

NUCLEAR WASTE MANAGEMENT ORGANIZATION (NWMO)

**BOARD OF DIRECTORS
MEETING**

September 27, 2012

AGENDA

1. Constitution of Meeting and Approval of Agenda
2. Minutes of Previous Meeting
3. Business Arising from the Previous Minutes
4. *In Camera* Session
5. Report from the Siting Committee
6. Report from the Audit, Finance & Risk Committee
7. Report on the L&ILW DGR Oversight Committee Tour to Shaft-Sinking Operations
8. Report from the Advisory Council
9. President's Report
10. Update on APM Siting Process
11. Preliminary 2013-2017 Business Plan
12. Draft 2013 Performance Measures
13. Business Risk
14. Preliminary information on Benchmarks
15. Rolling List of Strategic Decisions
16. Logistics Study Results
17. APM Technical Report
18. Update on OPG L&ILW DGR
19. Legal / Corporate Secretary Report
20. Next Meeting of the Board
21. *In Camera* Session

Conclusion of Meeting

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 September 27, 2012
commencing at 9:00 a.m. EDT

Present

Gary Kugler	Director, Chair
Pierre Charlebois	Director (except for Items 1-3)
Donn Hanbidge	Director
Ron Jamieson	Director
Darren Murphy	Director
Ken Nash	Director, President & CEO
Deborah Poff	Director
Ian Ross	Director

Regrets:

Josée Pilon	Director
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Staff in attendance:

Angelo Castellan	VP Environmental Assessment & Corporate Support (except items 1-4)
Michael Hung	Chief Financial Officer (except items 1-4)
Chris Hatton	Director, APM Repository Design Development (except items 1-4)
Frank King	VP and Chief Engineer (except items 1-8)
Pat Moran	General Counsel and Corporate Secretary
Sean O'Dwyer	VP, Human Resources (except items 1-4)
Sean Russell	Director, Repository Engineering (except items 1-5)
Kathryn Shaver	VP, APM Engagement and Site Selection (except items 1-4)
Derek Wilson	VP, L&ILW DGR Design & Construction (except items 1-4)

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 9:00 am.

The agenda for the September 27, 2012 meeting was approved, with agenda item 4 being moved to agenda item 8.

2. Minutes of Previous Meeting

The minutes of the meeting of the Board of Directors held on June 14, 2012, copies having been sent to each member of the Board, were approved with one amendment.

3. Business Arising from the Previous Minutes

Pat Moran reviewed the status of the action items from previous meetings

4. *In Camera* Session

The Board convened an *in camera* session to discuss the report from the Chair of the Human Resources and Compensation (HRC) Committee.

5. Report from the Siting Committee

Mr. Jamieson provided a report to the Board on the September 25th, 2012 Siting Committee meeting. He reported that the Siting Committee reviewed and discussed the following:

- an extensive review of communities involved in the various stages of the site selection process, including the potential for some communities to work cooperatively;
- activities underway to build relationships in support of siting;
- an update on the Council of Elders meeting that took place in June. Committee members emphasized the Council of Elders is an advisory body, providing advice to management. The Committee also felt that it would be important to the Elders to know that their advice was being heard at the Board level;
- draft siting performance measures for 2013 for engagement and site selection;
- resource plans for geoscience for future phases of field work, and considerations for the next phase of work on social aspects of the assessments; and
- the approvals process for Ontario and Saskatchewan associated with working on Crown land.

6. Report from the Audit, Finance & Risk (AFR) Committee

Mr. Ross provided a report from the Audit, Finance and Risk Committee meeting held on September 26, 2012.

It was reported that the AFR Committee reviewed the audit engagement letter and the proposed audit plan with the team from Deloitte & Touche. A discussion was held related to the new accounting standards for private sector not-for-profit organizations.

Committee members discussed the proposed audit fees which reflect the increased audit scope and risk. AFR Committee members recommended the approval of the remuneration of the external auditors.

IT IS HERBY RESOLVED THAT:

Remuneration of the external auditors, for undertaking the external audit of NWMO's financial statements for the fiscal year ending December 31, 2012 be approved as proposed.

The motion was made, seconded and unanimously passed.

Mr. Ross reported that the AFR Committee also considered the following items:

- an update on business risk
- the preliminary 2013-2017 business plan;
- the draft 2013 performance objectives;
- Lifecycle Liability Management program updates;
- proposed changes to the Organization Authority Registers;
- management reports including:
 - a performance objectives status update;
 - management cost report;
 - cash flows report; and
 - the compliance report.
- a review of the Chair and President's expenses (which the Committee found to be in order).

The Committee was provided with an update from the Pension Management Committee (PMC). The PMC reported that the Financial Services Commission of Ontario has approved the transfer of pension assets from OPG to NWMO.

Committee members discussed the shortfall in the NWMO pension assets against the accumulated liability. The Committee agreed that NWMO should seek to eliminate the 2012 solvency deficit over a period of 5 years provided it can be accommodated within the existing financial planning envelope. The Committee recommended to the Board an additional voluntary contribution.

