

NUCLEAR WASTE MANAGEMENT ORGANIZATION (NWMO)

**BOARD OF DIRECTORS
MEETING**

December 4, 2013

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 from the L&ILW DGR Oversight Committee
8. Report on the Advisory Council Observations in the Triennial Report
9. President's Report
10. Report from the Independent Technical Review Group
11. Update on APM Siting Process
12. APM Technical Report
13. Observations from the L&ILW DGR Hearings
14. 2014-2018 Business Plan
15. Update on Five Year Review of Lifecycle Cost Estimate for APM
16. Legal / Corporate Secretary Report
17. Next Meeting of the Board
18. *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 December 4, 2013
commencing at 9:00 a.m. EST

Present

Gary Kugler	Director, Chair
Pierre Charlebois	Director
Donn Hanbidge	Director
Ron Jamieson	Director
Darren Murphy	Director
Ken Nash	Director, President & CEO
Deborah Poff	Director
Ian Ross	Director
Josée Pilon	Director

Staff in attendance:

Angelo Castellan	VP Environmental Assessment & Corporate Support (Item 13)
Paul Gierszewski	Director, Repository Safety (except items 1-4)
Chris Hatton	Director, APM Repository Design Development (except items 1-4)
Michael Hung	Chief Financial Officer (except items 1-4)
Mark Jensen	Director DGR Geoscience & Research (Item 10)
Pat Moran	General Counsel and Corporate Secretary
Gillian Morris	Assistant Board Secretary (except item 4)
Sean O'Dwyer	VP, Human Resources (except items 1-4)
Sean Russell	Director, Environmental Assessment (except items 1-4)
Kathryn Shaver	VP, APM Engagement & Site Selection (except items 1-4)
Derek Wilson	VP, L&ILW DGR Design & Construction (except items 1-4)

Guests:

The Hon. David Crombie	Chair, NWMO Advisory Council (item 8)
Dr. Alan Hooper	Chair, Independent Technical Review Group (Item 10)

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 Chair proposed one change in the order of items on the agenda.

The agenda for the December 4, 2013 meeting was approved.

2. Minutes of Previous Meeting

The minutes of the meeting of the Board of Directors held on September 26, 2013, copies having been sent to each member of the Board, were approved.

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 receive the report from the Chair of the Human Resources and Compensation (HRC) Committee.

The Board requested that management review the audit requirements for performance in the engagement process. (*)

5. Report from the Siting Committee

Mr. Jamieson provided a report from the Siting Committee meeting held on December 2, 2013. Mr. Jamieson reported that the Committee discussed the following:

- the results of publishing the Phase 1 Preliminary Assessment reports for the first eight communities. Committee members congratulated NWMO staff on a very well executed and successful rollout.
- updates on building relationships which included: the external landscape, engagement, the Council of Elders, media analysis and an update on youth engagement.
- preliminary plans for Phase 2 of the assessments in the Siting process.
- the results of NWMO's 2013 performance in the categories of Building Relationships and Site Selection, as well as proposed 2014 performance indicators. Committee members were supportive of management's assessment of its performance in the siting area and the 2014 performance measures as proposed.

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

Mr. Ross provided a report from the Audit, Finance and Risk Committee meeting held on December 3, 2013. Mr. Ross reported that the Committee discussed the following:

- the 2014-2018 Business Plan. The Committee was supportive of the plan as proposed;
- 2014 performance objectives and measures;
- an update on the five-year review of the APM lifecycle cost estimate;
- an update from the pension management committee;
- an update on the Lifecycle Liability Management work;
- a report on payments to external parties;
- the 2013 performance report;
- regular management reports; and
- a review of the top 5 executives' expenses.

Mr. Ross reported that the AFR Committee received two presentations from NWMO's actuary. The first presentation was in relation to the pension fund manager's performance and the annual review of the Statement of the Investment Policies and Procedures (SIPP). It was noted that the investment manager performed above market benchmarks with a strong performance. The SIPP was still appropriate for NWMO and there were some proposed minor revisions to the SIPP to reflect the transfer of pension assets from OPG. The Committee was supportive of the changes with some modifications proposed by a Committee member:

BE IT RESOLVED THAT:

On the recommendation of the Audit, Finance & Risk Committee, the Board approves the proposed changes to the Statement of Investment Policies and Procedures as recommended by the external investment advisor and modified by the Committee.

The motion was made, seconded and unanimously passed.

The second presentation by the actuary was in relation to upcoming pension accounting changes. The Committee concurred with management's recommendation on NWMO's approach to handling the changes in accounting standards for pension funds.

