

## Meeting of the Ethical Expert Roundtable – Meeting Notes – September 5, 2003 --

### 1. *Introduction and Welcome by Liz Dowdeswell*

- Important public policy issue: Nuclear waste management is a public policy issue which hasn't found a solution around the world. The legislation which required the creation of the NWMO embodies a unique model of public policy development: guided by federal legislation the policy is to be suggested by an industry funded organization which must ultimately implement what it recommends.
- International context: Canada not in a different position than many other nuclear countries.
- Discussion of the evolution of the issue in Canada: from an emerging scientific consensus towards deep disposal some 20 or so years ago to the Hare Report, AECL mandate, Seaborn Panel hearings and report which found the AECL disposal concept to lack social acceptance, Nuclear Fuel Waste Act legislation and creation of the NWMO.
- Description of the NWMO: who are Board of Directors; Advisory Council and role; organization deliberately small with a large extended family; all the work of the NWMO considered part of an engagement process.
- Challenges include:
  - Although our mandate is to look at approach government should take to the management of used nuclear fuel waste, many people feel the nuclear waste problem cannot be divorced from the question of the future of nuclear energy
  - Seaborn Panel suggested the waste organization be set up as a crown corporation, although government put it in hands of industry. Many feel the NWMO cannot be objective as a result;
  - Some feel there has already been a decision for deep disposal and that other options will not be taken seriously in the study. This is not the case;
  - It is difficult to have a dialogue on a concept, as required by the Act. It is easier to interest people in a dialogue about a site, although it would likely be a very polarized dialogue.
- Fundamental issue: At heart, this is not fundamentally an issue of science and technology but one of values in science and technology, and social considerations. There needs to be a solid recognition of the values of Canadians in the study and management approach recommended.
- NWMO workplan: Discussion of the three phases of the NWMO work plan, the three milestone documents, and how the analytical framework is to be iteratively developed and implemented with societal direction. Workplan has grown out of the first phase of work "Conversations about Expectations". Through this iterative dialogue process, people have the opportunity to set the framework, implement, and come to conclusions.

## 2. *Presentation by Peter Timmerman.*

This presentation relates to a paper prepared by Professor Timmerman, at the request of the NWMO, and circulated in advance of the meeting.

- The work of the Ethical Expert Roundtable is important to Canada because there has been little work done on applied ethics related to the important issue of nuclear waste management in Canada. The primary work conducted in this area has been in conjunction with the Hare Commission, the Seaborn Report, and some submissions to Seaborn.
- The objective in writing the paper was to help bring about a high level dialogue about philosophical, ethical, and social issues in the broader academic community and public.
- A key important point in the paper is the question of bounding and framing the issue. “How the issue is bounded is the same thing as how it is framed”. The issue involves many interconnections between society, space and power.
- Many in the NGO community do not believe that the key issues to be addressed are mostly technological. Once the frame of analysis is extended beyond technological issues, the nuclear waste management decision becomes a platform for many people’s ethical concerns about a wide variety of issues – including whether nuclear energy should be on the table, whether the future of the nuclear industry will be on the line ...
- The question of the very long time lines involved on this issue, and how boundaries get set, quickly turns in to people making their own projections of the future. In this regard, we can divide people up between “technological optimists”, “technological pessimists”, “social optimists” and “social pessimists”.
- Trust is a central issue. People trust in some things and not others. What makes the trust issue political and not just ethical is that our faith in the representative model of government has weakened recently. Stronger public participation is required. Our political institutions do not deal well with these long time frames. A key issue to be addressed is what is our “chain of obligation” – what should we do and to whom should we entrust it.
- Remarks concerning the seven general questions outlined in the paper: How should we think about ethics in the context of dealing with nuclear fuel waste management (NFWM)? What are some staged ethical guidelines already put forward in the NFWM debates to date? What have been some important general ethical positions found to date in the NFWM debate? How might the scientific and technical facts of the case influence the possible ethical responses? What is our ethical responsibility to future generations, and to this generation? What are the boundaries of concern, and of discussion? What constitutes an ethical process?

