

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

NWMO Discussion Session Final Summary Report

**December 7, 2004
Clarington, ON
120 Liberty St. South**

1.0 PARTICIPANTS

There were 11 participants at the discussion session.

The NWMO representative was Sean Russell and the Assessment Team member was Bill Leiss. Jim Micak and Lesli Rynyk were present from DPRA Canada.

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

2.0 MANAGEMENT APPROACHES

What are the Strengths and Limitations of each Management Approach?

2.1 Storage at Reactor Sites

2.1.1 Strengths

- A participant questioned whether the proximity of the potential storage near water was a significant enough reason to choose this option. This participant felt that the storage site could be more secure and impact on drinking water quality avoided through proper construction.
- Another participant thought that potential security breaches of the storage site could be easier to manage at more than one storage facility especially if the sites are kept small.

2.1.2 Limitations

- One participant was uncomfortable with the site being in close proximity to water. The potential impact on water quality is significant
- Another participant could not imagine why this option is being considered other than as default option The wastes should be removed from the reactor sites to a properly built centralized facility because the waste cannot be transported away from the plants at the present time.

2.1.3 Other Comments on Storage at Reactor Sites

- It was expressed that the Clarington area is increasing in population and close to large body of water, which is a drinking water source. This participant could not understand why this option would be considered further because of the population and proximity to water.
- A participant asked if anyone was monitoring the quality of the water near the Darlington Plant
- Another questioned if the reactor sites need to be near water

2.2 *Deep Geological Disposal*

2.2.1 Strengths

- A participant felt that Deep Geological Disposal was the most secure option because it was removed from the environment.
- It was thought that this option was the best for the long term especially if future societies break down.

2.2.2 Limitations

- One participant noted that there is no test to prove if Deep Geological Disposal works, so we have no idea if it will work. He felt that there is no proof of its safety.
- It was expressed that the only thing that is certain is that when we go underground that nothing is certain.
- A participant felt that this option is disrespectful to the planet.
- Another participant thought that while Deep Geological Disposal is technically enticing there was concern that no one has actually done this yet.

2.2.3 Other Comments on Deep Geological Disposal

- A participant asked for clarification, with regards to the NWMO DVD, which said that Deep Geological Disposal is not retrievable but in the presentation it was said that we could retrieve the waste if necessary. He questioned which was correct.
- A question was raised about the waste being retrievable during the monitoring phase of Deep Geological Disposal.
- Another participant questioned the reason for burying the waste when we have sites where the rods are currently located. Why move them?
- A point was made that those who benefit from the energy need to be responsible for its continuous management and burying it does not allow that to happen. Out of site, out of mind and this is not acceptable.
- A participant wondered that if the waste was put into a mine, could the waste be monitored and could it be retrieved?
- There was a thought that if the environment is worth paying for then it's worth paying somebody to monitor the benefits of nuclear energy and the management of its waste.
- A participant noted that at the Seaborn Panel, it was revealed that the containment may not hold the waste and it may affect ground water.
- Another participant expressed the opinion that we have to accept responsibility for this waste and putting it underground is not being responsible.

2.3 Centralized Storage

2.3.1 Strengths

- A participant felt that Centralized Storage would allow for people to be more involved in the management of our waste and not have it out of sight, out of mind.

2.3.2 Limitations

- One participant felt that the issue of transportation is not adequately explained in terms of risk. More information on the nature of the risk is needed and must be placed into a context with other societal risk
- It was thought that the transportation of dangerous goods is currently invisible to many people but will be in the spotlight if the centralized option is chosen, if so security will be a serious issue.
- Another expressed that people need to know what the transportation issues and risks are before a decision on this can be made.

2.3.3 Other Comments on Centralized Storage

- A participant inquired about the risks with this option so that clear understanding of the significance could be made.
- A point was raised that two options involve transportation so there should be more discussion in terms of risks so that people can better understand the significance.
- A question was raised about what transport options are available.
- One participant asked how well secured a nuclear waste canister would be and what material would be used to make the canister
- A comment was made that there is an assumption that whatever we do has to be centralized but there is also a good case for decentralized sites primarily for security issues
- A participant asked if we could use glass containers to contain the waste.

