

Discussion Summary

Report on Discussion with Senior Environmental and Sustainable Development Executives

Carole Burnham Consulting
& Robert J. Readhead Limited

Discussion Document 1: Asking the Right Questions? – What Canadians are Saying

The NWMO has committed to using a variety of methods to dialogue with Canadians in order to ensure that the study of nuclear waste management approaches reflects the values, concerns and expectations of Canadians at each step along the way.

A number of dialogue activities have been planned to learn from Canadians whether the elements they expect to be addressed in the study have been appropriately reflected and considered in Discussion Document 1. Reports on these activities will be posted on the NWMO website. Your comment is invited and appreciated.

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**KEY POINTS RAISED DURING DISCUSSIONS WITH
SENIOR ENVIRONMENTAL AND SUSTAINABLE
DEVELOPMENT EXECUTIVES**

ON

**THE ENVIRONMENTAL ASPECTS AND THE
ANALYTICAL FRAMEWORK FOR EVALUATING
APPROACHES FOR MANAGING CANADA'S USED
NUCLEAR FUEL**

BY

CAROLE BURNHAM CONSULTING

&

Robert J. Redhead Limited

JANUARY 2004

Context and Objectives

Two half-day sessions with corporate environment and sustainable development executives were arranged by Carole Burnham Consulting and Robert J. Redhead Limited. They were held on January 14 and 15, 2004 in Toronto and Calgary respectively. The objective of these sessions was to provide first hand advice to NWMO from senior environment and sustainable development executives in organizations in Canada that have dealt with significant social and environmental challenges.

Each participant was asked to offer advice/comments on the NWMO November 2003 Discussion Document '*Asking the Right Questions? The Future Management of Used Nuclear Fuel*'. In particular, NWMO was seeking feedback on the environmental aspects identified and the Analytical Framework suggested in relation to the long-term care of used nuclear fuel.

Five executives in Toronto and five in Calgary devoted one half day to a dialogue with Elizabeth Dowdeswell and Donna Pawlowski of NWMO. The individuals work for a cross-section of Canada's major resource, energy, chemical, waste and recycling industries.

The context for the discussions was provided by Elizabeth Dowdeswell. She summarized the history of efforts to select a management option for used nuclear fuel in Canada and the formation, ownership and mandate of the NWMO. She also outlined NWMO's comprehensive, innovative and wide-ranging engagement and consultation process with Canadians. NWMO is committed to providing the Government of Canada with a management approach that has passed the tests of social acceptability, technical soundness, environmental responsibility and economic feasibility. This dialogue with environment and sustainable development executives is part of the NWMO's ongoing efforts to engage Canadians in the development of the approach.

The Discussion

The key comments discussed during the sessions are summarized below grouped under six headings:

1. General
2. The Discussion Document
3. The Analytical Framework
4. The Environmental Aspects
5. Lessons Learned from Other Projects
6. Conclusions

General

- Overall, the NWMO approach to reaching a recommendation of a management approach to used nuclear fuel is sound. People do not want to be rushed into a decision about this issue. The NWMO is to be congratulated for its inclusive engagement process.

- Participants commented that NWMO is facing many challenges. Among these challenges are:
 - Nuclear waste is both a legacy and a sustainability issue. It is a legacy issue because Canada started down the nuclear path before deciding on how to manage used nuclear fuel in the long term. It is a sustainability issue because a used nuclear fuel management option will have to be sustainable over many years and scenarios (e.g. 800 to 10,000 years, robust to global warming, ice age, etc.).
 - The legitimacy of the nuclear industry in the eyes of Canadians remains to be established. Earning public trust of the management approach for used nuclear fuel and of the nuclear industry in general, will be essential for NWMO to be successful in accomplishing its mandate.
 - Another challenge is that NWMO is seeking to engage Canadian in discussions about a ‘concept of a concept’, i.e. both the management approach and the location of site or sites for managing used nuclear fuel are in a development or ‘abstract’ phase. Once the management approach and site or site locations have been recommended (a more specific or concrete phase), it will be easier to engage Canadians. This provides a challenge for NWMO because it wishes to involve Canadians in discussions at the more abstract level before proceeding to the specifics.
 - There is currently no compelling sense of urgency to resolve the issue. Canadians generally are comfortable that used nuclear fuel is currently being managed safely. It may be that concern about security, which has been heightened since the events of 9/11, will motivate Canadians to become more engaged.
 - Canadians generally do not have a clear view of the used nuclear fuel management problem as it exists today. The volume of used fuel bundles to be ‘managed’ is estimated to be an amount that would fill five ice hockey rinks to the top of the boards (about 2500 Cubic Metres). The radioactivity present will take hundreds to tens of thousands of years to reach natural radiation background levels. Canadians need to be informed before they can meaningfully participate in discussions about the management approach.
- It was also noted that the NWMO mandate would be greatly facilitated if there were an overall coordinated approach to energy in Canada that acknowledged the need for a balance of different energy generation types and that the appropriate balance is different in different regions of Canada.
- In addition, while the NWMO identifies itself as a part of the private sector, it is ‘owned’ by public sector corporations (Hydro Quebec, New Brunswick Power and