7. Report from the L&ILW DGR Oversight Committee Meeting

Dr. Kugler provided a report from the December 4 meeting of the Low and Intermediate Level Waste Deep Geological Repository Oversight Committee. He reported that the Committee addressed the following:

- the progress on the regulatory review phase and design and construction phases of work;
- a discussion on the observations from the OPG L&ILW DGR hearings; and
- a review of 2014-2018 business planning and proposed budgets.

Directors discussed the topic of decommissioning waste which was raised at the OPG L&ILW DGR hearings. Directors also discussed the involvement of Aboriginal groups at the hearings.

8. Report on Advisory Council Observations in Triennial Report

The Honourable David Crombie joined the Board meeting to brief the Board on the Advisory Council's comments in the upcoming 2011-2014 Triennial Report.

Mr. Crombie reported that the Advisory Council speaks highly about NWMO's work and in particular wanted to note that Council members were very impressed with the work completed on the first eight preliminary assessments and the progress that has been made with Aboriginal communities.

Mr. Crombie discussed the Council's key recommendations which will be included in the Triennial Report. They pertained to the broad topics of:

- perpetuating NWMO's ethical and social framework;
- the inventory of used nuclear fuel, and in particular, used fuel from new nuclear plants;
- learnings from the OPG L&ILW DGR Hearings; and
- youth Engagement and a multigenerational perspective

Directors discussed Mr. Crombie's report. A Board member asked, in relation to learnings from the OPG L&ILW DGR hearings, if the Council had given thought to the need for a more uniform strategy for all of Canada's waste (one that includes low and intermediate level waste). Council noted that this was thought to be outside of their mandate on NWMO's work.

David Crombie acknowledged the work of the writer Suzanne Barrett who has helped the Council write their comments for the Triennial Report.

9. President's Report

Mr. Nash reported on NWMO's activities since the last Board meeting;

- Mr. Nash recognized NWMO staff member Robert Watts who was recently acknowledged in the House of Commons as a recipient of the 2014 Indspire Award which acknowledges the achievements of outstanding Indigenous Canadians;
- The Joint Review Panel Hearings for the OPG L&ILW DGR were recently completed after 25 days of intensive hearings;
- NWMO recently completed the narrowing down of the first 8 volunteer communities to 4 communities. Community reaction has been positive, supportive and media reporting has been balanced.
- The 5th case study postclosure safety assessment for an APM DGR in sedimentary rock is on schedule for submission to CNSC by the end of the year.
- Developments in the Canadian nuclear industry include the announcement by the Minister of Energy that the new Darlington nuclear facility would not be included in Ontario's Long Term Energy Plan.

Directors asked questions regarding the land withdrawal process in Ontario. A Director also asked whether NWMO was reaching out to any mining associations to brief them on APM. Staff reported holding briefings with some mining associations.

10. Report from the Independent Technical Review Group (ITRG)

Dr. Alan Hooper, the Chair of the ITRG presented the findings of the group's 2013 technical report. He commended the NWMO technical staff for always providing the ITRG with high quality presentations and material.

The ITRG reported that the scientific research that has been carried out to date or that is planned will provide the necessary level of support for what is recognized by the NWMO to be an ambitious set of planning assumptions for siting an APM facility, with 2023 being the earliest possible date by which the necessary submissions could be envisaged.

Dr. Hooper noted that the NWMO is currently placing considerable emphasis on the proof testing and optimization of the engineered barrier system that will be used in the repository, including its adaptation to a realistic repository design suited to the geological setting that ultimately will be chosen. Given the good progress that has been made over the past year, the ITRG considered that the planned activities in the engineering design area of the Technical Programme may well lead to improvements in design solutions. Previously the ITRG questioned whether sufficient scientific and technical underpinning could be developed for such solutions on the required timescales. Although still ambitious, there has been a helpful relaxation of the relevant timescales within the overall planning assumptions, and the NWMO proposes to commission a more detailed expert peer review in 2014 to test its plans in this key area.

Dr. Hooper also reported that recommendations made previously by the ITRG have either been implemented or their implementation is underway, although in some cases the ITRG has emphasised where more work or a change of approach may be required.

Directors discussed the report with Dr. Hooper, particularly the ITRG's thoughts on:

- the need for an underground testing facility;
- whether the container technology NWMO is pursuing is being used or studied by any other countries. Dr. Hooper noted that other countries are very interested in the NWMO's work on container technology;
- whether there is a risk that someone could look at the 5th case study postclosure safety assessment in sedimentary rock and jump to the conclusion that NWMO has pre-determined a site;
- container integrity in various scenarios; and
- whether NWMO is continuing to partner with Sweden and Finland on technology sharing (staff confirmed NWMO is continuing its partnership with these countries).