3.0 ASSESSMENT FRAMEWORK

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

Comments on Values:

- One participant felt that the values are excellent but would like to add a public referendum to the list. She felt that the people need to have the ability to decide if they want to continue using Nuclear energy and what needs to be done with the waste.
- Another participant thought that the values seemed reasonable whereas a different participant thought that values did not mean anything by just looking at them. There was no value in the values as they stand alone. They need to be put into context and explained how they are to be applied.
- It was asked that if any of the values are weighted and if the people who developed the set of objectives weighted them.
- A comment was made that for many years (10+ yrs) there seemed to be an assumption that out of sight out of mind disposal was the preferred option but now there seems to be a change of language that nothing we create can be completely disposed of and felt that this type of decision was a good start to the decision making process.

- A participant raised the point that in the NWMO mission statement three points can be tied back to the values but social acceptability does not seem to clearly link to the values
- Another participant felt that there is a need to have acceptability defined from many different perspectives in order to come to a decision
- One participant described the experience of the Low Level Radiation Waste Siting task force. It was noted that of the 36 communities expressing an interest in accepting the wastes ultimately none did. The prospect of a voluntary siting approach for used fuel would appear to be dim.
- One participant expressed that Social acceptability was a decision that was made for us a long time ago (1960s). The fact that we have nuclear generation and the fact that nuclear power will continue to be used and expanded means that the social acceptability of nuclear as an energy source and therefore the management of the waste has already been determined.

Comments on Ethics:

- A participant thought that the presentation on ethical principles does not fully describe how deep our relationship is with the earth
- A question was raised about who paid the ethicists to come up with these principles.
- One participant concluded that part of the discussion of ethics should indicate that our generation is are creating benefits for future generations. This should be reflected in the people. Another participant felt that in terms of fairness and justice, current generations have to generate benefits for the future generations who have to continue to deal with the waste and this fact needs to be reflected in the people.

Comments on Objectives:

- A participant wondered if the NWMO has decided to weight/rank the objectives and if there will be a score given to the methods at the end of the day.
- There was a question of how public input, being given through these sessions, will influence the work of the assessment team.
- A participant did not understand how the objectives reflect the immensity of the future
- One participant noted that Public Health and Safety, Worker Health and Safety and Community Well Being objectives seem to overlap. He also wanted to know if anyone is studying or monitoring cancer in the Clarington community and the relationship with the Darlington Power Plant.
- A participant felt that these objectives were not applied to the Port Hope clean up in the past so she is pleased to see the consideration of values, ethics, and objectives in this process.

Other Comments:

- A participant was curious to know why there is still a debate in the scientific world about the nature hazard or length of the hazard of a used fuel bundle.
- Another participant inquired about the amount of consultation between the NWMO and the Provincial Governments.
- Participants also pointed out that for an area that already has a nuclear facility, this process is good but questioned the low turn out. In response, a participant noted that from past experience, she's concluded that for a huge majority of people the management of nuclear fuel is not an issue of current concern
- Questions were asked about the possibility of not finding a willing host community, what would happen if that was the case. In addition, there was a question as to what would happen if we could not afford the best option.

- A participant wanted to know if the NWMO felt there was agreement that there is far more that we don't know than what we do know and therefore there was a need to be cautious with our decision