IT IS HEREBY RESOLVED THAT:

On the recommendation of the Audit, Finance & Risk Committee, the Board approves an additional voluntary contribution of \$1.3 million to the NWMO Pension Plan toward the 2012 Pension Fund Deficit.

The motion was made, seconded and unanimously passed.

7. Report from the L&ILW DGR Oversight Committee Tour to Shaft-Sinking Operations

The Chair of the Low and Intermediate Level Waste DGR (L&ILW DGR) Oversight Committee reported on the September 13th Committee tour of the Lake Shore Gold (Timmins, ON) and IAMGOLD, Westwood mine (Rouyn-Noranda, QC). The projects were selected because of their close proximity to one another and they provided the opportunity to observe a completed shaft-sinking project in operation and a shaft under development. The shaft features are similar to those proposed for the OPG DGR project.

Committee members were very appreciative of the opportunity to view a shaft-sinking operation to gain a better understanding of what can be expected during the construction of the OPG L&ILW DGR.

8. Report from the Advisory Council

On behalf of David Crombie, Kathryn Shaver reported on the September 10 Advisory Council meeting. She reported that Council discussed the following items:

- recent activities across programs presented by the President;
- the APM site selection process;
- NWMO's proposed 2013-2017 business plan and areas of potential business risk;
- engagement with provincial and municipal governments, Aboriginal people, organizations and media;
- the Council of Elders first meeting in June;
- respective roles of the International Technical Review Group and the APM Geoscience Review Group as it relates to the APM program; and
- the APM technical program and the work on the OPG low and intermediate level waste DGR.

At Council's request, its November meeting will be focussed on the assessment and decision making processes to support future identification of communities eligible to proceed to the field work phase.

9. President's Report

Mr. Nash updated the Board on the following developments since the last Board meeting which included:

- the first meeting of the new Council of Elders held in June;
- meetings with Ontario government Ministers;
- a meeting with President Binder of the Canadian Nuclear Safety Commission;
- planning work for next year and future phases of the site selection process. NWMO needs to be cautious of overstretching its resources;
- continuing technical work on APM. The Independent Technical Review Group met and provided feedback on NWMO technical work;
- multiple initiatives underway related to transportation including a Federal-Provincial working group, an upgrade of communication material and meetings with transportation Ministers;

- NWMO has achieved ISO 14001 and CSA Z1000 certification for environmental management and worker health and safety in addition to NWMO's ISO 9001 certification;
- hiring of a new communications director;
- continuing support for the Joint Review Panel of the OPG L&ILW DGR by responding to a large number of information requests;
- preparing for the International Conference on Geological Repositories. At least 40 members of the various site communities will attend the ICGR; and
- process underway to renew four bilateral cooperation agreements with sister organizations and a new one with South Korea.

10. APM Site Selection Process: Progress Update

Ms. Shaver reviewed the status of APM Site Selection reporting on the status of the communities in the process. Her report:

- noted that the "expressions of interest" phase will be suspended as of September 30, 2012;
- reviewed the activities of the communities in Step 2, the "Learn More" phase of APM siting; and
- reviewed activities of communities in Step 3, the Preliminary Assessment phase, including meetings of Community Liaison Committees, establishment of Project Coordinators and websites. Ms. Shaver discussed the timelines for the preliminary assessments for the communities currently in Step 3.

An update was provided to the Board on:

- Aboriginal outreach in the communities engaged in the siting process;
- engagement with federal and provincial governments;
- recent meetings with municipal governments; and
- recent media and communications.

In the discussion that followed a Director suggested management look for opportunities in future communications materials to elaborate on the timelines associated with overall project expenditures for the APM program. Directors also asked about safety and security plans for NWMO staff when they are traveling to communities and received an update from management.

11. Preliminary 2013-2017 Business Plan

The Board was briefed on the preliminary 2013-2017 business plan. Mr. Nash reported that the financial envelope of the APM section of the plan is consistent with the approved 2012-2016 business plan. There have been a number of further refinements to the work plans and cash flows, to be in line with developments in the site selection process.

As discussed at the June Board meeting, for financial planning purposes, the APM budget has been developed using a scenario that assumes a single site is selected for detailed characterization at an early stage in the site selection process. Mr. Nash reviewed the highlights of the scenario. He noted that a shorter timeline has been selected for the siting scenario in the business plan to ensure that the technical deliverables keep pace with progress on the community-driven siting decision.

Ms. Shaver discussed the timelines contained in the Business Plan with respect to the preliminary assessments of communities in Step 3 of the siting process and some of the factors that may affect those timelines. Directors discussed the suspension of the “expressions of interest” phase.

Chris Hatton discussed the plan for APM technical work in the Business Plan and associated business risks and uncertainties. He reported that a safety assessment for crystalline rock will be submitted to the Canadian Nuclear Safety Commission in 2012. In 2014 the optimized container and repository designs will be established and proof testing of this design initiated.

