

NUCLEAR WASTE MANAGEMENT ORGANIZATION (NWMO)

**BOARD OF DIRECTORS
MEETING**

June 14, 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. President's Report
 6. Report from the Siting Committee
 7. Report from the Audit, Finance & Risk Committee
 8. Report from the L&ILW DGR Oversight Committee
 9. Report from the Advisory Council
 10. Update on APM Siting Process
 11. Transportation Planning
 12. Preliminary 2013-2017 Business Plan
 13. Cover Note for Submission of 2011 Annual Report to NWMO Members
 14. Transition Plan to Not-For-Profit Corporations Act
 15. Cooperation on the Long-Term Management of L&ILW
 16. APM Technical Report
 17. Legal / Corporate Secretary Report
 18. Next Meeting of the Board
 19. *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 Montreal, QC
on June 14, 2012
commencing at 9:00 a.m. EDT

Present

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

Guests:

Albert Sweetnam	Executive Vice President, Nuclear Projects, OPG
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Staff in attendance:

Angelo Castellan	VP Environmental Assessment & Corporate Support (via Teleconference)
Michael Hung	Chief Financial Officer
Chris Hatton	Director, APM Repository Design Development
Pat Moran	General Counsel and Corporate Secretary
Gillian Morris	Assistant Board Secretary
Sean O'Dwyer	VP, Human Resources
Sean Russell	Director, Repository Engineering
Kathryn Shaver	VP, APM Engagement and Site Selection
Derek Wilson	VP, L&ILW DGR Design & Construction

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 June 14, 2012 meeting was approved.

2. Minutes of Previous Meeting

The minutes of the meeting of the Board of Directors held on February 15, 2012, 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 noting that a number of the actions were complete and others were ongoing. The Board was provided with a copy of the paper on the Use of Robotics in Hot Cells, videos on used fuel packaging were made available to the Board. The Board was also provided with a paper on the applicability of new technologies to NWMO's work.

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. President's Report

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

- meetings with senior staff in Saskatchewan and Ontario provincial governments;
- challenges in achieving meaningful Aboriginal engagement in a timely way to support site selection decisions ;
- establishment of a Geosciences Review Group that will help NWMO during the siting process in the selection of technically suitable locations;
- NWMO's technical work;
- Challenges in developing internal capability for APM design developments;
- additional contract staff to support the site selection process as staff travel to communities continues to increase;
- on the national waste management scene, Natural Resources Canada is soliciting expressions of interest on parts of AECL's business;
- internationally, Sweden, Finland, France, Switzerland and the U.K. continue to make progress with their used fuel management programs; and
- NWMO continues work on co-hosting the International Conference on Geological Repositories (ICGR) in Toronto in October.

Directors discussed the upcoming ICGR, expressing support for including the communities in the site selection process in the conference. It was noted that a representative from the Waste Isolation Pilot Plant in Carlsbad, New Mexico would

be making a presentation at the conference. A Director enquired whether NWMO was working with the CNS / CNA organizations. Ms. Shaver noted that the ICGR is not a trade show conference but a focused meeting for countries involved in high level radioactive waste management. Management committed to send the details of the conference to the Board. (*)

6. Report from the Siting Committee

Mr. Jamieson provided a report to the Board on the June 13, 2012 Siting Committee meeting. He reported that the Siting Committee:

- received an extensive update on communities involved in the various stages of the site selection process. Committee members asked a number of questions regarding perspectives of the various communities and whether communities had considered coming together to put forth regional proposals;
- reviewed the staff work under way with contractors and how feasibility studies were being managed;
- received an update on the suspension of the Expressions of Interest phase that is effective September 30th, 2012. The Committee was briefed on the status of the communities currently in the siting process, outreach in the neighbouring Aboriginal Communities and the status of the initial screenings;
- reviewed activities underway to build relationships in support of siting and managing risks in the external landscape. Committee members heard about NWMO's engagement with provincial governments, Aboriginals, NGOs, media, and municipal associations; and
- reviewed NWMO's multiple approaches to Aboriginal outreach; and

received an update on the newly reconstituted Council of Elders and its upcoming first meeting at the end of June.

The Siting Committee reviewed NWMO's preliminary siting performance measures for 2013. At the Committee's request, the next iteration of the performance measures will be brought forward to the September meeting. In the interim, management welcomed comments from the Committee on the current draft.

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

Mr. Ross provided a report from the Audit, Finance and Risk Committee meeting held on February 13, 2012.

It was reported that the Committee reviewed the following:

- the preliminary 2013-2017 business plan;
- the proposed engagement audit plan. The Committee was in agreement that the plan met the objectives of the independent audit;
- reviewed the expense guidelines for external participants in NWMO's engagement activities;
- an update on the Nuclear Fuel Waste Act (NFWA) trust fund contributions;

- an update on the Lifecycle Liability Management program;
- an update from the Pension Management Committee;
- the audited 2011 pension fund financial statements;
- management reports including an update on the performance objectives, a financial update; a cash flow update and a compliance report;
- the annual report of directors to be presented to Members at the Annual General meeting; and
- a recommendation to the Members on the appointment of the Auditors for 2012.

