

Understanding the Choices – The Future Management of Canada’s Used Nuclear Fuel

NWMO Information Sessions Final Summary Report

**Wednesday, November 3rd and Thursday, November 4th, 2004
Radisson Harbourfront Hotel
Kingston, Ontario**

1.0 PARTICIPANTS

Three information sessions were held over two days in Kingston; in total, thirteen participants attended the sessions.

The NWMO representative was Pat Patton, the assessment team representative was Jo-Ann Facella, and Vicki McCulloch and Lesli Rynyk were present from DPRA Canada.

The following is a summary of comments from the Kingston information 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

- One participant felt that accelerated transmutation would be a feasible option in 20-30 years from now. Therefore, the participant expressed that they would rather see the waste kept on-site in more robust or “hardened” facilities, thus ensuring that the used nuclear fuel would be accessible in order to allow for future transmutation should it become feasible.

2.1.2 Limitations

- A participant expressed concern about the corrosion of fuel bundles in reactor cores and in storage pools, and therefore their safety even at this early stage.
- A participant had concerns about the security of on-site storage and potential for terrorism, particularly when the nuclear generating plant closes.

2.1.3 Other comments on storage at reactor sites

- A participant felt that keeping the nuclear waste on site and containing it there was a good solution because reactor communities are familiar with the nuclear industry.
- Another participant expressed that the terrorist threat is not a significant concern because the security at the reactor sites is very tight even for those who work in the industry. In

addition, the participant felt that if a terrorist was able to retrieve the waste, that person would not live long enough to cause anyone else harm due to radiation exposure.

2.2 Deep Geological Disposal

2.2.1 Strengths

No strengths were identified at this session.

2.2.2 Limitations

- Many participants thought that deep geological disposal would be more desirable if there was a retrieval option should alternative technology be developed in the future.
- One participant felt the term “disposal” was being incorrectly used in this situation since we are not necessarily getting rid of the waste, but more locking it away in storage
- The participant also expressed concern about people (e.g. terrorists) finding a way to access the used nuclear fuel
- There was also concern that the deep geological disposal as described in 2004 is no different than the proposal from Manitoba that was developed in the 1980s and rejected by the Seaborn Panel.

2.2.3 Other comments on deep geological disposal

- A participant suggested that polls have shown that the more people know about deep geological disposal the more they do not want it and the more people know about nuclear power the less people want it.
- Another participant commented that deep geological disposal is a plutonium mine waiting for terrorists
- A question was raised about the natural heat in the Earth and how that would affect the waste the deeper it is disposed of in the Earth.
- Another question raised was regarding the length of time the facility would stay open and concern about how we would control what future generations do with the waste and the facility.
- Questions were also raised about the amount of public opposition there was to Whiteshell’s underground research laboratory and the extent to which research continues to be conducted at the site.

2.3 Centralized Storage

2.3.1 Strengths

No strengths were identified at this session

2.3.2 Limitations

- One participant commented that he felt centralized storage is “absurd” with the amount of waste being generated at the present rate. He felt that five hockey rinks of material was a lot of nuclear waste to have at a central location. He also was concerned about the possibility of terrorist acts occurring at a central storage location.
- A concern was raised among participants about transportation of the waste across the country to a centralized site and hope that Canada would not have to endure what occurred

in the 1980s; this comment was made with a reference to the previous process that examined possible sites for deep geological disposal in Canada and the great public opposition which it provoked.

2.3.3 Other comments on centralized storage

The following questions were raised concerning centralized storage:

- What would be the volume of the material and/or the size of the actual facility?
- Which locations could be potential sites? For example, could Whiteshell be a possible site?
- What research is being conducted on transportation of nuclear waste?

2.3.4 Other Comments on Management Approaches

- Many participants were interested in knowing what other countries were doing in terms of their research and felt that Canada should take the findings of other countries into consideration. Other suggestions included exploring other options such as using pebble bed reactors (they are smaller and have lower capital costs) as an alternative to CANDU reactors (large reactor approach). Participants also wanted to know why Canada was not exploring these options.
- Another participant questioned why outer space disposal did not make the short list of options for Canada.
- One participant felt that accelerated transmutation could work if funding was made available. However, the same participant felt that geoscientists are in control of research monies and are pushing the option of deep geological disposal.
- Another participant felt that transmutation is not the best approach because it sounds like a relatively new technology.

3.0 ASSESSMENT FRAMEWORK

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

- One participant asked where was NWMO's scientific data concerning people's impressions of nuclear waste.
- Another participant questioned whether NWMO was asking the public which method to implement, and whether that in fact was appropriate.
- A participant felt that some element of retrievability/flexibility is desirable as used nuclear fuel may be a potential resource in the future. In addition, the participant expressed that there may be other technologies available (e.g. transmutation) that could be used in the future.

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 suggested that there were 8 years of intense review already completed with respect to deep geological disposal through the Seaborn Panel. The participant wondered if there was enough flexibility in the process to recommend to the Minister to further study the other two options as extensively, since it would only be fair that the other two concepts be researched as intensely.

- There has been a large amount of research conducted over the years both in Canada and internationally. A participant felt that the NWMO must fully consider it all. The participant noted that deep geological disposal has been the emphasis of the research, and the other two concepts / alternatives warrant a similar level of attention.

5.0 Additional Comments on Discussion Document 2

With respect to the document, “Understanding the Choices?”, the following comments were made:

One participant asked when the next document related to this process would be available.

6.0 Other Comments

Other comments that were received by participants at the information session in Kingston, which were not directly related to Discussion Document 2, have been grouped under thematic headings and are summarized below:

Governance

- Concern was expressed that science has not come forward with a solution, so ordinary citizens are being asked to do so and this is not appropriate.
- A participant stated that we need to stop producing waste until we know what to do with it
- One participant noted that it is difficult for government to take action on this issue, which has a very long-term time horizon – it is easier to put off making a decision than to take definitive action on what will in all likelihood be a very controversial decision.
- A participant asked if Canada has the political will to act on recommendations in a “reasonable timeframe” once the report goes to parliament?

Nuclear Energy

- One participant suggested that we need to stop producing nuclear waste
- A participant commented that we already have a significant stockpile of used fuel; whether or not more is produced, there is a problem that must be addressed
- A participant commented that nuclear power is not sustainable and therefore it should not be presented as such.
- Some participants felt that even though a problem exists and there may not be an immediate solution, there will be one in the future
- Questions were raised in regards to what additional technologies are being developed other than transmutation.

Nuclear Waste Management Organization

- A participant felt that the NWMO is leading people to believe that there is a solution, specifically deep geological disposal, so that the nuclear industry can build more reactors
- A participant expressed that they did not know that such a broad approach to the consultation on this issue was occurring before the information session and wondered how much attention this was getting from the public at large.
- A participant wanted to know about the function of the NWMO’s Advisory Council: How often do they meet? And are the minutes available to the public?
- Another participant questioned why only the Advisory Council was shown on the DVD and not the Board of Directors. Is it because NWMO wishes to conceal who is on the Board? As well, the participant inquired about the gender imbalance on the Board; there should be more females. This continues the gender imbalance, which has existed in the industry since the 1980s.

- One participant asked about who was monitoring used fuel management related research in other countries and which office in the government was responsible for the monitoring.

Public Participation

- A participant was happy to see a somewhat more friendly (nuclear industry) face than was seen in the 1980s
- Participants were interested in seeing the displays and NWMO's approach to discussing issues with the public
- A question was asked regarding the participation rates in the information sessions and why people were not showing interest in the sessions. Some felt that the advertising for the sessions was not adequate.

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