

RADIOACTIVE WASTE MANAGEMENT LIMITED
(the "Company")

Minutes of the 5th meeting of the directors of the Company
held at NDA's offices, Building 587, Curie Avenue, Harwell, Oxford OX11 0RH and (via
videoconference) at Herdus House, Westlakes Science and Technology Park, Moor Row,
Cumbria CA24 3HU and Hinton House, Birchwood Park Avenue, Risley, Warrington WA3 6GR
on 25th June 2014 at 09.30 a.m.

PRESENT:

Dr Adrian Simper	(Chairman)
Mr Bruce McKirdy	(RWM Managing Director)
Mr Alun Ellis	(RWM Science and Technology Director)
Professor Charles Curtis	(Independent Non-Executive Director)
Mr Claes Thegerstrom	(Independent Non-Executive Director)
Professor Melanie Brownridge	(NDA nominated Non-Executive Director)
Mr Jon Phillips	(NDA nominated Non-Executive Director)
Mr Rob Higgins	(NDA nominated Non-Executive Director)

IN ATTENDANCE:

RWM HSSE Director
RWM Company Secretary

1 NOTICE AND QUORUM

- 1.1 The Chairman reported that, notice having been given to all directors of the Company, a quorum was present.
- 1.2 The Chairman reminded the directors of the need to consider their general duties, including those contained in the Companies Act 2006, in considering such matters.

2 CHAIRMAN'S INTRODUCTION

- 2.1 The Chairman welcomed the attendees to the meeting.

3 HEALTH, SAFETY, ENVIRONMENT, SECURITY AND QUALITY ISSUES

- 3.1 The RWM HSSE Director presented the Health, Safety, Security, Environment and Quality section of the Monthly Performance Report. There was one near miss when a white board that had been incorrectly attached to the wall fell, nearly hitting a member of staff. A safety reminder has been issued to all staff.
- 3.2 There were nine security events in May. The Managing Director communicated concerns about a recent increase in security incidents at the all staff briefing and there appears to have been a marked improvement more recently.
- 3.3 The Board considered the potential reasons behind the increase in security events. The number of events will continue to be monitored to consider if there are any patterns. The RWM nuclear safety, security and environmental awareness survey has been completed; results will be reviewed in light of the security events and any findings will be brought to the Board.
- 3.4 It was noted that the Regulators are to undertake a joint regulatory inspection of RWM's modelling arrangements. The contact report covering the recent interviews with Board members has been circulated; the results will be discussed once the formal letter is received. A copy of the draft CoRWM annual report has been sent to NDA and RWM for factual accuracy comment ahead of publication.

- 3.5 RWM are currently considering what lessons we can learn from the recent events at the US DOE Waste Isolation Pilot Plant.
- 3.6 The RWM HSSE Director then outlined the Safety and Environmental Key Performance Indicators. Scrutiny and Regulatory Engagement has been changed from green to amber due to the quality issues found with underpinning documentation to be taken to NSEC. Issues are being picked up through independent oversight. The teams involved have responded to the comments and revised the relevant papers. Relevant Executive members are to explore improvements.
- 3.7 A joint approach to the completion of disposability assessments for Ductile Cast Iron Containers has been finalised with Magnox Limited. This will bring Magnox back into the disposability assessment process, removing the need for a separate and parallel assessment process. The Board requested further information on the Disposability Assessment (Letter of Compliance) process.
- Action 05.01:** RWM HSSE Director to send a Letter of Compliance to the Board for information and arrange a presentation on this topic.
- 3.8 The Chair proposed that RWM consider the relationship between NSEC and the Board
- Action 05.02:** RWM HSSE Director to consider the relationship between NSEC and the Board.
- 3.9 The Board noted the Health, Safety, Security, Environment and Quality section of the Monthly Performance Report.