The Chair of the AFR Committee proposed the following items for approval:

IT IS HEREBY RESOLVED THAT:

Further to the recommendation of the Audit, Finance & Risk Committee, the Board approves the 2011 Financial Statements for the NWMO Pension Fund for the year ended December 31, 2011, as audited by the external auditors, Deloitte and Touche as presented.

The motion was made, seconded and unanimously passed.

IT IS HEREBY RESOLVED THAT:

Further to the recommendation of the Audit, Finance & Risk Committee, the Board will recommend to Members that Deloitte & Touche LLP be appointed as the auditors of the corporation to audit the accounts and records with the term of the appointment to last until the close of the next Annual General Meeting, at such remuneration as may be fixed by the Board of Directors.

The motion was made, seconded and unanimously passed.

On June 13 there was also a Joint meeting of the Audit, Finance & Risk Committee and the Human Resources and Compensation Committee to review the pension plan funding status and sustainability. NWMO's actuary, Eckler Ltd. joined the meeting to provide insight into the complex topic.

The Committees discussed the solvency deficit in the plan and the alternatives for managing the deficit. The Committees jointly recommended that NWMO make the required pension contribution as of June 30 and consideration of additional voluntary contributions would be addressed in September when the Committee members can review the status of the 2012 budget. Committee members agreed that Member organizations would not be approached for additional funds in 2012 to make these additional voluntary contributions. The Board discussed the ongoing sustainability of the pension fund.

8. Report from the L&ILW DGR Oversight Committee

The Chair of the Low and Intermediate Level Waste DGR (L&ILW DGR) Oversight Committee reported on the June 6 Committee meeting held in Toronto. Dr. Kugler reported that the Committee:

- reviewed the progress on the regulatory review phase of work, in particular the progress of the Joint Review Panel;
- received an update on progress on the detailed design phase of work. The Committee discussed OPG's decision to delay further development of the DGR detailed design until a construction licence is received, the impacts of that decision and the need to bring forward revised performance measures for 2012 based on the revised direction from OPG;
- discussed the status of NWMO's decision to commit to the construction phase;
- reviewed the changes in execution strategies for the OPG L&ILW DGR;
- reviewed the risks in relation to the OPG L&ILW DGR project, specifically the health, safety and environmental impacts risks during the construction phase; and
- discussed the results of the Committee's review of the Committee charter and self-evaluation conducted earlier in the year. The Committee recommended to the Board a change to its charter:

IT IS HEREBY RESOLVED THAT:

On the recommendation of the L&ILW DGR Oversight Committee, that the Committee's charter be amended under section II. Responsibilities, as follows:

- NWMO has implemented appropriate systems to identify, monitor and mitigate significant all business risks associated with the Project;

The motion was made, seconded and unanimously passed.

The Committee members also discussed options for a site visit to a shaft-sinking operation and agreed that the visit would be useful. It was agreed that a visit for the Committee to two mine shaft projects in Ontario and/or the province of Quebec would be arranged for the September/October timeframe.

9. Report from the Advisory Council

On behalf of David Crombie, Kathryn Shaver reported on the June 5 Advisory Council meeting.

Ms. Shaver reported that the Advisory Council discussed the following:

- standing items including a report from the President on NWMO's activities, key areas of business risk related to near-term activities in APM implementation, and a detailed presentation on the status of the communities in the site selection process;
- a review of lessons learned from Fukushima. Council had a lengthy discussion on the topic, focused primarily on how best to communicate NWMO's findings.

Council discussed at length the issues of trust and credibility associated with developments in Japan.

- an article written by Tom Isaacs with reflections on the Blue Ribbon Commission's work in the US and on Canada's approach;
- at Council's request, a review of how transportation will be addressed in the feasibility studies phase of work;
- a detailed discussion on Aboriginal engagement. Council was invited to provide advice on whether there were additional approaches to outreach to be considered; and
- Council was briefed on the new Council of Elders and its upcoming first meeting in June.

A Board member asked management if it had considered a separate website for the Advisory Council which is presently linked to the NWMO website. Management agreed to raise this option with the Advisory Council. (*)

10. APM Site Selection Process: Progress Update

Ms. Shaver reviewed the status of the communities who have chosen to enter the NWMO site selection process and where they are in the various stages of the process. All communities are located in either Ontario or Saskatchewan. Eight communities are in Step 3 of the process with desk-top preliminary assessments (feasibility studies) underway. Ten communities are in Step 2, requesting Initial Screenings, learning more about the project and initiating community open house discuss. Other communities recently entered Step 1 requesting briefings and further information.