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 since there has been 20-30 years experience of using nuclear, the government is obliged to go to the public for a referendum on this issue.
- Based on a study conducted by a citizen's group in Port Hope, which looked at the transport of nuclear material found that the canisters were being put on the back of the trucks in order to protect the driver from emanating radiation but there was nothing in place to protect the drivers travelling behind the trucks, a participant believed that the canisters should therefore be lead lined. Another participant was in agreement that for transportation of canisters of waste both lead and steel should be used.
- One participant wanted to know if the NWMO was restricted to these three options individually or if there is a possibility of considering a mixture of the options. For example, combining a Central Site with Deep Geological Disposal.
- Another participant expressed concern over the possibility of not being able to identify a willing host site and did not want to see it have to come down to a government-imposed solution. In relation to this point, a participant stated that there is a need for a community specific definition of social acceptability when implementing an option.
- A growing concern throughout the discussion was that there is a need to have people in the community in place to continuously monitor the waste, and a need for on-going community involvement in monitoring process.
- One participant felt that the people who have benefited the most from nuclear energy should be the ones to look after the waste (i.e. Southern Ontario should bear more responsibility than Northern Ontario since there is more power usage in Southern Ontario)
- A participant expressed that in his opinion, an environmentally acceptable site should be as close as possible to the generators of the waste. There needs to be an admission by all parties that none of these options are the absolute solution and that this is a difficult decision to make.
- In response, another participant added there is a need to recognize that in the future we are going to have a problem choosing a site area no matter what method is selected, community acceptance will dictate.
- One participant thought that we should be concerned with conservation first and foremost before addressing how to deal with waste, and second should be putting significant money into research and development/renewable energy options. To help put his point into perspective, he offered the following current allocation of funds statistics: Nuclear energy receives 60% of Research and Development funds, Fossil fuels gets 25% and renewable gets 12%
- Contrary to the above suggestion, a participant suggested that we have waste we currently need to deal with if we don't start to take action now we will not find a solution
- Another participant felt that the cost to properly manage these wastes should not be an obstacle to ensuring proper and safe management. He believes that there is current discussion occurring to find ways to reuse enriched uranium in Candu reactors and that there is much energy potential remaining in the fuel rods. He felt that we should find ways to reuse this material and not lose the resource potential. He also thought the

chosen option is going to have to allow for retrieval of the used fuel because the focus is moving towards reuse in other countries. He also stated that weapons-grade uranium from Russia is being used (in the reactors) for free, and posed the question: why do you think that they are going to reuse spent fuel rods? This participant believed that there is a need to continue to invest in informing people and increasing understanding and awareness in Port Hope and stop feeding misleading propaganda.

- A participant countered that he hoped that the 1.6 million bundles of used fuel is not going to be placed in Port Hope (opposed to the location not the process).

Thoughts on a phased approach:

- A participant thought that phasing over time would be a good option.
- Another participant suggested that there needs to be a tie to phasing out nuclear energy in order to get community acceptability (e.g. such as Sweden's acceptance of Deep Geological Disposal).

5.0 Additional Comments on Discussion Document 2

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

No additional comments were made on Discussion Document 2

6.0 Other Comments

Other comments that were received by participants at the discussion session in Clarington, which were not directly related to Discussion Document 2, have been summarized below.

Radioactivity:

- A question about the length of time until non-radioactive materials could be safely released into the environment was asked
- A participant stated that there is an assumption that nuclear materials are hazardous until the end of time and believed that low level radiation is just as dangerous as high level radiation
- One participant expressed that there is no distinction between natural and man-made radiation
- It was asked how spent fuel rods are currently managed.
- A participant wanted to note that it cannot be guaranteed that people would be isolated from the waste (and its possible affects) forever

NWMO:

- A participant inquired if the assessment team was hired by the NWMO. As well as how many people work for the NWMO, who are they and what are their backgrounds.
- A question was raised about who will be making the decision on what the NWMO staff recommends.
- One participant asked who is on the Board of Directors and the Public Advisory Council
- A participant posed the question that if the Board is made up of the nuclear producers, would they not want to find a way to save money?

Attendance:

- There was concern as to why more people had not come to this session and wondered if the session was advertised. He was appalled that there are only 5 non-government people attending given that Clarington is a community with a nuclear facility.

Transportation:

- There was a question about the type of placard the trucks would have when hauling nuclear waste
- A comment was made that rail transport seems like the less risky option for transportation of nuclear waste over road transport

Other:

- One participant expressed an interest in knowing what other countries are doing and wanted to know if there are documents that explain the rationale for the actions taken by other countries
- A participant wanted information about the decommissioning of the reactor plants and life expectancy of the plants
- Another participant expressed that Canadians did not have the chance to decide if we wanted to use nuclear energy in the first place
- A participant did not feel reassured that the government will implement a decision on behalf of Canadians and expressed distrust in government
- There was an expression of weakness with any option chosen but felt that something decentralized away from water would be the best solution

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