

**MINUTES**  
**OF THE MEETING**  
**OF THE BOARD OF DIRECTORS OF THE**  
**NUCLEAR WASTE MANAGEMENT ORGANIZATION (NWMO) /**  
**SOCIÉTÉ DE GESTION DES DÉCHETS NUCLÉAIRES (SGDN)**

**convened in Toronto, ON**  
**on February 17, 2017**  
**commencing at 8:00 a.m. EST**

Present

Wayne Robbins	Chair
Carlo Crozzoli	Director
Ron Jamieson	Director (Items 1-15)
Darren Murphy	Director
Josée Pilon	Director (via teleconference Items 13-16)
Ian Ross	Director
Laurie Swami	Director, President & CEO
Mark Elliott	Director

Staff in attendance:

Paul Gierszewski	Director, Safety & Licensing (Items 8-14)
Paul Hader	Performance Assurance Consultant (item 15)
Marni Halter	Senior Counsel (except items 1-4, 18)
Chris Hatton	Director, Nuclear Design & Transportation (items 12, 13)
Michael Hung	CFO (except items 1-4, 18)
Peter Keech	Manager, Engineered Barrier Systems (item 16)
Gillian Morris	Board Secretary (except item 18)
Jennifer Noronha	Director, Repository Engineering (item 13)
Jennifer Spragge	VP, Human Resources (except item 18)
Derek Wilson	VP, Design & Construction (except items 1-4, 18)

Guests:

The Hon. David Crombie      Chair, NWMO Advisory Council (Item 5)

1. Constitution of Meeting and Approval of Agenda

Notice of the meeting having been given to all of the Directors of the Company in accordance with the by-laws and a quorum being present, the Chair declared the meeting duly constituted for the transaction of business and called the meeting to order at 8:00 am.

The Chair welcomed Mr. Mark Elliott to the NWMO Board of Directors.

2. Minutes of Previous Meeting

The minutes and in camera minutes of the meeting of the Board of Directors held on December 1, 2017, copies having been sent to each member of the Board, were approved.

3. Business Arising from the Previous Minutes

The Board Secretary reported that there were no outstanding actions from the previous Board meeting.

4. Report from the Human Resources & Compensation Committee

The Chair of the Human Resources & Compensation Committee provided a report to the Board on the February 16, 2017 meeting in camera.

5. Report from Advisory Council's February 13, 2017 Meeting

Mr. Crombie provided a report to the Board on the Council's February 13, 2017 meeting:

- As the Board had requested, David Cameron provided a presentation to the Advisory Council on his participation and experience at the International Conference on Geological Repositories. Mr. Cameron reported to Council that this was a significant event for NWMO. NWMO's delegation at this conference had excellent community representation which symbolized the approach NWMO has taken with respect to public engagement and was unique at the conference.
- Council had excellent discussions on a number of topics, including:
  - Key areas of business risk;
  - An update on progress in the siting project and planning for borehole drilling;
  - Findings from detailed geological mapping for two of the siting areas;
  - how NWMO will approach stock-taking in 2017 and narrowing down of communities in the siting process;
- Council also received a number of standing updates on: the work of the Council of Elders; progress in the APM Proof Testing program; technical and engagement work related to transportation; and, NWMO's role to support OPG's low and intermediate level waste (L&ILW) DGR.
- On February 14, the Advisory Council traveled to NWMO's Oakville Facility for a very informative tour where they learned more about the materials and concepts planned for use in the underground repository for used nuclear fuel.

Mr. Crombie noted that the tour to NWMO's Oakville facility was very informative and Council was impressed with the staff and the way complicated technical information was presented in an understandable manner.

Lastly, Mr. Crombie formally submitted the Advisory Council's Triennial Report to the Board of Directors.

Directors discussed the Advisory Council's report and NWMO's plans for dispositioning the Council's comments provided in the Triennial Report.

6. Report from February 16, 2017 the Siting Committee Meeting

Mr. Ron Jamieson, Chair of the Siting Committee reported on the February 26, 2017 meeting of the Siting Committee:

- NWMO updated the Committee on the status of the progress in the siting communities in preparing for borehole drilling engaging with communities;
- Mr. Jamieson noted that getting to the stage where NWMO will be borehole drilling at a location that could be a repository is a significant milestone for NWMO;
- A discussion was had on NWMO's draft plans for stocktaking in the siting communities in 2017.
- The Committee also further reviewed audits and controls in place for verifying appropriate use of NWMO funds. The Committee supported management's recommendation of requesting financial reports with specific guidelines outlined by NWMO.
- Also discussed was NWMO's dialogues with communities on skills and capacity building and in the siting areas. The Committee supported NWMO related programs involving youth members in the communities.
- Mr. Jamieson noted the Committee also had an important discussion on partnerships and consent in the site selection process.

