



The Regional Municipality of Durham
To: The Planning Committee
From: Commissioner of Planning
Report No.: 2004-P-51
Date: June 8, 2004

SUBJECT:

Nuclear Waste Management Organization (NWMO) document entitled "Asking the Right Questions? The Future Management of Canada's Used Nuclear Fuel", File: L14-19-02

Council Correspondence No. 2004-074 dated February 2004 from Elizabeth Dowdeswell, President, Nuclear Waste Management Organization

RECOMMENDATIONS:

- a) THAT Commissioner's Report No. 2004-P-51 be endorsed as the Region's response to the Nuclear Waste Management Organization on its document entitled "Asking the Right Questions? The Future Management of Canada's Used Nuclear Fuel";
- b) THAT the Nuclear Waste Management Organization (NWMO):
 - (i) give paramount consideration to the health and safety of humans, societal well-being and the environment, now and in the future, in the selection of the long-term management approach for nuclear fuel waste;
 - (ii) be advised that, given the long-term element of risk associated with the radioactive and toxic nature of nuclear waste, the long-term retention of nuclear waste at existing reactor sites in Durham is not an acceptable solution;
 - (iii) focus on a long-term management approach for nuclear waste that is in a location as far away from populated areas and water supplies as is possible;

- (iv) broaden its scope in considering security aspects in the development of long-term management approaches for nuclear waste to ensure public safety;
- (v) focus on long-term storage methods that allow retrieval of the waste, as opposed to disposal methods that do not allow for taking advantage of future opportunities for the application of emerging technologies;
- (vi) address the physical capacity of existing reactor sites, in the event long-term storage of nuclear waste at existing reactor sites is pursued;
- (vii) ensure that the public feels confident about the dependability of the producers/owners of nuclear fuel waste to guarantee and deliver a safe, long-term management solution;
- (viii) ensure that the radiation hazard from nuclear waste and resulting potential health risks are communicated in terms that are clear, understandable and relevant to the public, so that the public can have an accurate understanding of risk, and can make informed comments on long-term management approaches;
- (ix) “build-in” mechanisms for the continuous review of the long-term management approach that is ultimately selected, to allow consideration of emerging technologies, and ensure that knowledge is passed on from generation to generation;
- (x) ensure that the residents of Durham, the Region of Durham and area municipalities continue to be consulted throughout this Study and beyond, to allow for the identification of emerging issues;
- (xi) acknowledge that financial considerations for the impacts of the selected long-term management approach, must be made to address the unique challenges that will be faced by nuclear host communities;
- (xii) ensure the availability of financial resources for the long-term, by addressing matters such as financial risk factors. As a starting point,

to keep pace with inflation, annually calculate the payments that are to be made by the producers of nuclear waste to the trust fund for the long-term management of nuclear waste;

(xiii) ensure continued responsibility for financial and legal liability is addressed, in the event that responsibility for nuclear waste is transferred from the NWMO to another agency; and

(xiv) provide peer review funding for a collective approach to consulting services for municipalities, to enable an independent assessment of the NWMO's Study, which will contain complex issues related to the long-term management of nuclear waste; and

c) THAT a copy of Commissioner's Report No. 2004-P-51 be forwarded to the Nuclear Waste Management Organization and the area municipalities.

REPORT:

1. PURPOSE

1.1 The purpose of this Report is to provide the Region's response to a request by the Nuclear Waste Management Organization's (NWMO) for comments on a document entitled "Asking the Right Questions? The Future Management of Canada's Used Nuclear Fuel" ("the Discussion Document").

2. BACKGROUND

2.1 In November 2002, the federal Nuclear Fuel Waste Act came into force. The Act provides a legal framework that enables the federal government to make a decision on the long-term management of nuclear fuel waste (used nuclear fuel) for Canada. Briefly, the Act requires that:

- a nuclear waste management organization ("NWMO") be established by the major producers of nuclear waste in Canada (i.e. Ontario Power Generation Inc., Hydro-Quebec and New Brunswick Power);

- the NWMO undertake a Study of long-term management approaches for nuclear fuel waste;
- the NWMO appoint an Advisory Council to provide independent comment on the Study and management approaches;
- the NWMO propose an approach for the long-term management of Canada's nuclear fuel waste to the federal government within 3 years (i.e. by November 15, 2005);
- a trust fund¹ be established to finance the cost of long-term management of Canada's nuclear fuel waste; and
- the NWMO implement the management approach that is selected by the federal government.

