

NDA Research Board

4th May 2016 10:00 – 16:00

Central Hall Westminster, Storey's Gate, Westminster, London SW1H 9NH

MINUTES – Issue 1

Attendees

- | | |
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| 1) Chair of NDA Research Board, Independent | 2) Research Manager, NDA – Technical Secretary |
| 3) Head of Technology, NDA | 4) Head of Research, Radioactive Waste Management Ltd (RWM) |
| 5) Chair of RWM Technical Advisory Panel, Independent | 6) Superintending Inspector, Office for Nuclear Regulation (ONR) |
| 7) Radioactive Substances Principal Policy Officer, Scottish Environment Protection Agency (SEPA) | 8) Chief Technologist, Atomic Weapons Establishment (AWE) |
| 9) Chief Scientific Advisor, Department of Energy and Climate Change (DECC) | 10) Principle Investigator (PI) – Nuclear Champion, Research Council Energy Programme (RCEP) |
| 11) Co-Chair, Nuclear Waste and Decommissioning Research Forum (NWDRF), Sellafield Ltd (SL) | 12) Programme Manager, Nuclear Energy Directorate – Clean Up Division, CEA |
| 13) Deputy Chair of Committee on Radioactive Waste Management (CoRWM) – Observer | 14) Nuclear Innovation and Research Office (NIRO) – Observer |
| 15) Science and Technology Director, RWM - Observer | 16) Director UKAEA, Head of Remote Applications in Challenging Environments (RACE) - Invited |
| 17) Decommissioning Strategy Manager, NDA - Invited | 18) Research and Development Alliance Manager, Sellafield Ltd - Invited |
| 19) Robotics and Autonomous Systems Lead, Sellafield Ltd - Invited | 20) Lead Engineer, Nuclear Technologies, DECC |

Main Purposes of the Meeting

- To discuss NDA's response to recommendations in the Research Board's Review of Pre-Disposal Treatment of Higher Activity Wastes R&D
- To confirm members' view of the NDA's Approach to Technical Underpinning of Plutonium Storage at Sellafield
- To review the NDA's Approach to Robotics R&D in the context of Decommissioning Strategy.

[1] Members Only Discussion

A Members only discussion was held.

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[2] Welcome & Apologies

2.1 Chair welcomed everyone to the 11th meeting of the NDA Research Board (NDARB).

2.2 A number of apologies had been received prior to this meeting:

- Head of Nuclear Energy, Transport, Decommissioning & Waste Management, Directorate for Energy, European Commission
- Radioactive Substances Regulation Manager, Environment Agency (EA)
- Director of Engineering – Nuclear Generation, EDF Energy
- Government Chief Scientific Advisor
- Chief Scientific Advisor for Scotland – Position currently vacant
- Chief Scientific Advisor, Department for Business, Innovation & Skills (BIS)
- Chief Scientific Advisor, Ministry of Defence (MOD)
- Director of Engineering and Technology, Rolls-Royce, Civil Nuclear
- Director of Strategy and Technology, NDA
- Director, Nuclear Innovation and Research Office (NIRO)

2.3 Members of the Board introduced themselves.

2.4 The Chair invited any relevant declarations of interest – none were received.

[3] Agenda

3.1 The agenda was agreed with the following minor changes: i) the second point of Main Purpose of the Meeting was modified and was the subject of further discussion under Item 06 and ii) the Robotics discussion should focus on the questions presented in paper NDARB022 on page 21 rather than those appearing under agenda Item 09.

3.2 Any Other Business (AOB) items – Topic for the next Board discussion and a forthcoming capabilities workshop were suggested as AOB items.

3.3 The date and location for the next NDA Research Board meeting was agreed: 22nd November 2016 in Central London.

[4] Review of 10th Meeting

4.1 Minutes of 10th Meeting

The minutes were approved with minor edits suggested.

4.2 Outstanding actions from previous meetings:

The Chair reviewed the outstanding actions list which was distributed prior to the meeting. Updates were given on the following outstanding actions.

- **Action 03/05:** Board members to review draft report when circulated and provide comments back to NDA within one month.

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An updated draft Technical Baseline report was shared with NDA Research Board members on 28th April 2016, comments and feedback were requested from the Board. Action Ongoing.

- **Action 03/08:** Chair and NDA to undertake a comparison with the TBuRD output and report back to the Board on its conclusions.

It was suggested that the review could be carried out off-line by the NWDRF TBuRD Working Group.

