

What 'Newness' Can the Present Process Bring to the Nuclear Fuel Waste Issues?

Submitted by Mary Lou Harley

What is it that can come from the three years of work by NWMO staff that had not come out during the Environmental Assessment of the AECL Disposal Concept or has not been presented to nuclear waste agencies more recently?

During my participation in two of the engagement exercises, there were some strong voices promoting the adaptive stepwise process which would involve on-site storage (required at least ten years longer than production continues at any given site) and a centralization of waste with intention of ultimate deep geological emplacement [the term disposal was avoided]. It remains to be seen if the recommendation from NWMO staff will take this form.

Clearly, it is expected that greater societal support can be gained by restating disposal as a stepwise adaptive management plan. Had the AECL deep geological disposal concept been accepted in 1997, a stepwise approach probably would have evolved out of necessity in any attempt to move to implementation. The industry has been aware of the move toward addressing ultimate disposal in terms of adaptive, stepwise management plans for nuclear fuel waste. Recent books point to this stepwise approach associated with deep geological repositories:

Disposition of High-Level Waste and Spent Nuclear Fuel: The Continuing Societal and Technical Challenges, 2001, by the Committee on Disposition of High-Level Radioactive Waste Through Geological Isolation, Board on Radioactive Waste Management, National Research Council, National Academies Press summary description:

“The biggest challenges in achieving safe and secure storage and permanent waste disposal are societal, although technical challenges remain. . . . Disposition of radioactive wastes in a deep geological repository is a sound approach as long as it progresses through a stepwise decision-making process that takes advantage of technical advances, public participation, and international cooperation.”

One Step at a Time: The Staged Development of Geologic Repositories for High-Level Radioactive Waste, 2003, by Committee on Principles and Operational Strategies for Staged Repository Systems, National Research Council, National Academies Press summary description:

“Compared to other large engineering projects, geologic repositories for high-level waste present distinctive challenges because: 1) they are first-of-a-kind, complex, and long-term projects that must actively manage hazardous materials for many decades; 2) they are expected to hold these hazardous materials passively safe for many millennia after repository closure; and 3) they are widely perceived to pose serious risks. As is the case for other complex projects, repository programs should proceed in stages. One Step at a Time focuses on a management approach called "adaptive staging" as a promising means to develop geologic repositories for high-level radioactive waste . . . Adaptive staging is a learn-as-you-go process that enables project managers to continuously reevaluate and adjust the program in response to new knowledge and stakeholder input.”

What 'newness' can the present process, which the staff of NWMO are leading, bring to the nuclear fuel waste issues?

The public engagement activities, that NWMO has initiated, have many innovative features promoting dialogue and long-term thinking, and the website postings add a welcomed transparency. One might hope that this three year process would set a new approach to public participation in the decision-making processes surrounding nuclear issues. In addition, NWMO staff is pulling together information on which Canadians did not have an opportunity to comment for the Seaborn Panel. One might hope that, following the release of the next discussion document by NWMO, public input and further assessment would offer some new insight for the long-term. But the NWMO staff are reporting to an industry-controlled Board and there is a history of public distrust with the industry, so there is caution, not to hope for too much new.

I hope that the staff of NWMO, small in number and limited in time though it may be, will take this opportunity to not only do things differently in consultation and public participation but they will dare to think differently about the input from those efforts.

The mandate of NWMO allows that steps within a recommended option be presented and the advantage of the present process is the opportunity for the final report from NWMO staff to broaden the thinking on these steps. For example, the NWMO staff can use the report:

- to demonstrate the value of broad public engagement in the diversity and creativity of thought it can bring to such complex issues and to make recommendations for on-going activities to support informed public participation in any management plan;

- to point out that the body of generally agreed upon facts, the uncertainties and the controversies need to be identified and openly discussed and to recommend information distribution and engagement processes that could be initiated to continue broad public engagement in the development of a management plan;

- to identify the necessity to frame the nature of the problem in terms of values-based science of the First Nations, in terms of ethical considerations and in terms of social issues as well as technical, physical, chemical and biological terms and to recommend that this be done with public input from the initial stage of any management plan;

- to identify the necessity that the mechanism by which 'acceptable' risk is determined needs to be re-evaluated and to recommend that the government determine 'acceptable' risks, set standards, compliance periods and waste isolation periods, etc. within a public, transparent process which considers short-term and very long-term environmental impacts and a full range of human health impacts in addition to fatal cancers and serious genetic defects

- to point out the inseparability of nuclear fuel waste issues from the future of nuclear power for many considerations, including societal acceptance of a management option, and to recommend that, for any nuclear waste management plan, the government take as the initial companion step

the an open debate on the future of nuclear power;

-to recognize that no single management option or stepwise management plan is a long-term solution to the hazards of nuclear fuel waste and to recommend that the government ensure that the management option is not used to justify or promote more production of nuclear waste;

-to draw attention to the inseparable aspects of civilian and military nuclear materials and the short-term and long-term security risks and potential for harm;

-to point out the necessity to think beyond containment and to urge support for research into a means by which to reduce the hazardous nature of the waste.

If the process remains transparent, it should be clear in the final report from the NWMO staff whether public input has been valued and incorporated in a new way and what new thinking the staff has brought to the issues. Then, will there be anything new in what the Board passes on to the government or anything new in how the government responds?