2.2 NWMO was established in October 2002. The NWMO subsequently established an Advisory Council, with the statutory responsibility to review and provide independent written comments on the NWMO Study, and the management approaches that are considered. In November 2003 the NWMO released the Discussion Document, the first of a three part Study examining approaches to long-term management of Canada's nuclear fuel waste (parts two and three of the Study are discussed in Section 5 of this Report).

2.3 The purpose of the first Discussion Document is to stimulate public discussion on the key issues and questions to be asked as the NWMO analyzes the different long-term management approaches for nuclear fuel waste.

2.4 In March 2004, the NWMO formally requested the Region's comments on the first Discussion Document.

¹ Based on the NWMO's 2003 Annual Report, \$660 million has been deposited to the trust fund.

3. OVERVIEW OF “ASKING THE RIGHT QUESTIONS?” DISCUSSION DOCUMENT

- 3.1 The Discussion Document is organized into 5 Chapters. Chapter 1, the introduction, describes the purpose of the document and NWMO's mandate (as specified In the Nuclear Fuel Waste Act); provides a brief history of nuclear energy in Canada; and describes the NWMO's approach to undertaking the Study.
- 3.2 Chapter 2 provides information on nuclear fuel waste, including what it is, why it is hazardous, where it is produced and how it is currently managed and regulated.
- 3.3 Chapter 3 sets out initial thoughts on the analytical framework that will be used to guide the assessment of alternative long-term management approaches. The framework² consists of a series of 10 questions to be asked and answered for each management approach, and a process for undertaking a comparative assessment of alternatives. The questions are intended to spark discussion and generate feedback. They are divided into 5 main categories:
- Overarching Aspects;
 - Social Aspects;
 - Environmental Aspects;
 - Economic Aspects; and
 - Technical Aspects.

The 10 key questions are provided in Attachment 1.

- 3.4 Chapter 4 describes the 3 long-term management methods for nuclear fuel waste that the NWMO is legislated to examine under the Nuclear Fuel Waste Act. The three methods are:

² The framework was developed based on NWMO public opinion research, scenario/visioning workshops and commissioned papers.

- deep geological disposal in the Canadian Shield;
- storage at nuclear reactor sites; and
- centralized storage (either above or below ground).

In addition, this Chapter describes additional long-term management methods that are being considered around the world, and methods that are likely to receive some consideration in the future. These methods include:

- reprocessing, partitioning³ and transmutation⁴;
- storage or disposal at an international repository; and
- emplacement⁵ in deep boreholes.

This Chapter also describes 8 additional management methods that have been studied over the past 40 years, but are not likely to be implemented as some are contrary to international conventions. These methods include: disposal at sea, sub-seabed disposal, disposal in ice sheets, and disposal in space.

The Chapter concludes that, in addition to studying the management methods required by the Nuclear Fuel Waste Act, the NWMO is prepared to consider other methods which are demonstrated to be reasonable alternatives, and/or combinations thereof.

3.5 Chapter 5 provides an overview of the next steps involved in the Study, including a Table which summarizes the discussion documents to be produced, their purpose and target release dates. In addition, this Chapter invites Canadians to participate in the Study, and asks whether the discussion document represents a good starting point from which to proceed. In particular, the NWMO asks:

³ Processes that reduce the volume of the used nuclear fuel and separates the components for individual treatment.

⁴ Process to reduce the radiotoxicity of the used nuclear fuel.

⁵ Placement of solid packaged waste in deep boreholes, drilled to depths of several kilometres with diameters of typically less than one meter.

- Has the problem been described correctly, in terms of the history of the issue, the challenges facing Canada today, the characteristics of Canada's nuclear fuel industry and whether anything more needs to added?;
- Have appropriate ways to deal with the problem been identified, and given limited time and resources, which technical methods should be focused on, and whether the Study approach represents a fair basis for developing an approach for Canada?;
- Are the right questions being asked to assess the different long-term management methods?; and
- Is the proposed decision-making process understandable and appropriate?

3.6 The entire discussion document is available for review in the Planning Department and on the NWMO's website, www.nwmo.ca .

