

## **Meeting of Ethical Expert Roundtable – November 27, 2004**

*I. Liz Dowdeswell outlined recent activities of NWMO*

*II. Roundtable members reflected on the Advisory Council meeting focusing on ethics, which several members had attended on October 18<sup>th</sup>:*

- Roundtable members commented on the difficulty in communicating clearly on the Ethical and Social framework which the Roundtable had created, and more generally on the ethical issues raised over the course of the conversation, with non-ethicists. The range of values and perceptions among Advisory Council members, and the public at large, was thought to make it difficult to discuss ethics and allow targeting of the structure of the document.
- It was noted that some parts of the document (particularly the last paragraph) did not communicate clearly the Roundtable's intent, neither to the Advisory Council nor to invited guests at the meeting including the United Church of Canada. On this basis, the Roundtable agreed to review the document in light of the questions expressed. It was agreed that Roundtable members would discuss edits to the document over the ensuing weeks, with Andrew Brook to make the changes which are agreed upon.

*III. Comments on NWMO's second discussion document – Understanding the Choices*

*Comments on NWMO's second discussion document were provided over the course of a free flowing discussion, with an open agenda. The headings and commentary in the text were inserted after the fact to assist the reader.*

*Overall, key concerns of the group focused on: 1) the 'Adaptability' objective, particularly that the rating of the deep geological concept on this objective appears counter-intuitive, and; 2) how possible future nuclear energy scenarios will ultimately be addressed.*

*All discussed the importance of characterizing well the fact there is uncertainty inherent in this issue, the linkage with ethics, and that ultimately a decision in this area is a matter of judgment. Some Roundtable members felt the NWMO has done a good job in this area, some less so.*

*Positive comments focused on NWMO's efforts to date to implement a transparent and reflective process, the extent to which NWMO has been able to reflect the output from citizen dialogue in its work going forward, and the presentation of its work in a way which invites the kind of scrutiny and further dialogue which this issue requires.*

*The comments captured in the following text were made by individual Roundtable members, and for the most part do not reflect a consensus view.*

- Concern document is somewhat repetitious, although perhaps for a good reason.
- Concern text is difficult to read on some pages, for instance page 50.
- Concern some confusion in the presentation of the document as to when NWMO was quoting citizens vs. when it is speaking on its own behalf, for instance page 19.
- Suggest changes to some of the Assessment Framework elements:
  - Concerning ‘Responsibility’ as identified in the Assessment Framework on page 10, the reference to ‘ourselves’ is unclear and could be omitted.
  - Concerning ‘Stewardship’ as identified in the Assessment Framework on page 10, suggest using the word ‘trust’, holding on trust.
  - Concerning ‘Safety from Harm’ as identified in the Assessment Framework on page 10, suggest rather than ‘first and foremost, human health’ refer instead to ‘first and foremost, respect for life’.
  - Concerning ‘Fairness/Justice’ influence diagram, suggest there is an element of substantive fairness/justice which is missing, ‘corrective fairness/justice’, which involves both compensatory justice and distributive justice, especially with regard to fair distribution of benefits and burdens, which may pertain to Aboriginal peoples.
  - Overall comment on ‘Public Health and Safety’ objective. As a term of art, it refers to the well-being of the public, that is population health, rather than the health of individuals. In combining population and individual health in a single concept, it implies that the health of individuals is the same as public health. In fact, some times it is necessary to sacrifice the goal of reducing risks to the individual or fully upholding individual rights in favour of protecting the health of the public.
  - Concerning ‘Public Health and Safety’ influence diagram, add ‘influence on population health’.
  - Concerning the ‘Environmental Integrity’ objective, more emphasis should be given to environmental change, to ensure that with whatever approach is selected environmental integrity is retained in the face of environmental change. At this point, environmental change should be considered the norm.

- Suggest organizing some elements of the Assessment Framework to show relationship among the elements. The objectives outlined in the Assessment Framework are disconnected from each other and could be categorized to reflect the fact that a similar ethical concern runs through several of the objectives:
  - Avoiding harm/ Do no harm:
    - Public Health and Safety
    - Worker Health and Safety
    - Environmental Integrity
    - Security
  - Justice:
    - Fairness
    - Community Well-being
  - Practical requirements/ ethical practical issues:
    - Economic Viability
    - Adaptability

### *Process*

- A primary objective of the discussion document must be to spark public discussion and verbal exchange. It must help people communicate with each other and to reduce misunderstandings which are not substantive. It is absolutely crucial to distinguish between misunderstandings and disagreements. The document is successful in doing this.
- Commend the NWMO for the process it has followed, and how the Assessment Team used the inputs from the dialogue with the public and integrated this in to its thinking.
  - With the process the Assessment Team chose, one could not have *a priori* predicted the outcome. One of the ways an observer can judge whether the NWMO was actually listening and understanding is whether they can see the kinds of things that concern them reflected back in the document. This is very important. The stakeholder analysis has been done very well and is reflected in the influence or bubble diagrams, which visually identify the stakes. These influence diagrams are very effective.
  - The amount of time and effort the Assessment Team devoted is also impressive and gives some confidence about the process. People may ask, “Did they understand what fairness actually means?” They can go to the bubble diagrams to judge for themselves. Felt comfortable this was being tied back to ethics and values. Also felt comfortable is addressing the element of uncertainty. Integrity requires NWMO say there are

fundamental uncertainties which must be recognized in decision-making on this issue.