Action 11/01: NWDRF TBuRD Working Group to review the Technical Baseline Report and TBuRD output and report back to the Board with its conclusions – by 31st March 2017

- **Action 10/13:** Chief Technologist, AWE and Head of Technical - Product Plants, SL to exchange relevant contact details to facilitate the strengthening of communication links between both organisations – by 26th of February 2016.

Initial interactions between SL and AWE have taken place and a meeting between the two organisations will be held in the near future. Action Complete.

- **Action 10/15:** Co-Chair NWDRF, SL to update the NWDRF Forward Plan to include a total number of outputs – by 26th February 2016.

The NWDRF forward plan have been updated and circulated to the Research Manager, NDA by email on 26th April 2016. Action Complete.

- **Action 10/16:** NDA to publish the NWDRF Forward Plan and Annual Report on the NDA public website – by 18th March 2016

The NWDRF Forward Plan has been received by the Research Manager, NDA and will be published on the NDA public website. Action Ongoing.

[5] Discussion on NDA's response to the recommendations in the Research Board's Review of Pre-Disposal Treatment of Higher Activity Waste R&D

5.1 The Chair reviewed the NDA's response to the recommendations in the Research Board's Review of Pre-Disposal Treatment of Higher Activity Waste R&D and requested comments and feedback from the Board. The following comments were received.

5.2 NDA response to Recommendation 3 - The Board felt that the Waste Lifecycle Cost Calculator developed by NDA requires further investigation as the cost calculator could affect R&D recommendations. It was suggested that an off-line meeting could be arranged between Board Members and Head of Integrated Waste, NDA to discuss the Waste Lifecycle Cost Calculator.

Action 11/02: Research Manager, NDA to organise an off-line meeting, for those Board Members with a specific interest, with Head of Integrated Waste Management, NDA to discuss the Waste Lifecycle Cost Calculator – by 30th September 2016.

5.3 NDA response to Recommendation 7 – The Board felt that the response to Recommendation 7 should be "Agreed" rather than "Noted" as the NDA did not have work in its R&D programme on waste retrieval and has now commissioned a review of retrieval

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technologies via the NDA Direct Research Portfolio. The NDA agreed to make the change to its response.

5.4 It was noted that Head of Integrated Waste Management, NDA thanked the Board for their review of Pre-Disposal Treatment of Higher Activity Waste R&D as it had been a useful process.

[6] Research Board's view on the NDA's approach to technical underpinning of plutonium storage at Sellafield

6.1 The Chair explained to the Board that preparation of a position paper on this topic had been a challenging process and the Chair had requested assistance from the Chair of RWM Technical Advisory Panel. Unfortunately it has not been possible to prepare a draft position paper in advance of this meeting due to the complexity of the subject matter and level of detail required to complete the position paper. An interim progress paper had been circulated to the Board in advance of the meeting.

6.2 The Chair of RWM Technical Advisory Panel noted that the presentation given by NDA and Sellafield Ltd at Meeting 10 was of good quality. However, the topic is very detailed and it has been difficult to decide how deeply to investigate it; he sought guidance on the Board's role in this case. It was also noted that the topic has been the subject of numerous prior reviews. However, there is limited information on how R&D influences decision making and how R&D affects the programme of work. The R&D topics discussed at Meeting 10 appear to be sensible choices for R&D programmes, but there are a number of questions that still need to be answered.

6.3 The Board held a discussion on the interim progress paper and the issues surrounding the safe storage of plutonium at Sellafield specifically the packaging of material. A summary of the discussion is given below.

- The NDA's purpose when asking the Board to review plutonium storage was to gain the Board's opinion on a complex topic specifically regarding the timing and balance of R&D work. NDA are also interested in the Board's opinions on the facilities requirements for the R&D programme.
- It is difficult to separate R&D issues from the technical approach.
- The plutonium storage programme has been the subject of numerous reviews and the team involved are potentially undergoing review fatigue.
- The R&D programme is based on the best technical scenarios as determined by the Sellafield Ltd technical team. The technical baseline for the programme is well understood.
- It was thought that (i) more clarity is needed regarding what the knowledge gaps actually are (ii) amongst these, there are knowledge gaps with regard to understanding the mechanisms taking place within the storage cans, and (iii) the R&D is potentially behind the curve of what is currently needed for decision making purposes.

Action 11/03: Board to provide any additional questions to be asked of the NDA and SL for the draft safe storage of plutonium Position Paper to be progressed, to Research Manager, NDA and the Chair by 11th July 2016.