4. COMMENTS

General

- 4.1 Although Regional staff have no expertise in the nuclear field, the Discussion Document was reviewed by various Regional Departments, who have generated comments from the perspective of their respective disciplines.
- 4.2 Overall, it was concluded that the NWMO document appears to be asking many of the right questions, and appears to outline an appropriate process to be followed. It takes into consideration wider societal issues of long-term nuclear waste disposal and the importance of public consultation rather than just focusing on issues that are technical in nature.
- 4.3 The comments provided below highlight specific aspects that the NWMO should consider, when answering the various questions in its analytical

framework for the assessment of the different long-term management methods.

Health, Safety, Societal Well-Being and Environmental Considerations

- 4.4 First and foremost, the health and safety of humans, societal well-being and the environment, now and in the future, must be given paramount consideration in the selection of the long-term management approach for nuclear fuel waste. Although these considerations are included among the 10 key questions that must be answered in evaluating the various long-term management approaches, it cannot be overstated.
- 4.5 Currently, nuclear fuel waste is generally managed by its producers/owners at existing reactor sites in wet or dry storage facilities. These storage practices are considered interim solutions, and are being implemented at Durham's nuclear reactor sites in Pickering and Clarington. The long-term storage of nuclear waste at these sites however, was not anticipated when the nuclear plants were constructed.
- 4.6 The Lake Ontario shoreline, where Durham's reactor sites are located, is also home to the majority of Durham's population. The Lake itself is the Region's major source of water supply. Given the long-term element of risk associated with the radioactive and toxic nature of nuclear waste, and the potential threats of terrorism, technological malfunctions and natural hazards and disasters, the long-term retention of nuclear waste at existing reactor sites in Durham is not an acceptable solution.
- 4.7 If long-term storage at nuclear sites in Durham is contemplated, a growing concentration of population around Lake Ontario would be exposed to the potential risks. This solution has unknown social and economic impacts on the Region. Given that one of the most important considerations of nuclear management should be the health and safety of humans, societal well-being and the environment, it is suggested that the long-term approach focus on management solutions that direct wastes as far away from populated areas and water supplies, as is possible.

- 4.8 Regardless of the management approach that is ultimately selected, security also needs to be a primary consideration, in order to ensure public safety. Security has several dimensions or aspects. Security, in terms of restricting access to nuclear waste sites is one aspect. Others involve ensuring that the facilities containing the nuclear waste are secure (in terms of the technology that is being used, to prevent leakage/spills), and the reliability of the long-term management method that is to be implemented. The NWMO's Discussion Document only addresses security from a site access perspective, and should be broadened to address security from all other aspects that may affect public safety.

Flexibility and Versatility of Approach

- 4.9 As nuclear waste retains radioactive and toxic elements for thousands of years, it is important that the long-term management approach has built in flexibility and versatility to respond to and incorporate technological advances and possible future shifts in political and societal values. Accordingly, it is suggested that the management approach focus on long-term storage methods that allow retrieval of the waste, as opposed to disposal methods that do not lend themselves to waste retrieval. This will allow for example, the consideration and application of new technologies that may emerge, which may reduce the radioactive effects of the waste, or reduce the amount of nuclear waste.

Nuclear Reactor Site Capacities

- 4.10 If long-term storage of nuclear fuel waste at existing reactor sites is to be pursued, the Discussion Document does not adequately address the physical capacity of existing nuclear reactor sites to accommodate the waste. Recent recommendations from the Manley Task Force⁶ suggest that more nuclear reactors may be developed. As such, the physical capacity of the reactor sites to accommodate nuclear waste is a serious issue that must be addressed. For example, the NWMO needs to address:

⁶ The Manley Task Force (OPG Review Committee) was established by the Ontario Ministry of Energy to provide recommendations on the future of Ontario Power Generation (OPG). The Task Force's Report was released in March 2004.

- the remaining capacity in current storage locations, and the number of years that remain before storage facilities would have to be rebuilt and/or expanded; and
- the limit, if any, on the amount of nuclear waste that can safely be stored at any given site.

Public Confidence

- 4.11 For the past decade, Ontario's energy sector has been in a state of considerable flux. The structure and ownership of the electricity sector has been debated and has undergone significant changes. Power supply and distribution issues have arisen and the sector's financial viability has been questioned. The NWMO needs to ensure that the public feels confident about the dependability of the producers/owners of nuclear fuel waste to guarantee and deliver a safe, long-term solution.
- 4.12 In addition, to assist in achieving public confidence, the radiation hazard from the nuclear waste and resulting potential health risks need to be communicated in terms that are clear, understandable and relevant to the public. In so doing, the public can have an accurate understanding of risk, and can make informed comments on long-term management approaches for nuclear waste as the NWMO's Study progresses.