Directors were also provided with a briefing on the external landscape including work with provincial governments, opinion leaders, Aboriginal engagement, transportation safety, and media.

Directors discussed the respective stances of Ontario and Saskatchewan governments on the project. Management reported that ministry staff from both provinces are involved in assisting the NWMO's understanding of the government processes and approvals that would apply should the project be sited in either province. Discussions focus on: transportation, access to Crown land, Aboriginal relations and duty to consult. A Director asked if there have been discussions at the community level as to how the \$16-24 billion would be spent and what would flow to the community. Ms. Shaver noted that this would be elaborated upon in the feasibility studies phase.

Ms. Shaver noted that NWMO has faced challenges when reaching out to some of Aboriginal communities neighbouring the communities in the process. Multiple efforts to engage with those Aboriginal communities are underway and NWMO is facilitating regional discussions for informal dialogues.

11. Transportation of Used Nuclear Fuel: Progress Report

The Board was briefed on NWMO's work on used fuel transportation. Transportation of used fuel from interim storage to a potential repository location has been identified by NWMO Board and Advisory Council members, the Canadian Nuclear Safety Commission, provincial governments and many stakeholders as a critical component of NWMO's work. Transportation safety will become an important topic for public dialogue as the APM site selection proceeds. Mr. Nash reviewed some of the preparations NWMO has made for external dialogue on transportation.

Chris Hatton reviewed the dose assessment chart with Directors noting that it had been discussed with CNSC staff.

Directors reviewed and provided feedback on NWMO's draft brochure on the Safe Transportation of used Nuclear Fuel to Canada's Deep Geological Repository. Directors discussed the accident scenarios that had been researched. Directors agreed that there is a need to put possible radiation doses in context to other daily life exposures. Ms. Shaver will reach out to all Members organizations in order to leverage their work already done in this area.

12. Preliminary 2013-2017 Business Plan

The Board was briefed on the preliminary 2013-2017 business plan. It was reported that a key development since the approval of the 2012-2016 plan last December is the further refinement of the business planning milestone assumptions for APM site selection. OPG have also provided a revised direction for the work on the completion of the design and for preparation for construction of the L&ILW DGR.

Kathryn Shaver discussed the site selection assumptions adopted for purposes of guiding the 2013-2017 business plan. She noted the importance of ensuring that financial resources are in place and programs well advanced to enable continued momentum with the phases of site selection. The business plan assumes continued advancement of the APM technical programs in parallel with the further evolution of the community-driven site selection process, including preliminary assessments and future site characterization.

Directors discussed planning assumptions adopted around the scope of detailed site characterization associated with future work and specifically, the number of communities assumed to advance in future to that phase. Mr. Nash noted that the Board would be consulted in the future on the decision to move forward with one or two sites into site characterization. At this time, the business plan provides the financial flexibility to accommodate scenarios with one or two sites carried forward to detailed site characterization and that the decision to proceed with site characterization would be brought to the Board.

One director observed that as expenditures on the APM technical program increase the Board needs assurance that NWMO has sufficient technical capability and that the program is well planned to deliver results.

Chris Hatton presented the proposed business plan for the APM technical program. Directors discussed the program and how the technical work should proceed in

crystalline and sedimentary rock. It was noted that there is not a great cost differential to move research forward in both types of rock.

Directors asked about how management is ensuring from a financial planning point of view that the business plan addresses what needs to be done to ensure successful implementation of APM. Mr. Nash stated that the work to be carried out by the NWMO is subject to Board oversight and review by the Advisory Council. He also indicated that the Independent Technical Review Group also reviews NWMO's technical work program and provides the Board with comments on its effectiveness and efficiency. Within the context of the approved business plan, the NWMO also carries out competitive tenders for the work to ensure it is done in a cost effective way. The Directors discussed the usefulness in benchmarking the NWMO's work against similar work carried out by sister organizations from other jurisdictions.

Several Directors noted the continued movement in the Ontario government towards greater transparency and accountability and encouraged NWMO to ensure all of its major decisions, particularly those related to major expenditures are well documented. A Director remarked that NWMO regularly under spends its annual budget and in public companies that would result in budget cuts. Mr. Nash discussed the fact that NWMO is managing project work that has never been done before and the work is subject to variables that make cost estimating difficult and result in the need for project contingency. While some operational components of NWMO's activities can be forecasted with some certainty, a large component of NWMO's work involves the delivery of a collaborative, community-driven site selection process and design development work for which program budgets are more difficult to forecast. Each year is very different from the previous. Actual program costs vary annually as the NWMO moves forward with each subsequent phase of the site selection process, and vary according to the number of communities and local and regional stakeholders engaged, and the timing of their decision-making and engagement and capacity-building activities. Mr. Nash committed to subdividing the budget for next year into project work typically requiring contingency and ongoing operational activities.