11. Update on the APM Siting Process

Ms. Shaver reported that on November 21, 2013, the NWMO published Phase 1 Preliminary Assessment reports for the first 8 of 21 communities in the siting process. The following four communities show strong potential to be suitable for the APM project

and have been invited to continue into Phase 2 for further study: in Ontario: Ignace, Hornepayne, Schreiber; and in Saskatchewan: Creighton. The 4 communities that ceased involvement in the siting process were Ear Falls and Wawa in Ontario, and English River First Nation and Pinehouse in Saskatchewan. Ms. Shaver reported very positive and supportive responses from all communities including those exiting the process.

Ms. Shaver discussed the communications surrounding the announcements and the recognition program for a Community Well-Being Reserve fund for each of the 8 communities which was approved by the Board in September.

It was reported that Phase 1 assessments for another 12 communities are in progress, and are expected to be completed in 2014. Based on these findings, it is envisaged that another small number of communities with strong potential will be selected from this group to continue on into Phase 2.

Directors congratulated NWMO staff on a very successful rollout of the decisions related to the first 8 communities in the siting process.

12. APM Technical Report

Chris Hatton updated the Board on the APM technical program including updates on:

- continued preparation of a 5th Case Study postclosure safety assessment of a conceptual APM repository in sedimentary rock, which is on track for submission to the CNSC by the end of the year;
- continued work in the development of copper coating and container welding technology;
- continuing study of copper coating corrosion performance.

Directors discussed the Mark II containers, enquiring about Canada's manufacturing capability. Staff reported that there is a competitive market for this type of technology in Canada and containers can be manufactured by multiple vendors.

13. Observations from the L&ILW DGR Hearings

Derek Wilson discussed observations from the recent hearings on the OPG L&ILW DGR. He covered key areas of discussion at the hearings including the design and safety case; socio-economic factors; community engagement; waste inventory; retrieval; and the licensing process. Mr. Wilson reported that socio-economic factors were a focus of discussion at the hearings.

Directors discussed the concept of retrieveability of the low and intermediate level waste which arose at the hearings. Directors also asked questions about the presence and impact of U.S. officials at the hearings.

Mr. Nash recognized the key roles played by Frank King and Angelo Castellan on the L&ILW DGR project and wished both well on their retirement from NWMO.

14. 2014-2018 Business Plan

Mr. Nash reported that the major focus and expenditures on APM in the proposed 2014-2018 Business Plan are in support of two main projects with the following objectives:

- complete Step 3 Phase 2 site selection work with the objective of being able to select one or potentially two locations for feasibility studies by 2018
- complete design optimization and proof testing of the Mark II engineered barrier system to confirm compliance with regulatory requirements and to demonstrate NWMO's ability to operationalize by 2018

It is expected that cost and schedule for both of these projects will be firmed up during 2014 for final Board approval by year end. Other work plan objectives are consistent with the seven strategic objectives in the APM implementation plan.

Kathryn Shaver provided further details for the APM site selection plan, Derek Wilson discussed the APM technical plan and Chris Hatton discussed the plan for transportation.

Directors discussed the proposed business plan, specifically asking questions about staffing costs. The Directors were supportive of the business plan as proposed.

IT IS HEREBY RESOLVED THAT:

On the recommendation of the Audit, Finance & Risk Committee, the Board approves the 2014-2018 Business Plan as proposed.

The motion was made, seconded and unanimously passed.

15. Five Year Review of Lifecycle Cost Estimate for APM

Ken Nash reviewed the plan and timeline for the next update of the lifecycle estimate for APM. Some of the key considerations of the cost estimate were tabled with the Board for discussion.

The overall objective is to update the APM cost estimate for financial planning purposes by 2016. Mr. Nash addressed some of the earlier board questions about possible in service dates, contingencies and the difference between estimate for the purpose of long-term financial planning and estimates for project implementation. One of the objects of the five year review will be to further align financial planning assumptions with business planning assumptions on the schedule and cost to acquire a construction license for the DGR.

16. Legal / Corporate Secretary Report

Pat Moran updated the Board on recent occupational health and safety cases related to the mining industry. He also reported that Canada has become a party to the Convention on Supplementary Compensation for Nuclear Damage.

17. Upcoming Meetings

The next meeting of the Board will be held on:
Thursday, February 20
9:00 am – 3:00 pm EST

18. In Camera Session

Board Members held an in camera session.

Conclusion of Meeting

There being no other business, the Chair declared the meeting adjourned at 2:00 pm

(*) Denotes actions to be taken.



Pat Moran
Corporate Secretary



Dr. Gary Kugler
Chair