Continuous Review and Consultation

- 4.13 It is also important that the NWMO "build in" mechanisms for the continuous review of the management approach that is ultimately selected. In this way, emerging new solutions/technologies can be considered, and the best possible solutions can be applied to managing the waste. Continuous review of the long-term management approach will also ensure that knowledge is passed on from generation to generation. This is an important consideration since nuclear waste has such long-term potential risks.
- 4.14 Whether the nuclear waste remains on the reactor sites or is transported off-site, the residents of Durham, the Region and area municipalities should have

an ongoing role in decisions regarding the long-term nuclear waste management approach, through continuous consultation by the NWMO, or its successor. This would allow the opportunity for residents and municipalities to continue to identify and bring forward new issues (financial and otherwise), as time progresses. The NWMO should ensure that the Region of Durham, area municipalities and the public continue to be consulted throughout this Study and beyond.

Impacts on Nuclear Host Communities

- 4.15 Potential impacts on the Region and area municipalities must be considered and accounted for as a result of waste management activities. Impacts will vary depending on whether Durham is to host the long-term facilities or if the nuclear waste is transported to a site(s) outside the Region. Impacts could include, but not be limited to: emergency preparedness; security measures; municipal infrastructure; regional roads and water; environmental monitoring and community impacts. The Region of Durham has received compensation for such impact related costs as part of the construction of nuclear facilities located in Durham.
- 4.16 The Nuclear Fuel Waste Act (Section 11(2)) provides for a trust fund that can be used to compensate municipalities to minimize “significant socio-economic effects on a community’s way life or on its social, cultural or economic aspirations.” Therefore, regardless of the selected long-term management approach, the NWMO should acknowledge that financial considerations must be made to compensate communities for the impacts of the selected long-term management approach. This would help to address the unique challenges that will be faced by nuclear host communities such as Durham Region and the affected area municipalities.

Financial Considerations

- 4.17 With respect to the funding of long-term management of nuclear waste, there are concerns over how funds will be raised, invested, and sustained between now and the time when waste management costs are actually incurred, to ensure their availability. From whom the funds will be drawn and by what

mechanism, must be determined. Also, the financial risk factors for the approaches to long-term nuclear waste management must be determined. Factors such as interest rate, credit, liquidity, inflation, market and currency risks must be considered. A potentially effective way to address the risks associated with the size and timing of future liabilities, is to ensure the availability of financial resources, by periodically reassessing the costs and/or the annual contributions into the trust fund. It is therefore suggested that the payments that are to be made by the producers/owners of nuclear waste should be recalculated annually, at least to keep pace with inflation.

- 4.18 Another concern is the responsibility for financial and legal liability, if the responsibility for nuclear waste is transferred from the producer(s) of nuclear waste to another agency. The NWMO Study must address this, to ensure that the liabilities are not inherited by affected municipalities, and that financial compensation continues to be directed to affected municipalities, regardless of the agency responsible for the waste.

Peer Review Funding

- 4.19 Staff of the City of Pickering have advised that the City has approached the NWMO to request peer review funding for a collective approach to consulting services for municipalities. This funding would assist municipalities in undertaking an independent assessment of the NWMO's Study, which will contain complex issues related to the long-term management of nuclear waste. Staff of the City of Pickering and Municipality of Clarington have also advised that the Canadian Association of Nuclear Host Communities may be considering a resolution to officially request that the NWMO provide collective peer review funding for municipalities. A request for peer review funding from the NWMO is considered appropriate and is supported.

Durham Nuclear Health Committee Comments

- 4.20 In April 2004, the NWMO facilitated a meeting with the Durham Nuclear Health Committee (DNHC) to review and obtain feedback on the Discussion Document. There was general agreement by the DNHC that the NWMO was asking the right questions, however modifications and enhancements to the

document were suggested. Many of the DNHC's comments have been expressed in this Report. The comments made by DNHC members were summarized by the NWMO, and are provided in Attachment 2.

5. NEXT STEPS

5.1 The NWMO's second document ("Understanding the Choices") is planned to be released in the summer or early fall of 2004. The second document will:

- further develop and refine the management approaches, based on the input received from the first Discussion Document;
- present a preliminary comparative analysis of the approaches, and
- provide an initial assessment of the different approaches.