4 REGISTER OF DIRECTORS' INTERESTS

- 4.1 There were produced to the meeting a notice of declaration of interests by each director, sent to the other directors of the Company under section 184 of the Companies Act 2006. The directors are to be regarded as interested in any transaction or arrangement that may be made with the listed bodies. The Declaration of Interest was read out to the meeting and its contents duly noted. The directors, taking due consideration of their own duties as directors, considered the interests identified and authorised each one.
- 4.2 A number of directors hold positions as directors with other companies (listed in the RWM Register of Directors' Interests). It was resolved to authorise these other directorships and any potential or actual conflicts that may arise in connection with them and the relevant director's position with the Company in accordance with section 175 of the Companies Act 2006. It was noted that the directors so interested did not vote or count as part of a quorum on this resolution and that, nevertheless, there was a quorum for this item of business transacted by the meeting.

Action 05.03: Company Secretary to circulate updated Register of Director's Interests

5 INFORMATION RISK MANAGEMENT

- 5.1 The Board discussed the nomination of a Board champion for Information Risk Management. This role ensures Board involvement in information risk. The RWM Science and Technology Director was appointed as the Board champion. The RWM Business Services Director will also remain involved.

Action 05.04: Rob Higgins to circulate short note on role of Board Champion for Information Risk Management.

6 RWM COMMUNICATIONS STRATEGY

- 6.1 The Chair introduced the RWM Communications Strategy, which had been updated considering feedback from the previous Board meeting, the Technical Advisory Panel

and the RWM Executive. It identifies RWM's communications objectives and sets out what the communications strategy will be nationally, regionally and locally and the external environment in which RWM operates. More detailed plans will be developed for specific work-streams, for example, branding.

6.2 The Board were content that the updated document better captures waste packaging activities and agreed it a good strategic framework. The Board approved the Communications Strategy.

6.3 It was noted that the Combined DECC and RWM Geological Disposal Facility Communications and Stakeholder Engagement Action Plan has been circulated to the Board for information.

7 REPORT ON DATA MANAGEMENT AND MATHEMATICAL MODELLING REVIEW

7.1 The RWM Science and Technology Director provided a verbal update on the data management and mathematical modelling review. The Board were briefed on the history and context of the thermal modelling error, the internal investigation, other investigations and reviews and what has been undertaken.

7.2 It was agreed that the RWM Science and Technology Director should provide a note for the record and circulate it to the RWM Board for information.

Action 05.05: RWM Science and Technology Director to produce note for the record based on verbal presentation. [*Post-meeting note – this has been done and is appended to these minutes for the record.*]

7.3 The Board thanked the RWM Science and Technology Director and asked for an update in December.

8 LAUNCH OF DECC WHITE PAPER

8.1 The RWM Managing Director updated the Board on the launch of the DECC White Paper, which was planned to be published soon.

8.2 The Board noted the update. The Managing Director will send the White Paper to the Board on launch.

9 RWM MONTHLY PROGRESS REPORT

9.1 The Managing Director presented the Monthly Progress Report for Period 2, noting that the key points have already been addressed in the meeting. There are plans for a visit to RWM by Baroness Verma in July.

9.2 The Operating Plan Target for availability of the Derived Inventory reports for publication is at risk. It will not be ready for publication by the end of June but will follow on from the launch of the White Paper. This will not have any significant delay or impact on either the Operating Plan Target or other projects.

9.3 The Board noted the Monthly Progress Report.

10 AOB

10.1 The Board considered the Memorandum on the Role of Nirex data in the new MRWS Siting Process and noted that the Nirex data will be used, along with any other existing relevant geological information. It is already included in the data set held by the British Geological Survey, which would be used in any national screening.

11 MINUTES AND ACTIONS

11.1 The Board approved the minutes of the fourth meeting of Radioactive Waste Management Limited subject to a couple of minor amendments. The Chair will sign the minutes in due course.

11.2 An updated actions list is attached.

12 DATE OF NEXT MEETING AND 12 MONTH LOOK AHEAD

12.1 The next meeting will take place on 29th July 2014.

12.2 The Board reviewed the Meeting Calendar and proposed a couple of amendments and additions, including interactions with RWM employees, the Committee on Radioactive Waste Management, the Geological Society and the Technical Advisory Panel.

