

WM2013 Conference Panel Report

PANEL SESSION 13: Featured Country - Canada

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Panelists:

1. **Peter Elder**, *Director General, Canadian Nuclear Safety Commission (Canada)*
2. **Doug Metcalfe**, *Senior Manager, Natural Resources Canada (Canada)*
3. **Joan Miller**, *Vice President, Decommissioning & Waste Management, Atomic Energy of Canada Limited (Canada)*
4. **R. Liam Mooney**, *Vice President Safety, Health, Environment, Quality and Regulatory Relations, Cameco Corporation (Canada)*
5. **Kathryn Shaver**, *Vice President Engagement and Site Selection, Nuclear Waste Management Organization (Canada)*

About 60 people attended this panel session which focused on the status of Canada's sites and waste management programs and policies. Over 40 presentations and four separate sessions addressed the progress and challenges of managing Canada's radioactive waste. Canada is the featured country for WM2013. Five senior managers provided an overview of Canada's activities. Questions followed each presentation and at the end of the session.

Summary of Presentations

Peter Elder provided an overview of the Canadian waste regulations and the role of the Canadian Nuclear Safety Commission (CNSC) as a regulator of the full nuclear cycle in Canada. He discussed the different waste classifications. He shared examples of waste management facilities in operations, under construction, and under regulatory review. He also discussed the CNSC regulatory approach in Canada and its 5 year work plan on the different regulatory initiatives. He discussed the regulatory approach in terms of risk minimization. He provided an example of minimizing risk where long-term impacts (positive and negative) are taken into consideration during the projects review process. He also advised that all nuclear facility licensees are required to have strategies for waste management to ensure the waste is being managed throughout the life of the project.

Doug Metcalfe presented on government of Canada's perspective on radioactive waste management. He discussed the role of the nuclear sector and the requirements for ongoing and future use of nuclear energy. He stated that Canada has a good story to tell, all waste is safely and securely managed, and policies are built on a solid foundation. He summarized the legislative framework for nuclear energy and provided an overview of key organizations for radioactive waste management in Canada. He highlighted the importance of strong public engagement and involvement. He also discussed the long-term management of nuclear fuel waste and the selection of an Adaptive Phased Management approach by the government of Canada for the long-term management of nuclear waste. He provided an overview on Ontario Power Generation's deep geological repository for its low and intermediate-level radioactive

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waste, legacy wastes and the nuclear legacy liability program progress to date. He discussed Canada's historic waste, the Port Hope Area Initiative, and the clean-up of the northern transportation route. He also spoke about uranium mines and mill tailings and the Memorandum of Understanding (MOA) with Ontario and Saskatchewan. He discussed the clean-up of Gunnar Mine Site in northern Saskatchewan. He closed his presentation stating that nuclear energy is a crucial part of clean energy mix and the government of Canada remains committed to providing the policy and programs necessary to demonstrate that it takes radioactive waste management seriously.

Joan Miller provided an update on the current status of Atomic Energy of Canada Limited (AECL) activities regarding waste management. Her presentation included a description of managed wastes, and waste management facilities, practices and programs. She discussed challenges and plans for moving forward. She began her presentation with an overview on nuclear history in Canada and discussed the various AECL waste management activities and programs. She presented on waste management sites, including the nuclear legacy liabilities program and the Port Hope Area Initiative. She provided an overview of radioactive waste storage at Chalk River Laboratories from past to current practices, and the wide breadth of material/structures managed. She also discussed the Whiteshell Laboratories decommissioning project. She provided an overview of the integrated waste plan which describes AECL's strategies for managing existing and future waste. She explained how AECL is addressing the challenges including confirming adequacy of waste storage, developing "enabling" facilities and services and reducing risk and liability. She also discussed AECL's strategic initiatives in waste management, for example the need to develop waste acceptance criteria for future facilities. In her conclusion, she advised that a formalized waste management program is in place to drive continuous improvement in the life-cycle management of radioactive waste, and an integrated waste plan is in place to guide an interactive process to optimize future actions and activities. Strategies for the selection and development of long-term management options are being advanced. Risk and liability reduction are being achieved via progress on infrastructure decommissioning, environmental remediation, and enabling facilities/activities associated with waste storage.