5.2 The third document ("Choosing a Way Forward"), is expected to be released in draft form in early 2005. The final document is scheduled to be submitted to the Minister of Natural Resources Canada by November 15, 2005. This document will present:

- a comparative assessment of management approaches and implementation plans;
- Advisory Council and public comments on the approaches and implementation plans; and
- the NWMO's recommendations.

5.3 After each document is released, the NWMO will be seeking public comment. To ensure continued public input to the Study, the NWMO is in the process of arranging "Community Dialogue Forums" with the City of Pickering and the Municipality of Clarington. The purpose of these Forums is to draw upon the special experience, insights and perspectives from communities which currently store nuclear fuel waste.

5.4 On the recommendation of the federal Minister of Natural Resources, the Governor in Council will select one approach for managing nuclear fuel waste from among those set out in the NWMO Study. Additional opportunities for public consultation will be provided through the environmental assessment

and licensing processes of regulatory authorities. The NWMO will then be required to implement the selected long-term management approach.

6. CONCLUSIONS

- 6.1 Overall, the NWMO Discussion Document appears to be asking many of the right questions, and appears to outline an appropriate process to be followed in studying long-term management for nuclear fuel waste.
- 6.2 It is recommended that this Report be forwarded to the NWMO as the Region's comments on its first Discussion Document. A copy of this Report should also be forwarded to the Region's area municipalities.
- 6.3 This Report has been prepared in consultation with the office of the Chief Administrative Officer, Durham Emergency Management, Durham Police Services, and the Health, Works, Finance, and Economic Development and Tourism Departments.

A.L. Georgieff, M.C.I.P., R.P.P.
Commissioner of Planning

RECOMMENDED FOR PRESENTATION TO COMMITTEE

Garry H. Cubitt, M.S.W.
Chief Administrative Officer

Attachments: 1. Key Questions of the NWMO
 2. Durham Nuclear Health Committee comments on NWMO
 Discussion Document "Asking the Right Questions?" April 2,
 2004

KEY QUESTIONS OF THE NWMO
 “ASKING THE RIGHT QUESTIONS?”
 THE FUTURE MANAGEMENT OF CANADA’S USED NUCLEAR FUEL”

Question #	Area of Concern	Question
OVERARCHING ASPECTS		
1	Institutions and Governance	Does the management approach have a foundation of rules, incentives, programs and capacities that ensure all operational consequences will be addressed for many years to come?
2	Engagement and Participation in Decision making	Does the management approach provide for deliberate and full public engagement through different phases of the implementation?
3	Aboriginal Values	Have aboriginal perspectives and insights informed the direction and influenced the development of the management approach?
4	Ethical Considerations	Is the process for selecting, assessing and implementing the management approach one that is fair and equitable to our generation, and future generations?
5	Synthesis and Continuous Learning	When considered together, do the different components of the assessment suggest that the management approach will contribute to an overall improvement in human and ecosystem well-being over the long term? Is there provision for continuous learning?
SOCIAL ASPECTS		
6	Human Health, Safety, and Well-Being	Does the management approach ensure that people’s health, safety and well-being are maintained (or improved) now and over the long term?
7	Security	Does this method of dealing with used nuclear fuel adequately contribute to human security? Will the management approach result in reduced access to nuclear materials by terrorists or other unauthorized agents?

Question #	Area of Concern	Question
ENVIRONMENTAL ASPECTS		
8	Environmental Integrity	Does the management approach ensure the long-term integrity of the environment?
ECONOMIC ASPECTS		
9	Economic Viability	Is the economic viability of the management approach assured and will the economy of the community (and future communities) be maintained or improved as a result?
TECHNICAL ASPECTS		
10	Technical Adequacy	Is the technical adequacy of the management approach assured and are design, construction and implementation of the method(s) used in the management approach based on the best available technical and scientific insight? (By method, the NWMO means the technical method of storage or disposal of the used fuel.)