Ontario Power Generation). Referring to NWMO as a “private sector corporation” may be misleading.

- Several suggestions were made about the public consultation process, including:
 - Experience has shown that it is impossible to achieve 100% agreement on issues such as nuclear waste management. While 80% of the debate may be shaped by interests that are strongly opposed or in favour of an option or process, the process should aim for satisfying the ‘middle’ 80% of Canadians that the risks of the selected option(s) are acceptable.
 - Information provided on the web site and in publications and plans should make it clear that all Canadians, no matter what their heritage, are welcome to participate.
 - The consultation process must be manageable. Some consultation processes get out of control because they try to include/satisfy everybody. Others are too narrow and fail to take into account key stakeholder groups. It is essential to take the time to identify the key major stakeholder groups.

The Discussion Document

- The NWMO work will be judged on how well it communicated with Canadians. What it is doing needs to be explained in a way that makes sense and at a level that individual Canadians can understand. The Discussion Document appears to be aimed over the heads of most Canadians. Could the key questions be expressed in clearer language?
- It would also be helpful for NWMO to clarify explicitly what it wishes to achieve by its November 15, 2005 deadline. It is understood that NWMO is to provide a final comparative assessment of management approaches and implementation plans and to present the NWMO’s final recommendations. The current documentation does not explicitly indicate whether NWMO is targeting to achieve consensus, acceptance of the recommendations by 80% of Canadians, and/or sufficient acceptance of the process and recommendations to provide the federal government with the confidence to make a decision on the recommended management approach.
- As the NWMO moves forward into the assessment phase, it will be important to explicitly identify the uncertainties in all the key areas and to explain how they will be dealt with in the selection of the management approach and site selection phases.

The Analytical Framework

- The analytical framework is excellent. It will be important for the right information to be available to people in the right time. People need to trust that they are safe. NWMO will need to show that it is not driven by the narrow concerns of the nuclear industry.

- It was suggested that risk (identification, assessment, management, communication) is so fundamental and cross-cutting to all the aspects in the framework that it should be explicitly included as one of the over-arching aspects.
- Participants noted that ‘Institutions and governance’ will be fundamental aspects to satisfy. There is an absence of institutional trust that will have to be overcome.
- Environment was not viewed as critical as security, institutions and governance, and economics. Other projects have bigger environmental issues.
- Several suggestions were made to improve the clarity of the documentation and the desired outcome of the NWMO process, as follows:
 - It would be helpful to articulate a vision, values and beliefs ‘what does success look like?’ This would provide a measure against which to test the questions in the analytical framework.
 - It would also be helpful to compare what the future state will look like with the management option implemented with the existing state, e.g. today used fuel is stored at stations, etc.
 - Ideally the selection of a management approach should be guided by following the 4R’s:
 - How can the waste be reduced?
 - How can it be reused?
 - How can it be recovered?
 - How can it be recycled?

It is understandably difficult to apply this approach to used nuclear fuel for a number of reasons, e.g. the management approach must deal with used nuclear fuel already produced, concerns about terrorism, nuclear proliferation, etc. The philosophy of the 4R’s could nevertheless be helpful in considering the merits of the different management approaches.
- It was noted that it is important to develop the system for evaluating the key questions in the analytical framework early in the assessment process and to involve the public in the process of developing the weighting system. How the different aspects will be evaluated and whether or not the selected option(s) will have to satisfy all the aspects needs to be clear.

The Environmental Aspects

- All the environmental aspects appear to be well covered. However, it is difficult to imagine how the integrity of biophysical systems can be improved by the management approach. Unless how the integrity of biophysical systems could be improved is explained in the documentation, suggesting that the integrity of biophysical systems could be strengthened is an invitation for criticism and for raising unrealistic expectations.

