivery of geological disposal of the UK's higher activity radioactive waste.
19. All members will need to be effective team workers, with good analytical skills and good judgement besides a strong interest in the process of decision-making on difficult issues. A number of them will need experience of project management, advising on scientific and technical issues directly relating to radioactive waste management, public and stakeholder engagement, excellent drafting and communication skills, or business experience and knowledge of economics.
20. The Chair, in addition, will be capable of successfully and objectively leading committee-based projects, grasping complex technical issues, and managing a diverse group effectively and delivering substantial results, presenting progress and outcomes in public. He or she will be a person with appropriate stature and credibility.

Role of the Chair

21. The Chair will be responsible for supervising the CoRWM work programme and ensuring that the Committee's objectives are achieved. The Chair will be responsible for advising Ministers promptly if he or she anticipates that the Committee will not complete its agreed work programme indicating what remedial action might be taken. He or she will be the main point of contact with the public and the media, in presenting progress and answering questions. The Chair will meet Ministers on appointment, and then at least annually along with other members as appropriate. Notes of these meetings will be published. The Chair will ensure CoRWM submits its annual written report to Ministers, by 30 June of each year. The Chair may be required to present the position of CoRWM to Parliament or Assembly committees and representatives as appropriate. The report will set out, among other things, CoRWM's progress with the agreed work programme, advice deriving from it and costs incurred. Ministers will also appoint a Deputy Chair who can assist the Chair as the latter sees fit.

Role of Members

22. Members will work, under the Chair's supervision, to the programme agreed with sponsoring Ministers, so as to ensure its satisfactory delivery. Members will have a collective responsibility to ensure achievement of CoRWM's objectives and delivery of its work programme. Individual Members may be appointed by the Chair to undertake specific, active roles, for example chairing sub-groups or in representing CoRWM in meetings with the public, organisations who are contributing to the work, or the media. All members will abide by CoRWM's Code of Practice and will be subject to individual performance appraisal as laid down by the Cabinet Office guide (see next paragraph).

Standards

23. CoRWM is set up by, and answerable to Ministers and is funded by the taxpayer. It must therefore comply with the Cabinet Office guide "Public Bodies: a Guide for Departments" (<http://www.civilservice.gov.uk/about/resources/public-bodies.aspx>).

24. These and other relevant procedural requirements are set out in CoRWM's Code of Practice which Members will agree to, prior to appointment.

Resources

25. Sponsoring Ministers will provide CoRWM with a secretariat and budget to enable it to carry out its agreed programme of work. The Chair and Members will have a collective responsibility for delivering the work programme within the agreed budget, although the Chair may request sponsoring Ministers for adjustment to this budget should this be considered necessary.

Payments

26. The Chair and Members will be paid for their work for CoRWM at agreed daily rates. They will also be fully reimbursed for all reasonable travel and subsistence costs incurred during the course of their work.

ANNEX D TABLE OF MEETINGS FROM APRIL 2012 – MARCH 2013

Date	Meeting	Attendance Capacity
12 Apr 2012	Geological Disposal Steering Group (GSDG) (DECC 2012f)	observer
17-19 April 2012	Visit to Bure, France (CoRWM doc. 3051)	participant
25-26 April 2012	CoRWM Plenary Meeting (Manchester) (CoRWM doc. 2033)	participant
24 May 2012	Geological Disposal Steering Group (GSDG) (DECC 2012g)	observer
12-13 June 2012	CoRWM Plenary Meeting, Largs (CoRWM doc. 3045)	participant
12 June 2012	Open Evening in Largs (CoRWM doc. 3056)	participant
12 June 2012	Meeting with Scottish Government (CoRWM doc. 3058)	participant
13 June 2012	Visits to Hunterston A (CoRWM doc. 3057)	participant
28 Jun 2012	CoRWM RWMD meeting (CoRWM doc. 3066)	participant
4-5 September 2012	CoRWM Plenary Meeting (Cardiff) (CoRWM doc. 3072)	participant
7 September 2012	Meeting with NDA (Spent Fuel and Nuclear Materials Management) (CoRWM doc. 3073)	participant
13 September 2012	Geological Disposal Steering Group (GSDG) (DECC 2012h)	observer
19 September 2012	Shepway District Council meeting (SDC, 2012a)	observer
26 September 2012	Chair's meeting with Welsh Environment Minister (CoRWM doc. 3087)	participant
26 September 2012	Interim Storage HAW Guidance Launch (CoRWM doc. 3084)	observer
27 September 2012	NDA Higher Activity Waste update (CoRWM doc. 3073)	participant
3 October 2012	NDA Research Board (NDA 2012u)	observer
10-11 October 2012	Nuclear Waste Research Forum	observer
15 October 2012	CoRWM RWMD meeting (CoRWM doc. 3083)	participant
17-18 October 2012	CoRWM Plenary Meeting, Cardiff (CoRWM doc. 3079)	participant
23 October 2012	OECD NEA Radioactive Waste Management Forum on Stakeholder Confidence	speaker
24 October 2012	Meeting with Regulators (CoRWM doc. 3086)	participant
29-30 October 2012	RWMD Technical Advisory Panel	observer

29-30 October 2012	NDA Stakeholder Event	observer
8 November 2012	Geological Disposal Steering Group (GSDG) (DECC 2012i)	observer
14 November 2012	Meeting with Japan Environmental Safety Corporation	participant
18 December 2012	Meeting with CoRWM Sponsor Officials (CoRWM doc. 3095)	participant
9 January 2013	Geological Disposal Steering Group (GDSG) (DECC 2013a)	observer
15 Jan 2013	Closed Plenary Meeting, London (CoRWM doc. 3098)	participant
23-24 Jan 2013	Nuclear Waste Research Forum (NWRP) (CoRWM doc. 3106)	observer
29-30 Jan 2013	RWMD Technical Advisory Panel	observer
31 Jan 2013	GDF users groups	observer
21 Feb 2013	Closed Plenary Meeting, Preston (CoRWM doc. 3105)	participant
7 Mar 2013	CoRWM Sponsors' Meeting (CoRWM doc. 3112)	participant
7 Mar 2013	Geological Disposal Steering Group (GDSG) (DECC 2013b)	observer
22 Mar 2013	Meeting with the Nuclear Legacy Advisory Forum (NuLeAF) (CoRWM doc. 3112)	participant
22 Mar 2013	Closed Plenary Meeting, Preston (CoRWM doc. 3112)	participant