The paper was circulated in advance and discussed by the Roundtable. The Roundtable was appreciative of having received the paper and hearing about Professor Timmerman’s experience and personal perspective concerning the earlier Seaborn Panel hearings. The

Roundtable suggested it is appropriate for the NWMO to provide a forum where these and other views can be heard and suggested that the paper be added to the NWMO website as a background paper.

### *3. Paper by Mr. J.A.L. Robertson*

A paper was prepared by Mr. J.A.L. (Archie) Robertson for the consideration of the Roundtable. Mr. Robertson approached the NWMO during its Conversations About Expectations phase of work.

The paper was circulated in advance and discussed by the Roundtable. The Roundtable was appreciative of having received the paper. Roundtable members agreed with some of the principles suggested in the paper although not all. The Roundtable suggested that Mr. Robertson's paper be posted on the NWMO website as a citizen submission where it would be accessible to other interested Canadians for their consideration.

### *4. Roundtable Discussion*

On the basis of Liz Dowdeswell's presentation, the two papers circulated to Roundtable members in advance of the meeting, and members' own experience, Roundtable members raised a number of issues, questions and comments which are summarized here without priority. The conversation was free-flowing and unstructured. The headings identified below are artificial, have been extracted from the discussion after the fact, and are used here for the purpose of communicating the type, nature and breadth of issues raised in discussion to interested Canadians.

#### ***NWMO Approach to Ethical Considerations***

##### ***– Need to embed ethical considerations in all aspects of the study***

Roundtable members questioned the NWMO on how it has built the exploration of ethical considerations in to its workplan. Is ethics an additional "add on" aspect of work or individual stream of work, or a screen or lens that is used to filter all other considerations including technical, that is, are ethical considerations being embedded in all aspects of the work (including science)? Roundtable members suggested it should be the latter.

The question of how safe for whom; which risks are worth taking for which benefits; need technical facts but ultimately are value decisions. However, there are many perspectives from which values arise, and therefore ethics must be considered (for example, economics) and this will need to be addressed. In short, ethics does not exist in a vacuum.

In its workplan, the NWMO has identified separate streams of activity to explore “social issues” and “ethical considerations”. The two areas are intertwined and cannot be distinguished. There are also political considerations, which are not included.

***– Ethics to be applied both to process and solution***

Two types of ethical issues need to be addressed: the ethical issues around the process used to make decisions; and those around the outcome or solution.

***– Ethics to help identify implications of various decisions***

There may not be one single obviously “right” ethical answer on this issue. Ethical considerations might best be brought in to play in laying out the values involved, identifying conflicts among them, the ethical implications of any particular decision and letting the public choose.

Ethics questions must be strongly open ended – related to finding the facts that are ethically relevant concerning the possible waste management solutions and decision-making process, and their application.

***Interrelationship with the question of the Future of Nuclear Power***

***–The future of nuclear power needs to be recognized and addressed as a fundamental contextual issue***

An important question to ask is ... How does our decision making on this issue relate to other issues such as nuclear power? What does the process of deliberation and conclusions people will come to in this study have to do with nuclear energy, specifically whether or not we should be continuing with it? What is the linkage to nuclear power? This question needs to be clearly recognized.

A fundamental ethical question is are we going to continue to produce nuclear waste, and if so how long, is there an end point, are there no alternatives? Should we stop producing waste? This is a “big” question. If not addressed, it may prevent real dialogue on the question of how to manage used nuclear fuel.

Does the nuclear energy question need to be approached directly and before the used fuel management question, or can this question be better addressed through implication? Is this question so big that it might be better to start with the smaller question of what to do with the wastes that currently exist since that is a question which needs to be addressed irrespective of whether nuclear energy continues? If we start with the smaller question, that is try to generate solutions for waste that currently exists, we might then look to how answering this smaller question impacts the larger question of nuclear energy. For instance, it might come out that all of the options are so obnoxious from an ethical standpoint that we have now put the big question on the agenda. However, the converse may not be appropriate: should an acceptable

nuclear waste management solution be found one might (inappropriately) imply from this that nuclear power has been found to be morally and ethically supported.