6.4 The Board moved to discuss the review of the plutonium stores at Sellafield and the content of the interim paper regarding this topic. The Board discussed the final disposal

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facility for the material and conversion of the material to its final waste form. It was noted that Sellafield Ltd are custodians of the material and work is currently being carried out to investigate disposal of poor quality material. While it is the NDA's role to investigate options for disposal this was not part of the present study.

Action 11/04: Lead Engineer, Nuclear Technologies, DECC to provide the Chair with suitable narrative text for the Stores section of the draft safe storage of plutonium position paper – by 5th July 2016

6.5 The Chair proposed a way forward to the Board (as detailed below), which is comprised of separating the review into the following three areas:

- If the Board assumes that the technical approach to packaging of the material is fixed, is the R&D programme, as presented at Meeting 10, appropriate?
- If the technical approach is open to challenge, what R&D is necessary? What information is required in order to propose a different technical approach? Could be investigated by a small off-line team ("Skunk-Works" team)?
- The Board's view on store design and store long term integrity.

6.6 The Chair and Chair of RWM Technical Advisory Panel felt that it is possible for the Board to complete its position paper. It was thought that it would not be helpful for NDA itself to carry out a further review of the area and that it would be challenging to find an independent party to carry out a review.

6.7 It was noted that it was not part of the remit of the study to investigate re-use options and that storage options should not foreclose options for re-use.

6.8 The Board determined that the most appropriate way forward is to hold an off-line meeting with representatives from NDA and SL to clarify any outstanding issues. Co-Chair NWDRF, SL will facilitate discussions regarding assurance for the R&D programme. The Chair and Chair of RWM Technical Advisory Panel will then prepare a position paper for comment and approval by the Board.

Action 11/05: The Chair and Chair of RWM Technical Advisory Panel to hold an off line meeting with NDA and SL to discuss outstanding issues regarding the safe storage of plutonium and then prepare a position paper by 31st August 2016 for approval by the Board.

[7] Update on CoRWM Activities

7.1 The Deputy Chair of CoRWM gave an update to the Board on CoRWM's recent activities as outlined below.

7.2 CoRWM Work Programme - The 3 year plan has been submitted to ministers for approval as scheduled in March 2016. The programme for 2016-2017 is provided in detail with later years outlined.

7.3 The allocation of CoRWM's Resources is as follows:

- Provision of advice to DECC on the GDF siting process [50%]
- Provision of advice to the Welsh Government on the management of Higher Activity Waste in Wales [10%]

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- Provision of advice to the Scottish Government on the management of Higher Activity Waste in Scotland including near surface disposal [10%]
- Provision of advice on GDF design and safety case development [10%]
- Provision of advice on RWM transition [10%]
- Scrutiny of the management of Interim Surface Storage of HAW Radioactive Wastes, Spent Fuel and Nuclear materials in England and provide advice as necessary [5%]
- CoRWM outreach [5%]

7.4 Principal topics and R&D content were identified as

- LoC and disposability assessments for Scotland
- “Three Safety Cases” and the role of the LoC
- Development and use of the generic Disposal System Safety Case (gDSSC)
- Interim Surface Storage of Radioactive Wastes, Spent Fuel and Nuclear Materials

7.5 It was noted that the majority of the Committee will be changing this year and all member posts have been re-advertised. New appointments are scheduled in two groups with planned start dates of 1st June 2016 and 1st November 2016. Of the eleven current members, four are time-barred from consideration, two did not reapply and five are eligible to reapply. There have been approximately 180 applications; with 30 shortlisted candidates and interviews are currently in progress. Therefore, it is likely that there will be a substantially new committee. However, there will be transitional arrangements to maintain some continuity.

7.6 The Deputy Chair of CoRWM noted that the current NDA Research Board Meeting would be his last meeting as an Observer representing CoRWM. The Chair and the Board thanked the Deputy Chair of CoRWM for his role as an Observer to the NDA Research Board.

[8] Update on NIRAB/NIRO activities

8.1 The representative from Nuclear Innovation and Research Office (NIRO) gave an update on the NIRAB (Nuclear Innovation and Research Advisory Board)/NIRO activities.

8.2 NIRAB have published their Annual Report and key recommendations for 2015.

8.3 During the recent Government Spending Review two overlapping missions within DECC science and innovation budget were announced i) to invest at least £250 million over the next 5 years in a nuclear R&D programme to revive the UK's nuclear expertise and position the UK as a global leader in innovative nuclear technologies and ii) a competition to identify the best value small modular reactor design for the UK (included in the above mentioned £250 million of investment).

