

## **Understanding the Choices – The Future Management of Canada's Used Nuclear Fuel.**

### **Durham Nuclear Health Committee (DNHC) Final Discussion Session Summary Report**

**Friday, November 12, 2004  
Pickering Nuclear Information Centre  
Pickering, Ontario**

#### **1.0 PARTICIPANTS**

---

There were eight participants at the discussion session.

The NWMO representatives were Pat Patton and Jo-Ann Facella. Present from DPRA were Peter Homenuck and Christina Bruce.

The following is a summary of the comments from the DNHC discussion session.

#### **2.0 MANAGEMENT APPROACHES**

---

##### **What are the Strengths and Limitations of each Management Approach?**

##### *2.1 Storage at Reactor Sites*

###### **2.1.1 Strengths**

Participants at the discussion session suggested the following strengths:

- This is the cheapest option.
- Residents surrounding reactors are familiar with the nuclear industry and do not have the perceived fear of the industry that communities may have.
- A participant felt that there is more chance of human error at the reactor itself than at a storage facility. The participant felt that the long-term storage of used nuclear fuel is less dangerous than the operation of the reactor.

###### **2.1.2 Limitations**

Participants at the discussion session suggested the following limitations:

- Storage at the reactor site over the short-term was acceptable; but the communities never expected storage on-site to be a long-term solution.
- The population density around reactor sites is too high for a long-term storage facility to be established. The participant suggested that the location for the management of used fuel should be remote (why consider transporting the waste unless it was going to a more remote location?)
- A participant felt that storage at reactor sites would leave a greater burden, including financial burden, for future generations.

- A participant also noted that the proximity of the reactor sites to large bodies of water and large populations is dangerous.

### 2.1.3 Other Comments and Questions on Storage at Reactor Sites

- A participant felt that it would be acceptable for the used fuel to remain in the reactor communities if it was determined that hazards to the community were minimal.
- Do the reactor sites have land available for the development of on-site storage facilities?
- A participant questioned what the lifespan was for the Pickering and Darlington reactors and indicated that even when the reactors are de-commissioned, storage facilities would still exist, and security and maintenance personnel would still have to be present in order for the waste to be stored at the reactor sites. This would create a burden on future generations.

## 2.2 Deep Geological Disposal

### 2.2.1 Strengths

Participants at the discussion session suggested the following strengths:

- Transportation of used fuel could also be considered as a strength of deep geological disposal because of the knowledge that is available on transportation.
- There would be less burden for future generations, including financial commitments.

### 2.2.2 Limitations

Participants at the discussion session suggested the following limitations:

- Transportation of radioactive materials was not the only risk to communities but there will also be risks as a result of the increase in traffic on local roads.
- This option seemed 'too final'. The participant felt that it is still necessary to have the flexibility to retrieve the materials in the future.
- One participant commented that transportation does not necessarily need to be a limitation; it may actually be an advantage given what is now being done in transporting radioactive material throughout the world.

### 2.2.3 Other Comments on Deep Geological Disposal

- A participant asked for clarification on potential damage to the underground environment because of the large number of bundles stored in one place emitting a huge amount of heat.
- Another participant asked if there have been any studies done on volcanic activities and radiological decay. The participant asked if the studies indicated whether additional ventilation would be required for a deep geologic repository.
- It was suggested that the management approach selected could be a combination of deep geologic disposal and centralized storage. The participant felt that the ability to have controlled access is important and this may be overlooked with the creation of a deep geologic repository. The participant felt that it is important for the waste to be stored allowing for retrieval but to still be as far removed from human population as possible.

## 2.3 Centralized Storage

### 2.3.1 Strengths

A participant expressed that Canada has had considerable experience in transporting nuclear materials with little risk to communities, which could be considered a strength but feels that this experience should be shared with the public to reduce the perception of danger about transporting used fuel.

### 2.3.2 Limitations

Participants at the discussion session suggested the following limitations:

- Concerns regarding transportation includes risks to the community as well the destruction to the roadway and environment and impact associated with the increase in traffic.
- This option would leave future costs and burdens for future generations.

### 2.3.3 Other Comments on Centralized Storage

- A participant felt if it was determined that if the trade-offs for one central storage site outweighed the many small reactor site storage options; these trade-offs must also include weighing the risks of transporting the used fuel.
- How often would the used fuel be transported? The participant felt the risks to the community could be minimal if transportation does not occur often. However the risks could be greater if there were frequent trips.

## OTHER COMMENTS

A participant expressed the importance for citizens to understand the risks associated with each technical method before making a decision. The participant felt that it is important to fully understand the health concerns for each method and recognize the hazards associated with each approach before indicating strengths and limitations.