The question of the future of nuclear power and how best to manage used nuclear fuel intersect. It makes a substantial difference if the waste management question is focused on dealing with the waste that exists now, or focuses on wastes from an industry with a long future.

### ***Interrelationship with Other Issues***

***– Need to explicitly recognize, and accommodate, discussion of a variety of other related issues as context***

There is a substantial potential for the nuclear waste management issue to be a focus of concern about other issues. The nuclear waste issue may be a focus of free floating anxiety concerning: a feeling that technology is out of control; general distrust in scientists; direction or style of society we are moving towards. The nuclear waste issue may be seen by some as a symbol of head-long development without thought of cost or consequences.

Nuclear power generation may be perceived to require a top down social order in order to ensure control and security, which may be at odds with people's ideal vision for society and type of social organization.

The symbolic power of this issue vis-à-vis other social concerns is illustrated in the fact that mine tailings at some uranium mines are not being adequately managed and people are not concerned. Similarly, coal generates a lot of waste which has not drawn public scrutiny.

### ***Timeframe***

***– Timeframe is short for the magnitude of the task***

Three years may not be sufficient time to do what is needed to address the ethical considerations. This is a short time frame not for technical reasons but because of the need for an adequately informed public on what is a very complex issue. A commitment to public involvement and the requirement that decisions be seen as socially acceptable requires a well informed and involved public.

### ***Trust and Ethics***

***– Ethical decision making and public trust may not be directly related***

Developing a sense of trust in the decision making process and in the decision is considered very important. A relatively direct relationship between trust and ethics was suggested in Peter Timmerman's paper, which sparked discussion among Roundtable members.

In contrast to the relationship which is posited in the paper – a positive relationship between trust and ethical process – it may be possible to have an ethical process and still have distrust of the decision and/or process. Building trust requires an ethical process and an ethically sound decision. However, an ethical process and an ethically sound decision will not necessarily result in trust because of the complexity of the issues and the history of discussions and decision making around nuclear power and waste disposal.

### ***Uncertainty and Ethical Decision-Making***

***– It is important that uncertainty be disclosed and addressed clearly and with humility***

Often in public hearings, in which one goal might be to persuade the public, there are two things you don't do – admit there are elements of uncertainty and that you are wrong. For this type of issue where there is uncertainty, and evolving learning, this approach is not ideal. There is a need to change approach. The public must be informed that there are serious uncertainties, and we must deal with these uncertainties with a sense of humility. It is important to not pretend to know what you don't know. These discussions must be conducted openly, honestly and with integrity.

If we are in fact making decisions with uncertainty, the process becomes more important and the case for democratic public participation becomes stronger.

Ethical decision making is critical in this area, particularly concerning how the precautionary approach is interpreted: "no unless" versus "yes but".

There is an ethical requirement for uncertainties to be identified, acknowledged and addressed in an appropriate way. A basic principle should be to disclose uncertainty. This, particularly because of the very long time frames involved. A second principle follows from the first: clearly identify the values and process by which these decisions will be resolved, understanding that all values cannot be maximized, some must be sacrificed. The question is which ones. That depends on ethical justification for contravening the values that are contravened.

### ***Identifying Values***

***– The range of values should be identified and form a basis for discussion***

Some conflict among citizens or citizen groups may be a result of a lack of understanding of the various positions and values which are brought to bear on this issue. Much of the skepticism is that individuals or groups are continually accusing their opponents of not being

sufficiently well informed. Research in other areas has shown that the opposing positions are reasoned and quite logical. Showing this to the various parties helps increase respect because the parties can better understand that the opposing position is coherent and well articulated, and not in fact driven by ignorance as supposed. A values mapping may be useful in helping people communicate to each other about their concerns.