- The NWMO is to be congratulated for including consideration of full costs in the environmental aspects. The full costs, benefits and risks should not only be considered, but should be fully estimated and communicated.
- Our understanding of the environmental impacts of used fuel management will improve over time. Continuous improvement based on furthering knowledge of environmental impact, should be explicitly articulated in the Environmental Aspects.
- Managing nuclear waste requires a greater margin of safety because the damage can be multi-generational and irreversible. While the probability of an event may be low, the consequences are great. The management approach will have to be robust under all scenarios.
- A number of suggestions were made for helping to build trust and confidence of Canadians in the management approach including:
 - When assessing risk it will increase confidence if the management options provide for corrective actions to be undertaken if a prediction is wrong, i.e. that if it can be demonstrated that the impact is not irrevocable.
 - If communities feel that they have control over risk, then acceptance of a site(s) will increase. NWMO should consider stating explicitly that a facility will not be located within a community unless the community agrees.
 - Another way that has helped a community to feel control over risk is to have a social group such as a religious group, audit the processes.
 - Another possibility is to give employees and/or the local community the right to stop the operation of a facility at any time (the “red button” concept).
 - Because funding for audits is provided by the organization being audited, then even third party auditors may be seen to have a conflict of interest. One possibility would be to provide the auditing funds to an independent body that would be empowered to select the auditors and pay for the services.
 - Outreach to respected groups within communities such as fire and police departments is an important part of gaining community support.
- Topics such as precautionary approach, biodiversity and risk assessment are difficult to apply at the conceptual level and will have to be addressed for specific sites. How precaution including the precautionary principle/approach will be defined and addressed should be explained.

Lessons Learned from Other Projects

- To address concerns about property values near a facility, one company had guaranteed property market value to owners within a radius around its facility. This guarantee has not resolved the property value issue because property owners outside the arbitrary radius feel that they are negatively affected and not compensated.
- One company undertook extensive public consultation during its environmental assessment and was granted an approval without a formal hearing. This lack of a public hearing has caused significant problems during the operation of the facility. Some of those vehemently opposed to the project feel they were denied a public voice and have since been creating ongoing problems for the facility operators. The lesson is that avoiding a public hearing during approval process may not save time and money in the long run.
- Outstanding land claims can be a barrier to site selection and approval. Developing a Memorandum of Understanding with all parties, e.g. federal, provincial, territorial and aboriginal governments, though challenging, can facilitate the process.
- Maintaining community relations around facilities is essential. Cutbacks in staffing over the '90's have significantly reduced community outreach efforts around facilities. This reduction in community relations has negatively affected the relationship of organizations with communities and they are beginning to restore resources in this area.
- One company has been successful in obtaining approvals to operate by using only proven technology.

Conclusions

The NWMO overall approach was viewed as generally sound. The need to earn the trust of Canadians in the management approach was a point that was frequently noted.

Suggestions about improving the process for arriving at a recommendation on a management approach to used nuclear fuel included:

- A number of approaches that could help earn the confidence of local communities and of trust by the public in the overall process.
- Transportation should be an integral part of the evaluation of the options for the management of used nuclear fuel.
- Individuals from outside the nuclear community should be included in advisory groups and expert panels. Involvement of individuals that are not economically linked to the nuclear industry will improve the legitimacy of the process and bring new approaches and ideas to the process.
- The system for evaluating the key questions in the analytical framework needs to be developed early in the assessment process and the public should be involved in developing the weighting system.

- Public information needs to be written in language that can be clearly understood by most Canadians.

The suggestions for improvement to the analytical framework and environmental aspects included:

- Articulation of a vision and values and clarification of the desired outcome of the NWMO process.
- Explicitly including risk as one of the Overarching Aspects.
- Removing (or clarifying) ‘strengthening’ from the biophysical aspects.
- Including continuous improvement (furthering knowledge of environmental impact) as one of the Environmental Aspects.

SPEAKERS AND FACILITATORS

Elizabeth Dowdeswell
Nuclear Waste Management Organization

Donna Pawlowski
Nuclear Waste Management Organization

Carole D. Burnham
Carole Burnham Consulting

Robert J. Redhead
Robert J. Redhead Limited

SESSION PARTICIPANTS**Toronto – January 14, 2004**

Name	Company
Bill Napier	INCO
Don Schwieg	Clean Harbors Environmental Services Inc.
Ellen McGregor	Fielding Chemical Technologies Inc.
Wayne Jackman	PSC Industrial Services Canada
Claude Andre Lachance	Dow Canada

Calgary – January 15, 2004

Name	Company
Bob Page	TransAlta
Craig Wilkie	Newalta Corporation
Gordon Lambert	Suncor Energy Inc.
Liz Siarkowski	TransCanada Pipelines
Alan Kennedy	Imperial Oil Resources