8.4 NIRAB plan to hold a Nuclear R&D Stakeholder event on Monday 16th May in London to prepare the R&D community for forthcoming calls. The event will share NIRAB's recommendations for areas in which publicly funded civil nuclear R&D is required to inform and underpin Government policy. The event will also describe how these recommendations might be prioritised when research is commissioned in the coming

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months. The event will provide a good networking opportunity and will facilitate the identification of potential partners.

Action 11/06: Research Manager, NDA to circulate the invitation for the NIRAB Nuclear R&D Stakeholder event and webcast on 16th May 2016 to the Board – by 6th May 2016.

8.5 NIRAB are to carry out a refresh of “A Review of the Civil Nuclear R&D Landscape in the UK”, first published in 2013. The intention is for NIRAB to carry out the refresh every three years. NIRAB is currently seeking stakeholder views to ensure the refresh is fit for purpose and surveys will be sent out in June/July 2016. Publication of the refreshed document is planned for the end of 2016 at the latest.

[9] Introduction to review of NDA's Approach to Robotics R&D in the context of Decommissioning Strategy

9.1 The Chair thanked the invited speakers for the day, who would be able to give a perspective on the wider UK and international developments in robotics and its use in the nuclear sector.

9.2 The Chair reminded the Board that the questions for consideration during the forthcoming review of the NDA's approach to robotics R&D are as presented in paper NDARB022.

- Do the members agree that a sustained RAS R&D programme is required? If so, how should a programme be sustained?
- Is our preferred approach appropriate and robust to future change?
- Are the roles outlined for NDA, Sellafield Ltd and other organisations appropriate?
- When developing our portfolio of RAS R&D projects, what areas do members believe we should focus on?
- What other issues should we take into consideration to maximise the benefit from RAS?

9.3 Head of Technology, NDA noted that the purpose of the review was to obtain the Board's input and advice to help shape the development of the NDA's strategic approach to robotics R&D. Hence this was different to the Board's previous studies, which had reviewed an already established R&D programme. The NDA would like to develop a proactive (rather than reactive) approach to robotics R&D and ensure that any approach is co-ordinated.

[10] Approach to Robotics at AWE

10.1 The Chief Technologist, AWE gave a presentation on Robotics and Autonomous Systems at AWE. The presentation covered a recent study carried out to assess the potential for AWE to exploit current and emerging Robotics and Autonomous Systems (RAS) technologies. The proposed outcome of the study was to provide strategic guidance on how AWE should position itself in this arena to gain maximum benefit. The study did not seek to predict or address the impact on the AWE workforce of RAS technologies. The study was both inward and outward looking. The presentation covered the following information:

- Potential barriers to RAS adoption at AWE

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- The key internal and external findings of the study
- The study made the following recommendations:
 - An AWE RAS team should be created
 - A funding structure should be developed (capability, task-based and seed-funding)
 - The establishment of a cross-company RAS governance panel
 - Utilisation of RAS secondments into and out of AWE
 - AWE should integrate into RAS community
 - RAS Education, internal to AWE, should be carried out
 - RAS pilot projects should be carried out at AWE

10.2 The Head of Technology, NDA and the Robotics and Autonomous Systems Lead, Sellafield Ltd noted that there are many common themes between the findings and recommendations of the AWE study and NDA estate.

10.3 A discussion was held regarding cultural issues in the nuclear decommissioning sector and the resistance to the introduction of new technology.

10.4 The Chair noted, in particular, the recommendations regarding cross company governance and internal education.

[11] Approach to Robotics at CEA

11.1 A change was made to this agenda item as Director of Engineering and Technology, Rolls-Royce; Civil Nuclear was unable to attend the meeting. Therefore, Programme Manager, Nuclear Energy Directorate – Clean Up Division, CEA gave a presentation entitled “Robotics – Integration of the Maestro System in Dismantling Equipment”. The presentation covered the following topics:

- An overview of the Maestro system and the additional compatible equipment
- Features of the Maestro system
- Integration of the Maestro system – pilot work in a spent fuel treatment cell
- Integration of a laser cutting head with the Maestro system

11.2 The Board discussed technical issues regarding the deployment of the Maestro system, which included:

- Management of fume creation and illumination
- Radiation dose benefits
- Master/slave control of the system and prevention of operator error

[12] Approach to Robotics R&D at RACE

12.1 The Director UKAEA, Head of RACE gave a presentation covering:

- Robotics in the nuclear sector
- Government priorities with regards to robotics
- Applications for RAS
- Overview of RACE and robotics at JET (Joint European Torus)
- Robotics as integrated solutions
- Nuclear RAS strategy

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- The RAS Strategy for RACE
- RACE's involvement with non-fusion related robotics R&D projects

12.2 It was noted by the Director UKAEA, Head of RACE that the current market for robotics in the nuclear sector is not functioning well. It was also noted that the nuclear sector was not a high priority area for the robotics sector.