Note that efforts to encourage mutual understanding of differing positions on this issue, should not be confused with trying to “educate” the public to agree to a particular position, this latter is considered inappropriate and doomed to failure.

### ***Identifying Stakeholders***

***- There is no simple answer to the question of who are stakeholders for this issue.***

Roundtable members raised and discussed the question of who are relevant stakeholders or public which should be involved in decision making.

Currently, the problem of nuclear waste might be considered to be limited to three provinces which have used nuclear fuel waste within their borders. Some might consider it unacceptable to allow provinces which do not have used nuclear fuel to influence the decision.

However, it is possible that in the future, other provinces in Canada may adopt nuclear energy and so focusing the current dialogue on current nuclear provinces may not be appropriate. If in the future Canada is required to take back all uranium it has sold abroad, in the form of used nuclear fuel, then other parts of the country will become involved in this issue by virtue of being impacted by transportation of this foreign used fuel. Coastal communities might particularly be impacted. The same broadening effect would be experienced if in the future Canada is also required to take back used fuel from CANDU nuclear generating stations which it has sold abroad.

Many Canadians outside of nuclear energy provinces may feel impacted by any decision on this issue by virtue of affecting their sense of being a Canadian, what our country should stand for/ aspire to, how we should deal with difficult issues which affect our country, and/or the impact on future generations. This would suggest considering all Canadians as stakeholders. Conversely, many Canadians have a more defined or geographically limited sense of “community”. When many people think about their “community”, they think of the few square miles around them which they can travel on foot, in which they have grown up and will stay for the rest of their life. This would suggest a more limited definition of stakeholders.

The question is further complicated by the following. Suppose a community volunteers to host a nuclear waste management facility in return for financial resources. Under this scenario, what ought to be considered the impacted or relevant community? Is it the town or narrow community which volunteers, or ought the surrounding areas also to be included?

Who should get the most weight? It may be necessary to take everyone into consideration with weighting required. It is likely not as simple as each community being allowed to decide for itself.

When and if the decision making process requires siting of a nuclear waste management facility, these questions and issues concerning what constitutes an “impacted community” and impacted stakeholders will make it difficult to determine whether the community is a willing host. The question – “How do you know whether the community agrees with it?” – is a difficult one.

NWMO needs to engage in a discussion concerning who people think the stakeholders are, and why. Since “stakeholders” may be a problematic word, consider phrasing the question as one of who should be involved in the process? Who should be consulted and whose views should be taken into account?

### ***Equity***

***- There is a need to consider equity both within the current generation and across generations, including humans and other species.***

The focus on intergenerational equity is important. However, there is also a need to consider the needs of, and benefits and risks to, the current generation. There is a need to address the question of “what is owed to whom now”.

The needs of and benefits and risks to other species, and the health of the biosphere as a whole also need to be considered. Need to have as wide a perspective as possible concerning human beings, intraspecies and biosphere, time and space.

### ***Harms and Benefits***

***- Minimize harm is an important principle***

An important principle is “first do no harm”, although the question might be better how to *minimize* harm. There are often a series of questions/steps used:

- Do no harm if you can
- If you must do harm, do the least harm or mitigate
- If you can’t completely mitigate then compensate

A number of sub-questions flow from this: Who defines the harm and the benefit? How are the most vulnerable people affected, and how do you determine who is most vulnerable? How can one compare and contrast vulnerability of one group against vulnerability of another – for instance vulnerability of native communities accepting waste disposal with that of the people in Pickering who live in the vicinity of a nuclear plant and currently store waste on an interim

basis? How might vulnerable people be identified without presupposing a management solution? How do you decide how to compensate?

- ***Both benefits and harms should be determined by those most impacted***

For the purposes of cost-benefit analysis, it should be the people who will be involved or impacted who determine/ say what are the benefits and harms people will encounter in the process. This is difficult given for this conceptual study it is difficult to identify who will be involved/impacted.

A harm-benefit analysis also required.