12.3 There being no further business, the Chairman declared the meeting closed.

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Chairman

Note for RWM Board on Thermal Modelling- A T Ellis Science and Technology Director

1. A brief history of the key events-
 - a. In May 2005 RWM¹ acquired a spreadsheet based model developed by another waste management organisation to carry out scoping assessments of cooling times for disposal of spent fuel.
 - b. In March 2009 RWM worked with the developer of the model to modify it to allow more flexibility in the heat input terms. In implementing these modifications an error was introduced such that cooling times were under-estimated. A procedure was used and checks carried out, but these did not pick up the error.
 - c. During 2009 and 2010 the model (with the error) was used to support a number of assessments including estimates of cooling time for spent fuel from proposed new nuclear build reactors. These results were used to inform the regulators' Generic Design Assessments, Government's formal Justification of Practices for new build reactors under the Ionising Radiation Regulations 2004, the new build National Policy Statement, Euratom Article 37 submissions, and the potential operators' Funded Decommissioning Programmes.
 - d. During 2011 a cross comparison with another model being developed as part of our research work identified a discrepancy which, at the time, was thought to affect only a specific data set and not the overall model. The model with the error remained in our system and continued to be used.
 - e. During 2013 another cross check identified the error. This time it was recognised and action taken to identify the work affected. Customers and users were informed; key reports were revised and re-issued.
2. Although the error did not affect the conclusions regarding the disposability of new build spent fuel or the position Government reached in their assessments, RWM is taking the matter very seriously. RWM has conducted internal investigations into the issues associated with the introduction and non-detection of the error. The investigations examined the actions and behaviours of a number of members of staff. Some project and line management failings were identified and action has been taken in response to these.
3. RWM's Science and Technology Director has briefed staff on the event and the lessons to be learnt including the broader lessons relevant to RWM's development as a competent delivery organisation.
4. In addition to RWM's internal investigations a number of other reviews are relevant. these are;
 - a. H M Treasury's "Review of quality assurance of Government analytical models" (the Macpherson review).
 - b. A "Review of Assurance Processes for Analytics" commissioned by the NDA Board.
 - c. A review carried out for RWM's Chairman to give confidence in the quality of the revised assessment reports.

¹ RWM is used throughout to describe the current organisation, NDA's Radioactive Waste Management Limited, and its predecessor organisations Radioactive Waste Management Directorate and Nirex.

5. The need for RWM to strengthen its arrangements for managing models, and the data and other inputs to them, had been recognised some time ago and work initiated to address this is being accelerated.
6. In order to pull together the existing initiatives and issues arising from the investigations and reviews, RWM has set up a Data & Models Compliance Project with the following objectives;
 - a. Ensure RWM policies and procedures covering data, spreadsheets, calculations, and models are fit for purpose.
 - b. Demonstrate compliance of all data, models, etc which support RWM's business model. Where compliance cannot be confirmed the compliance gap will be identified, the associated risks assessed, and an action plan put in place.
 - c. Promote an environment in which the policies and procedures operate effectively within a culture of continuous learning and improvement.
7. A Project Board has been set up, chaired by the RWM Science and Technology Director, and with representation from DECC and NDA modelling specialists. The RWM Executive team is currently conducting an organisational review. The primary drivers are to ensure that the Siting and Waste Management departments can deliver their new responsibilities. However the role and responsibilities of Science and Technology are also being reviewed and its capabilities and capacity to deliver these will be considered in the light of the learning from the investigations and reviews.
8. During July 2014 the regulators intend to carry out a review of RWM's arrangements for the management of models.
9. By the end of the current financial year the Data & Models Compliance Project will have completed its work. Any compliance gaps will have been identified and action plans put in place.
10. RWM has recently started on an update of the generic Disposal System Safety Case (which will be the subject of a paper to the July meeting of the Board). All data and models used to support this update will be fully compliant with RWM's updated policies and procedures.
11. Any needs to strengthen RWM's technical or managerial capability or capacity to allow data and models to be properly managed will be addressed during the review of the organisation, which will be the subject of papers to the Board.