Derek Wilson reviewed the preliminary business plan for the work on OPG's Low and Intermediate Level DGR (L&ILW DGR). He discussed the change in expected timelines for the public hearings and OPG's decision to defer further detailed engineering until a licence is received and the OPG Board has approved the next phase. NWMO's work program and budget has been adjusted accordingly.

13. Draft 2011 Annual Report of Directors

Directors reviewed the draft cover note for the Annual General meeting which will accompany the 2011 annual report. Directors agreed that it was an appropriate summary to be presented to the Members.

14. Transition Plan to Not-For-Profit Corporations Act.

Pat Moran reviewed NWMO's transition plan under the new Canada Not-For-Profit Corporations Act. Not-for-profit corporations have until October 17, 2014 to transition to the NFP Act. Corporations that do not transition to the new Act by the deadline date will be assumed to be inactive and will be dissolved by Corporations Canada.

The corporation must replace its letters patent, supplementary letters patent and by-laws with new governance documents by submitting articles of continuance to obtain a Certificate of Continuance and creating and filing new by-laws that are in compliance with the NFP Act.

Mr. Moran reported that the membership agreement, existing letters patent, and by-laws had been reviewed against the requirements of the NFP Act. Based on this review, it was determined that no changes are required to the membership agreement. Articles of continuance and a new By-law have been prepared in consultation with the Members.

Mr. Moran outlined the material changes, which included more stringent conflict of interest provisions and changes to the election and appointment terms for Directors. Newly appointed directors can only be appointed for a maximum 4 year term. However current directors may remain in office until successors are elected by members. Mr. Moran also reported on a number of less material changes that would apply to NWMO.

Directors were asked to recommend approval of these changes to the NWMO Members:

IT IS HEREBY RESOLVED THAT:

The NWMO Board of Directors recommends to the NWMO members approval of:

- By-Law No. 7 (which repeals all previous by-laws); and
 - the Articles of Continuance
- as presented.

The motion was made, seconded and unanimously passed.

15. Cooperation on the Long-Term Management of L&ILW

The purpose of this item was to review the status of cooperation on the long-term management of L&ILW. NWMO's principal interests are to minimize risks to implementation of the APM site selection process and, where feasible, to assist waste owners in developing safe, comprehensive and cost-effective solutions.

Pierre Charlebois stated that he was excluding himself from the discussion of this issue because of a potential conflict of interest arising from other work he is involved in.

Mr. Nash reported that AECL expressed interest in NWMO initiating a study to examine options for the long-term management of non-OPG L&ILW. NWMO will meet with AECL to discuss their current plans and next steps.

16. APM Technical Program

Sean Russell updated the Board on work in the APM Technical program. It was reported that comments and suggestions from the CNSC were received on the interim report on the 4th case study postclosure safety assessment. The CNSC indicated that the interim report met the criteria of the regulatory guide G-320 on the safety of radioactive waste management. Mr. Russell reviewed work underway on a 4th case study for a repository in crystalline rock with a more permeable geosphere and

reported that analysis is underway on 5th case study which looks at an APM repository in sedimentary rock.

Chris Hatton reported on the logistics study underway to investigate methods for transferring fuel from the reactor sites to the repository facility. A container sizing study is also in progress to look at the most effective size of storage container. Mr. Hatton also discussed NWMO's program looking at copper coating technology, noting that the Swiss nuclear waste management organization Nagra is working collaboratively with NWMO on the program. Closure weld development is also being examined and is one of the most challenging aspects of the repository container design. Work is underway to examine advanced welding technologies for this service including laser welding and friction stir welding.

Directors discussed various aspects of the research on copper coating including the thickness of the coating and what cost implications might result from using this technology. Directors also discussed the various methods of transportation and the different types of storage and transportation containers that may be used. A Director suggested that as container types and transportation are one of the most important cost drivers of the project, detailed discussions should be held at the Board level before any decisions are made. Directors also discussed the logistics of moving the different types of containers from Quebec and New Brunswick and that it would be desirable and more cost effective to eventually have the dry storage containers and transportation containers be one in the same.

17. Legal / Corporate Secretary Report

Pat Moran discussed the Federal Government's proposed changes to the Canadian Environmental Assessment Act which is being brought forth in Parliament as part of its budget-related omnibus bill. Mr. Moran reported the possible impacts on NWMO's work.

Upcoming Meetings

The next meeting of the Board will be on Thursday, September 27, 2012.

18. In Camera Session

It was determined that an additional *in camera* was not required.


Conclusion of Meeting

There being no other business, the Chair declared the meeting adjourned at 2:00 p.m.

(*) Denotes actions to be taken.



Pat Moran
Corporate Secretary


Dr. Gary Kugler
Chair