[13] NDA's Approach to Robotics R&D in the context of Decommissioning Strategy

13.1 Decommissioning Strategy Manager, NDA and Robotics and Autonomous Systems Lead, SL gave a presentation outlining the NDA's decommissioning strategy, the NDA's proposed approach to robotics R&D and its key objectives. The presentation also covered the following topics:

- Characterisation challenges
- Alpha and beta/gamma decommissioning challenges
- Care, Maintenance & Surveillance considerations
- Why an approach to robotics R&D is needed now
- The current situation with regard to robotics R&D
- The preferred option for the NDA strategy on robotics R&D

13.2 The Head of Technology, NDA reiterated that the NDA would like to embark on a coordinated, estate wide, proactive approach to robotics R&D. Co-Chair NWDRF, Sellafield noted that the development of an approach is timely as robotics are now becoming more widely used across the NDA estate and the community of robotics users should to be sustained and technology developed.

[14] Discussion regarding NDA's Approach to Robotics R&D in the context of Decommissioning Strategy

14.1 The Board held discussions on the following topics:

- An independent assessment of the Estates robotics R&D requirements – specifically has an independent assessment been carried out and is one required?
- Whether the NDA's approach to robotics should involve minor modifications to traditional approaches or if a paradigm shifting approach should be developed.
- The involvement of the regulatory authorities in the development of the NDA's approach to robotics R&D and the need to identify the risks of deploying robotics.
- Whether a cost benefit analysis for the deployment of robotics is needed. It was noted that a cost benefit analysis should not be static as the technology is evolving rapidly.
- The use of integrated project teams when carrying out robotics R&D.
- The need to demonstrate robotics technology in a nuclear setting before deployment.
- The high degree of commonality of issues across the nuclear sector with regard to robotics R&D, the need to provide governance, and work collaboratively within the nuclear sector and with external organisations.
- The development of a statement of unfulfilled needs by the NDA to facilitate the development of R&D needs and whether the NDA needs to develop a business case for robotics R&D before progressing to develop a robotics R&D programme.

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- Whether the robotics topic is R&D and hence if it is an appropriate topic for the Board's discussion. It was felt by some members of the Board that as off the shelf technologies currently do not exist the implementation of robotics would require development and nuclearisation to move from Technology Readiness Level 6/7 to 9. Therefore the topic is appropriate for the Board to consider.
- 14.2 The Head of Technology, NDA and Research and Development Alliance Manager, SL reiterated that the approach had been brought to the Board at an early stage in order to benefit from the Board's advice. The need to develop a business case is recognised and that this will be done during the next stages of developing the approach. The advice sought from the Board is, should the NDA observe the current market place and wait for appropriate technologies to be developed or should the NDA take a proactive role and engage with and influence the market place?
- 14.3 The Chief Technologist, AWE noted that it is positive that NDA are taking a strategic approach to robotics R&D and appreciates the approach being brought to the Board at an early phase in its development. It was also noted that there is a need to develop the next steps in the approach and develop options for the implementation phase.
- 14.4 The Board progressed to discuss the questions presented in NDA022, specifically "Do the members agree that a sustained RAS R&D programme is required? If so, how should a programme be sustained?" The Board discussed this question and the output of the discussion is summarised as follows:
- At this stage the Chief Scientific Advisor, DECC felt that it was not possible for the Board to agree to a sustained R&D programme without additional information regarding the business case for robotics R&D and an analysis of the R&D requirements.
 - A counter proposal was put forward that perhaps the question posed to the Board had been worded incorrectly and that the NDA actually seek to engage with and influence the robotics supply chain rather than embark on a sustained R&D programme.
 - It was felt that NDA should engage with the robotics supply chain and that one possible mechanism for this engagement could be via a robotics Catapult Centre.
 - It was agreed that NDA should provide an articulation of the problem statements that robotics R&D could address. A consideration of make versus buy options should be also be included to help develop the structure of the approach.