R. Liam Mooney presented on mining waste management with a focus on Cameco's Canadian operations. He began his presentation with an introduction to Cameco Corporation and went on to discuss uranium mining industry waste management practices. He discussed waste rock management and tailing management at the Rabbit Lake In-Pit Tailings Management Facility and the Deilmann Tailings Management Facility at Key Lake. He discussed the current challenges such as the need for early selection of decommissioning designs and advised that post closure plans must be spelled out in initial plans. Other challenges shared in his presentation were maintaining healthy disposal capacity reserve and ongoing constructive community dialogue. Along with challenges he shared some of the recent successes of uranium mining facilities including the reduction of their environmental footprint. He also shared Cameco's decommissioning priorities and indicated that regardless of the design, the objective is safe and environmentally acceptable site conditions. He closed his presentation by sharing Cameco's four measures of success: clean environment, safe, healthy & rewarding workplace, supportive communities, and outstanding financial performance.

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Kathryn Shaver presented on long-term management of Canada's used nuclear fuel. She provided an overview on the Nuclear Waste Management Organization (NWMO) and its mission and mandate. She discussed NWMO's three year nationwide study of alternatives. She advised that Canada's plan emerged from dialogue with citizens and experts for Adaptive Phased Management, which has two components: a technical method and a management system. She spoke about the National infrastructure project and how the process is built on ethical foundations and principals and how the process was initiated and its guiding principals. She advised that twenty one (21) communities in Canada were engaged in learning about the project, eighteen (18) have requested preliminary assessments (Step 3) with three (3) considering interest in proceeding on (Step 2). She spoke about the multiple stages of assessment and dialogue from initial screening, Phase 1, Phase 2, to detailed site characterization followed by regulatory approvals. She discussed the involvement of Canadian citizens in the decision making process and how the five-year strategic plan was developed through engagement, and revised through annual public review. She also advised that the process is transparent and annual reports are submitted to the Minister of Natural Resources and made public.

Questions and Answers

Subsequent to **Peter Elder**'s presentation, he was asked whether the Waste Management Plans are prepared by the facilities and approved by the CNSC. He answered by stating that CNSC reviews the plans, the CNSC does not approve. As part of the license renewal process, the submitted plans would become part of the license.

Joan Miller was asked "what does Deep Geological Repository (DGR) mean to you in terms of depth?"

She answered by stating that it is site specific and provided an example where studies were carried out at the Chalk River Laboratory (CRL) site considered 500 m to 100 m to be considered deep.

Kathryn Shaver was asked what she meant by "community" and how would a group identify themselves as a "community". She answered by explaining that it would be, for example, a municipality or aboriginal group. It is a community that demonstrates a strong support for their citizens that community needs to be engaged. She advised that they are careful to talk about "community"; not to judge a "community". She stated that they want to appreciate what brings a community to the dialogue. She advised that a "community could be a municipality with partnership with an aboriginal community or two communities working together".

Open session questions:

Question was asked: why is it that Canada can engage 21 communities while other countries are struggling with this?

Kathryn Shaver responded by stating that she is comfortable speaking about NWMO's program but not for other countries. She advised that they did not approach communities; communities were not targeted but rather understood what the program offered. She also stated that communities have the opportunity to speak with the regulator and visit nuclear facilities. This has helped build confidence.

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Peter Elder offered that CNSC has met with different communities separately. He advised that the observation that he can offer would be that a lot of communities in Canada are familiar with mining and the nuclear industry and this could be why they would be supportive.

Question was asked: regarding the issue of autonomy on a local level- would the 21 communities five to six years down the road have the authority to say yes or no?

Kathryn Shaver responded by stating that in Canada siting is community driven; it is understood that in order for a project to start, there is the need for community support including aboriginal support. Right now there is no touch point with provincial authority, but this is yet to be seen. We are still at early stages of the process.

Question was posed to **Kathryn Shaver**: did all 21 communities pass to the next step? She answered by stating that not all passed to the next step- some were advised that they would not be suitable. She advised that reports are generated and are available for the public on NWMO website.

Follow-up question to **Kathryn Shaver** was about transportation- she was asked if it was it part of the criteria. She answered by stating that transportation was not an issue and was not a reason to exclude any community.

Doug Metcalfe shared that transportation is a public perception issue. He advised that transportation of nuclear material is safe and is not an issue but rather a public perception. He stated that helping with community education and awareness can reduce concerns regarding transportation.