Mr. Jamieson also provided a report from his participation in the International Conference on Geological Repositories. He reported that the three highlights of the conference were 1) the site visit to Bure's underground laboratory 2) meeting the CEO of the Finnish waste management organization Posiva and 3) interacting with the attendees from the NWMO siting communities.

The Chair asked that the Council of Elders receive a presentation on the ICGR. (\*)

The Chair also suggested the Board discuss the timing of visits to siting communities and a possible visit to Finland in the Board's planning session later in the year.

7. Report from the February 16, 2017 Audit, Finance & Risk (AFR) Committee Meeting

Mr. Ross reported that the AFR Committee reviewed the 2016 audited financial

statements and the auditor's report. He commented that there were no significant issues raised, but in its management letter, the auditors provided several recommendations. Mr. Ross reported that management has addressed these recommendations to the Committee's satisfaction. He also reported that the Committee had an opportunity to meet with the Auditor without the presence of staff or management. The AFR Committee recommended that the Board approve the 2016 audited financial statements.

Mr. Ross noted that the auditors commended management and its cooperation in preparation of the financial statements and that there were no constraints on the auditor's access to information.

**IT IS HEREBY RESOLVED THAT:**

On the recommendation of the AFR Committee, the Board approves the 2016 Financial Statements for the NWMO fiscal year ended December 31, 2016, as audited and presented by the external auditors, Deloitte LLP.

The motion was made, seconded and unanimously passed.

Mr. Ross also reported that the Committee considered a number of other items:

- A discussion on APM's strategic framework and APM milestones to construction;
- Management's plan for monitoring and reporting progress against its 2017 performance measures and scoring criteria that will be used;
- A report on NWMO's internal audit and assessment plan for 2016 and the proposed plan for 2017.
- A review of key business risks;
- A pension status report;
- An update on the Lifecycle Liability Management work;
- Regular management reports;
- A review of the Board Chair, President and senior executives' expenses.

8. President's Report

The Chair recognized a significant article written about one of the Low and Intermediate Level Waste (L&ILW) DGR Oversight Committee members, Morris Medd.

Laurie Swami provided a report to the Board which covered:

- The recent fire at the Badminton and Racquet Club which caused evacuation in both of NWMO's offices at Yonge and St. Clair;
- Staffing changes including the appointment of a new Vice President of Site Selection and Engagement and an upcoming retirement;
- The near completion of the NWMO Triennial Report, which will be issued at the end of March;
- That status of NWMO's work to support the OPG L&ILW DGR;
- Updates on U.S. and international waste management programs and the EDRAM conference which Ms. Swami recently attended;

- Upcoming activities which include the annual Canadian Nuclear Association conference, meetings with NWMO's member organizations and visits to the NWMO siting communities.

The Chair thanked Jennifer Spragge for the action she took to ensure employees' safety and evacuate NWMO during the recent fire at the Badminton and Racquet Club and suggested it would be good to understand the lessons learned from that evacuation. (\*)

9. Business Risk

Michael Hung provided the Board with an update on key risks to NWMO. He noted there was only a change in one of the risks and the risk level had been reduced.

Mr. Hung reported that NWMO is updating its risk management procedures to ensure a more consistent tracking of risks and the development of a consolidated risk database. The new reporting will be provided in September with the key risks being discussed as part of the June business planning process. A Director suggested including risk indicators to explain why a risk is changing. (\*)

10. APM Milestones to Construction

Derek Wilson presented APM's strategic framework to the Board and reviewed the planned milestones to construction. He discussed the three pillars that would define the site selection criteria – safety, partnership and transportation. He also reviewed the regulatory approvals which will be required.

Directors commented that the presentation of the materials was very helpful in understanding the path to construction and supported the focus on safety. A Director asked about the need for updating the safety cases in both sedimentary and crystalline rock. Mr. Wilson noted that both safety cases need to be advanced to prepare for the 2023 site decision.

Directors also discussed the narrowing down process in the coming years and how funding already provided to a community would be handled if a community were to exit the siting process.

11. Strategy for 2017 Stocktaking

Mahrez Ben Belfadhel outlined for the Board, NWMO's approach to conduct a comprehensive stocktaking of the siting regions currently in Phase 2 of the siting process which is expected to be completed later in 2017. Board members concurred that management's plan was suitable and agreed that the Board's approval was limited to the community recognition program.

Directors discussed the past recognition programs provided to communities and how the funds were utilized. A Director noted that the recognition funds were used for community well-being programs.