Action 11/07: Head of Technology, NDA and Research & Development Alliance Manager, Sellafield Ltd, to provide a response to the Board regarding i) clarification of the advice sought from the Board on the NDA approach Robotics R&D and ii) clarification of the Robotics R&D problem statements – by 8th July 2016.

[15] Review of discussion regarding NDA's Approach to Robotics R&D in the context of Decommissioning Strategy

15.1 This item was not carried out due to time constraints.

[16] Observations on Meeting 11

16.1 Chair asked the CoRWM member whether he had any observations with regard to the meeting. The CoRWM member felt that the Board has recently embarked on the

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discussion and review of difficult topics. He felt that the current discussion on robotics was interesting but is at an early stage. The Chair and Board thanked the CoRWM member again for his involvement with the Board.

[17] Review of Actions

17.1 A review of actions was carried out by the Chair and Technical Secretary.

[18] Any Other Business

18.1 The Co-Chair NWDRF, Sellafield Ltd informed the Board that he is hosting a workshop on 30th May 2016 to investigate tools and techniques to accelerate technical skills, relevant to nuclear, for employees with prior non-nuclear workplace experience (2nd and 3rd "job movers"). He requested the Board's feedback if they have experience in this area.

Action 11/08: The Board to provide feedback directly to NWDRF Co-Chair, Sellafield Ltd on their experience regarding the acceleration of skills for employees with prior non-nuclear workplace experience (2nd and 3rd "job movers") - by 28th May 2016.

18.2 The topic for the next meeting was discussed by the Board and it was agreed that the next meeting should be used to close out issues that are currently outstanding, for example:

- An update on ONR's R&D programme
- Close out the Approach to Safe Storage of Plutonium at Sellafield Position Paper
- A further review of the NDA's approach to Robotics R&D in the context of Decommissioning Strategy

CLOSE

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APPENDIX 1 – Outstanding and New Actions

- Action 03/05:** Board members to review draft Technical Baseline report when circulated and provide comments back to NDA within one month – Ongoing.
- Action 10/10:** Head of technology NDA to update the Board on NDA horizon scanning activities at a future meeting, by November 2016 – Ongoing.
- Action 10/11:** Superintending Inspector ONR to give an update to the Board at a future meeting with details of the ONR R&D programme by November 2016 – Ongoing
- Action 10/12:** Radioactive Substance Regulation Manager, EA to give an update to the Board at a future meeting with details of the EA nuclear decommissioning related R&D interests by November 2016 – Ongoing.
- Action 10/16:** NDA to publish the NWDRF Forward Plan and Annual Report on the NDA public website by 18th March 2016 – Ongoing.
- Action 11/01:** NWDRF TBuRD Working Group to review the Technical Baseline Report and TBuRD output and report back to the Board with its conclusions – by 31st March 2017.
- Action 11/02:** Research Manager, NDA to organise an off-line meeting, for those Board Members with a specific interest, with Head of Integrated Waste Management, NDA to discuss the Waste Lifecycle Cost Calculator – by 30th September 2016.
- Action 11/03:** Board to provide any additional questions to be asked of the NDA and SL for the draft safe storage of plutonium Position Paper to be progressed, to Research Manager, NDA and the Chair – by 11th July 2016.
- Action 11/04:** Lead Engineer, Nuclear Technologies, DECC to provide the Chair with suitable narrative text for the Stores section of the draft Safe Storage of Plutonium Position Paper – by 5th July 2016.
- Action 11/05:** The Chair and Chair of RWM Technical Advisory Panel to hold an off line meeting with NDA and Sellafield Ltd to discuss outstanding issues regarding the safe storage of plutonium and then prepare a position paper by 31st August 2016 for approval by the Board.
- Action 11/06:** Research Manager, NDA to circulate the invitation for the NIRAB Nuclear R&D Stakeholder event and webcast on 16th May 2016 to the Board – by 6th May 2016.
- Action 11/07:** Head of Technology, NDA and Research & Development Alliance Manager, Sellafield Ltd, to provide a response to the Board regarding i) clarification of the advice sought from the Board on the NDA approach Robotics R&D and ii) clarification of the Robotics R&D problem statements – by 8th July 2016.
- Action 11/08:** The Board to provide feedback directly to NWDRF Co-Chair, Sellafield Ltd on their experience regarding the acceleration of skills for employees with prior non-nuclear workplace experience (2nd and 3rd “job movers”) - by 28th May 2016.