Frank King discussed the milestones and planning assumptions for the work on the OPG Low and Intermediate Level Waste DGR (L&ILW DGR). Directors reviewed:

- the timing of further design work for the OPG L&ILW DGR; and
- engineering standards and whether the DGR would fall under the nuclear management approach that is applied to nuclear power plants.

Michael Hung reviewed the business plan assumptions for the Liability Lifecycle Management group.

12. Draft 2013 Performance Measures

Mr. Hung reviewed the changes to the draft 2013 performance objectives and measures since the June board meeting. Consistent with the approach used in 2012, a small number of high level key objectives are proposed with measures and weightings.

Mr. Hung noted that final refinements will be made in the performance objectives and they will be brought back to the Board in November for final approval.

13. Business Risk

Michael Hung reviewed the high and medium-level risks related to implementing APM, making note of any changes since the last Board meeting. He also reviewed risks relating to the Licensing and Design and Construction phases of the L&ILW DGR.

Directors discussed mitigation activities for some of the risks and suggested it might be helpful to see to what extent mitigation reduced the risk level and that information about what risk mitigation measures are in place would help illustrate the effectiveness of mitigation activities.

Directors also discussed community support and how NWMO will determine compelling support for the project. Also discussed were the lengthy project timelines and how a community would perceive the long timelines.

14. Preliminary Information on Benchmarks

Ken Nash provided preliminary benchmarking information in response to a suggestion at the June Board meeting that benchmarking would help in the understanding of whether NWMO’s work programs were effective and efficient.

NWMO has systematically worked with other NWMO equivalent organizations to exchange knowledge, to compare best approaches, costs and planning assumptions. Mr. Nash provided a summary of the currently available information on cost and schedule comparisons and indicated where additional information is being sought. A major challenge in cost and schedule comparisons is that no two repository programs have closely matching features.

The Independent Technical Review Group (ITRG) has also been asked to address the broader question of effectiveness and efficiency in their 2012 review of NWMO's technical program. The Chair of the ITRG will report to the Board in November.

15. Rolling List of Strategic Decisions

Mr. Nash discussed an updated rolling list of items that are expected to be reviewed with the NWMO Board over the business plan period 2012-2017. He noted that actual dates will depend on external factors and may vary from the dates provided. Directors discussed NWMO's long term staffing strategies and how staffing would be managed when a site is chosen.

These items will be brought forward to appropriate Board Committees and Board meetings in a timely way to ensure full consideration and discussion. This list does not preclude additional items that the Board may identify for discussion and does not include routine items such as approval of business plan or financial statements.

16. Logistics Study Report

A logistics study was undertaken to determine the most efficient and effective ways to move fuel from its current locations to repository containers. Chris Hatton discussed the results of the logistics study, outlining:

- the objectives of the study;
- the current spent fuel storage systems used by the three power producers and the current reference case;
- how the study was conducted and options that were considered;
- the limitations on transporting the current dry storage containers; and
- the path forward.

Directors discussed several technical details provided in the report. Mr. Nash reported that all of the NWMO member organizations had signed off on the results of the logistics study. Further work to optimize the six identified options will now be carried out.

17. APM Technical Program

Sean Russell reviewed the highlights of the APM technical report discussing an increased focus on work in sedimentary rock. Work continues on the preparation of the final 4th case study for a repository in crystalline rock with a more permeable geosphere. Analysis is underway on a 5th case study which examines an APM repository in sedimentary rock.

Chris Hatton reviewed the work underway in repository container design development. He reported that work continues on:

- the container sizing study;

- copper technology;
- closure weld development;
- buffer performance;
- repository microbiology;
- underground placement technology;
- transportation radiological risk assessment; and
- a revised integrated repository reference design.

Directors asked technical questions about copper coating technology work and radiation sensors on the containers.

18. Update on OPG L&ILW DGR

Frank King provided an update on the work on OPG's L&ILW DGR and discussed the status of the information requests received from the Joint Review Panel (JRP). The JRP have scheduled a technical information session on computer modelling for October 11. Directors requested information on the upcoming webcast. (*) Angelo Castellan provided an update on aboriginal and community engagement activities.

19. Legal / Corporate Secretary Report

Pat Moran provided the Board with an *in camera* update on recent litigation.

Mr. Moran discussed with the Board a proposed plan to transition to paperless meetings using a Board Portal. Directors were in agreement with the plan which will see full implementation of the system in February 2013.

Upcoming Meetings

The next meeting of the Board will be on Thursday, November 29, 2012.

20. In Camera Session

The Board met *in camera*.

Conclusion of Meeting

There being no other business, the Chair declared the meeting adjourned at 3:15 p.m.

(*) Denotes actions to be taken.

Pat Moran
Corporate Secretary

Dr. Gary Kugler
Chair