## 3.0 ASSESSMENT FRAMEWORK

---

**Is the assessment framework comprehensive and balanced? Are there gaps, and if so, what do we need to add?**

- A participant felt that this process is fair and acceptable but feels that the assessment is lacking a clear 'risk assessment'. After reviewing the documentation the participant felt that there should be a risk assessment indicating the relative risk to the host community and communities along the proposed transportation corridors.
- Another participant agreed that a risk assessment is necessary and it is important for the risk assessment to include citizens' opinions from across Canada. The participant felt that the relative risk of transporting the waste should be measured against the relative risk of leaving the waste in the reactor communities. The participant felt that it is compulsory to present the relative risks to the communities in a well-structured and easily understood communication style but understands the difficulties of communicating the risks effectively to the community..
- The participant felt that there are diverging opinions of the relative risks to communities (opinions of experts and the average citizens).

- Another participant agreed that a risk assessment is necessary and that this risk assessment should include citizens' opinions from across Canada.
- A participant wanted clarification on why economic viability was listed as an objective, it should be a value. After an explanation on the objectives and values, the participant understood that economic viability is embedded in the values.
- Participants recognized that there is a strong and consistent relationship among citizen values, objectives and ethical considerations.

#### **4.0 IMPLEMENTATION PLAN**

**Are there specific elements that you feel must be built into an implementation plan?  
What are your thoughts on what a phased approach must include?**

- A participant felt that additional clarification is required to demonstrate the process of getting to the 3 proposed technical methods. The participant felt that it is important to clearly demonstrate this process so the NWMO is not later accused of presenting an unfairly scoped outcome.
- It was suggested that when the NWMO decides what method to select, that it is important to fully weigh and assess the different reasons for the selection. A technically complete explanation should be available to support the selection.
- A participant felt that the NWMO should clearly demonstrate why the fourteen original methods were narrowed to the 3 selected management approaches as presented by the NWMO. The participant felt that it was necessary to clarify this process so that the process is not perceived to be faulted.
- A participant suggested that as displayed at the Royal Roads e-dialogue Forum, there are two important decision-making components; scientific and ethical/social/political. It is important to recognize that there will not be a consensus between these two components.
- A participant suggested that the NWMO should build support for the selected management approach, presenting both local and international knowledge. International processes and research should align with NWMO research and findings to strengthen understanding. It was suggested that an appendix be added to Discussion Document 2, describing international research on the technical methods.
- A participant indicated that it is important to monitor and continue to research future options and risks.
- Retrieval should only be considered in the future if there is a compelling reason to access the material. Otherwise it should not be retrieved.
- Changes and decisions on related issues and their implications made in the Durham region should be monitored.

#### **5.0 Additional Comments on Discussion Document 2**

**With respect to the document, "Understanding the Choices?", the following comments were made:**

- It was suggested that more technical explanations are required to support the findings presented in Discussion Document 2. After the participant understood that there were a number of technical documents available it was suggested that these documents should be more available to the public.
- Are the three management approaches final options or could the selected outcome be a combination of management approaches?

## 6.0 Other Comments

---

- Given that the NWMO study will likely only involve 1% of the population of the County, how can the NWMO assure that they have completely considered suggestions from the public?
- A participant indicated that Canada is not the only Country faced with managing used nuclear fuel. The participant asked if the NWMO has had contact with international agencies or individuals. The participant suggested some of the international experience and scientific research could be adopted.
- Another participant asked if the three proposed management approaches were being researched in other countries?
- There is only 1% of the public being consulted, does the NWMO fear that the other 99% of the public could possibly de-rail the study outcomes in the future.
- Who would be responsible for assessing the public comments? The participant wanted clarification if it would be the NWMO or the government weighing this input?
- A participant stated that if NWMO, ultimately, did the weighing of trade-offs, it would be important to present the trade-offs in a transparent way, clearly indicating the reasons for the recommendation.
- The NWMO needs to be clear and up-front about the level of risk associated with transportation, safety and security.

This report does not necessarily reflect the views or position of the Nuclear Waste Management Organization, its directors, officers, employees and agents (the "NWMO") and unless otherwise specifically stated, is made available to the public by the NWMO for information only. The contents of this report reflect the views of the participants who attended the noted Community Information or Discussion session only. The participants' questions and comments are noted for recording purposes only and are not evaluated for error or accuracy. The NWMO does not make any warranty, express or implied, or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any information disclosed, or represent that the use of any information would not infringe privately owned rights. Any reference to a specific commercial product, process or service by trade name, trademark, manufacturer, or otherwise, does not constitute or imply its endorsement, recommendation, or preference by NWMO.