Sub-questions which flow from this include: Would paying monetary compensation, and having it accepted constitute voluntary agreement? What if there is a difference of view between a particular native community and other native communities or organizations? And what about people on transportation routes? When it comes to the choice of a site, who has the right to choose?

### ***Approach to Aboriginal Communities***

- ***Aboriginal communities need to be involved early in the process***

It is important to involve aboriginal communities early on in the process so they are not surprised by the NWMO's recommendation. It is important that individual aboriginal communities be able to debate and arrive at a recommendation of their own accord.

It is important to approach the provincial organizations early on in the process. Aboriginal communities will require time to look at the issue from a variety of angles before coming to their own conclusions. The process used for the Mackenzie Valley pipeline, involving traveling work camps, and the rolling communication which this generated up and down the valley, is a good model. What evolved was people talking to each other, young people with old people, with exposure of the full benefits and negative impacts for people to debate.

It may be necessary to develop a principle that if the waste is to be stored in aboriginal territory, aboriginal people should be given a veto. In some instances, a double majority might be required – a majority of aboriginal people in the community and/or region and a majority of all people in the region.

### ***Importance of Public Debate and involving the public***

- ***It is important to involve the public throughout the process***

Public debate is important throughout the process, not just at the end of the process. People need time to understand and consider the issues inherent in any decision on this matter.

Involving the public in debate is a fundamental ethical requirement. Health Canada's process on xenotransplantation is a good model. Health Canada employed the Canadian Public Health Association to conduct a dialogue on xenotransplantation. Importantly, this involved 3 or 5 people conducting a research project on how to dialogue, recruiting experts from the local community, engaging a core group of 100 citizens through a jury selection process, and providing a forum and time for people to ask questions and interact. The process which was used to dialogue on aboriginal health is also a good model.

The question of who is the appropriate public is not a simple question. (See summary of discussion above.)

It is difficult to involve the public in dialogue on concepts, where the impact on particular individuals is unclear and abstract; it is much easier to involve the public in siting where the public can better identify their interest. The values people bring to the concept decision may not be the ones they would bring later in the process if they were more directly impacted. In other words, the values or perceptions that govern the waste management solution may be sensitive to the context within which the solution is decided, particularly the perceived immediacy of the impacts. To the extent that the values applied in each of these situations are different, the question of "which values ought to be used, or carry more weight" is an important one.

In order to anticipate the values which might be applied at the siting stage now at the concept stage, consider using "what-if" scenarios to involve people: What if the decision were made to do geological disposal and your area was selected? On what basis would you want the decision made?

As well, it may be necessary to make Canadians from coast to coast aware that a report will be presented in two years with profound implications to nuclear energy and nuclear waste. If people remain unaware, and surprised by the report, they may feel cheated by a process which did not involve them.

### ***Importance of the Decision-Making Process***

#### ***- Identify and set in place "go- no go" policies***

Research on how to involve people in a dialogue has indicated that establishing "go- no go" policies is important; policies that capture the conditions in which one would or would not establish a facility, the ways in which disputes are settled, the ways in which decisions are made and any right to veto. This has proven very important concerning development of mining facilities. If people know there are principles in place (if activated) to stop the process, they are more likely to engage in discussion. Finding these principles is an important area for

dialogue – Are there principles that in your view if activated should bring any suggestion of this site for disposal or storage to a stop?

### ***Waste or Resource?***

What makes the nuclear waste issue distinctive, in part, is that there is more energy potential left in the spent fuel than was in the uranium. Do we want to bury and lock away energy which could make a big difference to the quality of life of future generations, deep in the Canadian Shield? However there is the potential for diversion of the same waste to production of weapons, which itself raises ethical issues. This gives rise to the following ethical question: Should we lock away the used nuclear fuel, and the energy it contains, in order to reduce the risk of diversion?

### *5. Follow-Up Action*

- Circulate meeting notes for approval before publishing to NWMO website
- Distribute copies of Lois Wilson's book
- Discuss further the advisability of a meeting just prior to or following release of NWMO's first discussion document