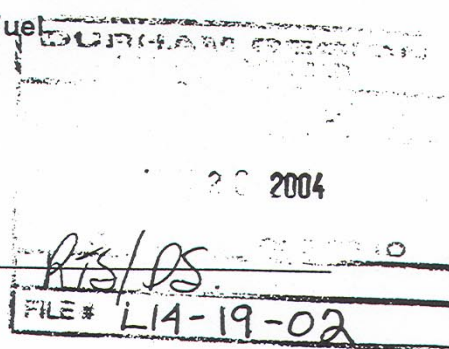


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**Durham Nuclear Health Committee
NWMO Dialogue on
The Future of Canada's Used Nuclear Fuel
"Asking the Right Questions?"**

**Friday, April 2, 2004
Pickering, Ontario**

Summary Notes



1. Participants

The following were in attendance at the dialogue session with the Durham Nuclear Health Committee:

Name	Organization
Alex Heydon	Public Member, Ajax
Dr. Barry Neil	Public Member, Ajax
Brian Devitt	Durham Region Health Department
Dr. Gerry Gold	Public Member, Pickering
Ken Shrives	Public Member, Clarington
Lorraine Weigel	Public Member, Clarington
Mark Rohlehr	Public Member, Pickering
Michael Nemeth	Public Member, Clarington
Youssef Mroueh	Public Member, Pickering

2. Overview of Session

In January 2004 the NWMO had presented its first discussion document, Asking the Right Questions, to the DNHC and asked for response and feedback. The DNHC asked if this could be done through a facilitated session with the public members. It was agreed, and the session was held on Friday, April 2, 2004 at the OPG Public Information Centre, Pickering Nuclear Complex, Pickering, Ontario.

There were nine participants (the public members of the DNHC) as well as Donna Pawlowski representing the NWMO and the DPRA staff (Jim Micak (facilitator) and Rachelle Laurin (recorder)). After introductions, the session began with a presentation by Jim Micak who introduced the agenda and the dialogue process.

The main presentation was given by Donna Pawlowski who provided a brief overview of the Nuclear Waste Management Organization, its mandate and recent activities. She then reviewed the content of Discussion Document #1 – Asking the Right Questions?, focusing on three areas:

- (1) The challenge/opportunity facing Canada regarding the long-term management of used nuclear fuel.
- (2) The range of possible technical methods.
- (3) The proposed analytical framework.

She described the various dialogue processes underway, and noted that by November 2005, the NWMO must provide a report with recommendations to the Federal government on a long-term approach for the management of Canada's used nuclear fuel.

Following the presentation a question and answer session was held for clarification.

3. Asking The Right Questions?

The balance of the dialogue session focussed on a roundtable discussion in four areas:

- (1) The nature of the problem - has the problem been correctly described?
- (2) Terms and definitions - are the key terms and definitions regarding the technical methods and management approach clear, understandable and appropriate?
- (3) The alternative methods – is the characterization of technical methods appropriate, should other technical methods be considered in the study beyond the three required by legislation?
- (4) The analytical framework – does it capture the key issues? What changes should be considered?

Following is a summary of the main comments that were put forward by individuals as they reflected on these different discussion areas. No attempt was made to achieve a consensus or agreement on the various comments. Where agreement was evident, it is noted.

1) Has the Problem been Correctly Described?

There was general agreement among the participants that the NWMO has properly described the problem that needs to be addressed. In particular, participants felt that:

- Today's generation needs to assume responsibility for the management of the wastes and establish an approach for long-term management.
- Sufficient funding needs to be provided today to ensure that the future costs of the management approach are fully covered. Money needs to be set aside and dedicated for the management of the wastes. Donna Pawlowski noted that the Nuclear Waste Fuel Act requires the nuclear energy corporations to set up and contribute annually to a trust fund to meet the future obligations for the management approach. Monies are now being deposited.
- The NWMO must clearly convey to the public not only the costs of the management approach but also the funding mechanism.
- Several participants felt that radiation hazard associated with the future management needs to be fully understood. Also, additional studies are necessary to confirm that interim storage is in fact safe. The NWMO documents assume that interim storage is safe, but this has not necessarily been proven.

- Regardless of the management approach, security needs to be a primary consideration. Security includes ensuring that the approach is safe from all perspectives, acts of terrorism, technology malfunction and effects of nature.
- As part of the definition of the problem, the NWMO needs to understand that public confidence and trust is extremely important. If the NWMO, through its studies and actions, does not establish trust and confidence, finding an acceptable management approach will become more difficult. The point was made that at the time of the construction of the nuclear power plants in Durham, the expectation was that disposal of the wastes would occur and that there would be no interim storage facilities at the reactor sites. Disposal has not happened and interim storage is likely for some time. This is not the way to build public trust.
- The description and presentation of risk needs to be carefully considered. Risk needs to be communicated in terms that are clear, understandable and relevant to the public.
- The NWMO needs to define what 'long-term' management means – is there a defined timeline or does it mean forever?