12. Progress Against Proof Testing and Technical Transportation Plan

Chris Hatton reported on NWMO's progress of its proof testing work. He noted the Advisory Council's productive tour of the NWMO's Oakville facility. He reported on technical work underway in the areas of: the Oakville test facility; the used fuel container; and; buffer and sealing systems. He also provided an update on the technical work related to transportation.

Directors discussed the possible modes of transport for dry storage containers and about recent developments in welding and inspection technology. A Director also asked about the top risks related to the technical program. Mr. Wilson reported that the APM proof testing program was designed to mitigate technical risks.

13. Update on OPG L&ILW DGR Work

Paul Gierszewski provided an update on the work to support OPG's L&ILW DGR project. He reported that NWMO provided support in the completion and submission of OPG's responses to additional information requested by the Minister of Environment and Climate Change. OPG submitted the response to the Canadian Environmental Assessment Agency at the end of December. He noted that NWMO continues discussions with OPG on how NWMO can best support the L&ILW DGR in 2017, and into the design and construction phase.

14. Occupational Health & Safety Review and Statistics

Members of management reviewed with the Board the NWMO's performance on occupational health and safety and environmental protection in 2016. Areas covered in the report included: OPG DGR project fieldwork; APM field work; the NWMO test facility and the NWMO head office. It was also reported that Joint Health and Safety Committee (JHSC) meetings are held throughout the year.

A Director asked about the Health and Safety program at the Oakville test facility. Mr. Wilson noted that the health and safety program is contracted through the building owner and under NWMO's technical oversight. Another Director asked about sick leave statistics, which are reported through the Human Resources and Compensation Committee annually.

15. Audit, Assessment Report

Paul Hader, NWMO's Performance Assurance Consultant joined the meeting to summarize the results of the execution of the NWMO 2016 Audit and Assessment

Plan. Mr. Hader reported on the number of audits completed and the areas of audit focus. The annual plan also included three planned self-assessments.

The certification audits completed in 2016 continued to find the NWMO fully compliant a number of safety standards and NWMO also maintained good conformance with the requirements of applicable nuclear safety standards.

A Director asked how NWMO checked for corrective actions when a deficiency was found. Mr. Hader reported that approximately half are followed up on to check for completion and effectiveness. It was also noted that typically contractors pay to correct any deficiencies. A Director noted he would expect there would be impacts to additional contracts with that contractor if significant issues were found. Another Director asked about cyber security audits and emphasized their importance. It was noted that independent testing of cyber security was done in 2016.

Mr. Hader outlined the plan for 2017 audits which proposes a number of internal and contractor audits, and a number of external certification maintenance audits.

Mr. Ross reported that the AFR Committee discussed the proposed plan and recommended it for the Board's approval.

**IT IS HEREBY RESOLVED THAT:**

On the recommendation of the AFR Committee, the Board approves the planned audits as listed in the table presented and included in the NWMO 2017 Audit and Assessment Plan.

The motion was made, seconded and unanimously passed.

16. Corrosion Peer Review Report

Derek Wilson reported that the Corrosion Peer Review presentation resulted from a Board request for additional technical information. He also noted that assessing copper corrosion is an important step in understanding the container's ability to meet licensing conditions.

Peter Keech, NWMO's Manager of Engineered Barrier Systems joined the meeting to provide the results of the Corrosion Peer Review Report. He discussed the qualifications of the expert review panel and outlined some of the high-calibre researchers working with NWMO. Mr. Keech summarized the conclusions of the report which stated that NWMO has an extremely strong corrosion team, and programs have been well thought out and well set up and that the results are very applicable to the eventual license submission for the container.

A Director asked if the panel identified any gaps in NWMO's information. Mr. Keech noted that one area that was related to sulphur as a catalyst was identified and was incorporated into NWMO's program.

17. Plan for 2017 Advisory Council Membership Review

Ms. Swami reported that the current membership terms for the Advisory Council conclude at the end of 2017. She reviewed management's proposal for Directors to address a plan for re-appointments or new appointments before the end of the year. The Board will need to consider the expertise required and also the need to comply with the provisions in the Nuclear Fuel Waste Act.

Directors were in agreement with the plan proposed by management.

18. Next Meeting of the Board

The next meeting of the Board of Directors will take place on:

Thursday, June 1, 2017  
8:30 am – 1:00 pm  
Oakville, Ontario

19. In Camera Session

Board Members held an in camera session without the presence of staff or management.

Conclusion of Meeting

There being no other business, the Chair declared the meeting adjourned at 1:20 pm

\* Denotes actions to be taken.

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Wayne Robbins  
Chair



Gillian Morris  
Board Secretary