2) Key Terms and Definitions

- The participants were asked to consider five key terms and definitions presented in Discussion Document #1. The key terms are:
 - Technical Method
 - Disposal
 - Storage
 - Treatment
 - Management Approach
- The participants felt that the terms and definitions for disposal, storage and treatment as presented in Discussion Document #1 are complete and appropriate. No modifications were suggested.

Concerning the definition of the term management approach, the following modifications were suggested:

- Include security in the definition – its absence was considered to be important given recent terrorism events and the public's expectation for safety.
- Clarify that the management approach can consist of several methods and the features associated with each technical method.

3) Basis for Determining Whether to Study Technical Methods

- The participants were asked to consider the range of technical methods presented in Discussion Document #1, specifically whether a rationale existed for the NWMO to study technical methods other than the three required to be studied by legislation (disposal, on-site storage, centralized storage). Comments were provided on two groups of methods.
 - (1) Technical Methods of Limited Interest
 - (2) Technical Methods Receiving International Attention

Technical Methods of Limited Interest

- Participants felt that the technical methods in this category should not be studied by the NWMO. The following reasons were provided:
 - (1) Most of the methods would be too costly to implement.
 - (2) The future is indeterminate, the selected management approach needs to be versatile – many of these technical methods lack versatility.
 - (3) Any technical method must be supported by valid scientific evidence. These methods have not been sufficiently studied, therefore there is little scientific evidence supporting them. The time required to properly study is not available.
 - (4) Any method that contravenes international law, treaties or conventions should not be considered. This eliminates all disposal at sea and in ice technical methods.
 - (5) Any method that closes the door on retrieving wastes for possible future use/treatment should not be considered. Also, disposal options should retain the flexibility of future retrieval.

Technical Methods Receiving International Attention

- Participants felt that the same rationale cited for methods of limited interest, apply equally to methods receiving international attention.
- Additional comments provided were:
 - Keep the door open for methods that allow for retrieval of the material. As technological advancements occur in time, methods such as treatment and re-processing should be re-visited based on new information. It was noted that re-processing and transmutation are likely to be too expensive and complicated to be feasible today.
 - Canada should consider the merits of using international repositories, but it was recognized that this method might be politically/socially unacceptable.
 - NWMO has the benefit of time. Storage of the material means that a final decision is not required for many years. This keeps open the option for retrieval of material and possible future use or future treatment.
 - Disposal in geologic settings rather than storage at reactor sites should be considered. This need not be final disposal. Keep open the option of retrieving waste material.

4) The Analytical Framework

- Participants were asked to consider the proposed NWMO Analytical Framework as a whole and, by considering each of the 10 key questions.

General

- The Analytical Framework was viewed as being mostly complete. It was suggested that perhaps an eleventh Key Question be added – Education, Awareness and Communication. In particular, this key question could include aspects and considerations dealing with risk communications, public safety and reporting on activities. The risk communication should be presented in clear terms and easy to understand.

Institutions and Governance

- No significant comments were raised in this area.

Engagement and Participation in Decision-Making

- Add public involvement on "testing" the management approach – is it meeting the intended needs?
- Include a method to assess the change in public attitude over time

Aboriginal Values

- It was not clear why these values were specified as Aboriginal – these are values that are held by all or many Canadians.
- Identification of Aboriginal Values may suggest that the outcome will be disposal on or near Aboriginal lands – this may be misleading.
- Implies that one segment of the population may have a veto.

Ethical Considerations

- Need to also consider ethics from a historical perspective, especially, if developing future scenarios.
- Ensure that ethics guide the development and implementation of the process not just the outcome.
- State that this generation will provide the funding for the management approach – do not leave a financial burden for the future.

Synthesis and Continuous Learning

- Change periodic "assessment" to periodic "evaluation" – evaluation more clearly implies the potential to take a different direction if new information suggests a new direction makes sense.

Human Health, Safety and Well-Being

- It would be helpful for NWMO to define how it will determine an acceptable risk.
- Need to clarify and describe in terms that people will understand what is meant by "equity" reporting.

Security

- Change the emphasis in the presentation of considerations from "reducing access" to "secured" facilities – latter is more definitive and pro-active.
- Don't restrict security considerations by definition of acts; emphasize the security of the methods and approach.

Environmental Integrity

- Need to define what an acceptable risk and who determines acceptability.