- Suggest, since the Assessment Team was composed of individuals with specialized knowledge, that citizen groups and/or critics be encouraged to go through a similar process as did the Assessment Team. Concern that NWMO has not effectively enough moved beyond the expertise bubble. NWMO mentioned that such an offer has been made to many groups which NWMO has met with to brief about or discuss *Understanding the Choices*.
- Commend the use of the influence, or bubble, diagrams. People will likely find them incomplete, but they are set out in such a way that people can identify gaps. This approach helps people to identify whether NWMO is on the right track, and whether there are gaps. The structure allows people to understand what the reasoning process is and allows them to determine whether they would come to the same result.
- Concern about the use of the word ‘stakeholder’. It is a poor word to use in this context because it implies there are non-stakeholders, and in fact everyone is a stakeholder. The moral idea, which needs to be communicated, is The Golden Rule.
- Commend the organization for governing itself in a reflective rather than mechanical way.
- The presentation of the Assessment Team findings, which shows the distribution of ratings, is effective and appropriate. With these types of issues, what is central is judgment. What is said very clearly is that if you are going to build ethics in to the process, you cannot eliminate judgment.
- Another way of expressing this is: the assessment is informed by the facts, as it is ethically required to be, but the decisions made on the basis of these facts also require the exercise of judgment.

*Concern was expressed by several Roundtable members on the ‘Adaptability’ objective.*

- Fundamentally concerned with the way in which the assessment reflects what Canadians said, and the scientific uncertainties, particularly with respect to discussion of ‘Adaptability’. It does not frame the controversies inherent in assessing these approaches adequately.
  - For instance, one of the most frequent themes is that Canadians are afraid of locking ourselves into an irreversible solution and the importance of

flexibility. However, DGR comes out much higher on the Adaptability objective than On Site storage. See page 72. It is counter intuitive and misleading that DGR would be scored so high on what should be considered its weakness.

- It was suggested by a Roundtable member that two mistakes have been made. First, it defines the degree of flexibility you need in relation to the need for flexibility. In other words, it is judging ‘as flexible as it needs to be’. Second, it assumes that inaction is not possible. (This is also stated in the Foreword.) Because of the uncertainties of the modeling, knowledge and the length of years, “watchful waiting” may be the best strategy. Maybe transmutation of the material might be possible if we could wait for society to develop.
- The time frame used for the analysis, that is 175 years rather than 50 years, loads the case against On Site storage. We could go on as we are with research. We have decades before we have to commit ourselves.
- A crucial consideration or influence missing in the ‘Adaptability’ influence diagram is ‘recovery’. This is extremely important because the power generating capacity of the used fuel is greater than that for the original fuel, although we are suspicious of this because of the plutonium it contains. Need to put recovery as a bubble in the influence diagram; this will change the assessment of the approaches on this objective.
- One of the major points from Canadians is the need for adaptability, which is discussed at the beginning of the discussion document. How in the world does putting used nuclear fuel in an underground repository, and sealing up that repository, make the used fuel recoverable? How is that being flexible?

#### *Comment about incorporation of Traditional Knowledge*

- Regarding Aboriginal views and perspectives. The words of the Elder Billy Two Rivers from the workshop on Traditional Knowledge conducted on behalf of NWMO in September 2003 should be noted – this issue is one for which the Aboriginal perspective cannot be used because Aboriginal people would not have taken a path to produce this waste in the first place. “After addressing the issue of whether the problem of nuclear waste management might be provided through indigenous traditional knowledge application, I concluded that nuclear waste was not a result of TK so therefore attempting to find a solution by using TK is not a compatible endeavour and should be found somewhere else.”

### *Comment about Used Fuel Scenarios*

*Roundtable members raised the question of how NWMO will address the possibility of possible future nuclear energy scenarios in its recommendation. There was some difference of view among Roundtable members concerning whether the issue of the management of used nuclear fuel could in fact be disconnected from the future of nuclear energy. The Nuclear Fuel Waste Act disconnects the two issues and mandates NWMO to explore the one (used fuel management solutions) and not the other (the future of nuclear energy).*

*The Ethical and Social Framework developed by the Roundtable makes a distinction between the ethical standard to be met by a management approach for existing waste and new waste. The text in this document will be modified in response to the need for greater clarity on this issue as was evident in the October meeting with the Advisory Council. There was some preliminary discussion of the clarification needed and a modified version of the document will be released to reflect the Roundtable's discussion.*

*-- Roundtable members were in agreement on the following:*

- Roundtable members suggested the final document must identify very clearly what wastes it is addressing, namely, existing wastes and wastes that will be created by already-committed generating activities, and what wastes it is not addressing, namely, a possibly greatly expanded volume of waste from possible new activities.
- This is because the moral standard that has to be met to initiate new activities and generate new wastes is much higher than the moral standard that has to be met with respect to existing and committed wastes. Since "something" has to be done with the latter wastes, a least-bad solution is morally acceptable if that is the best there is. Whereas for creation of new wastes to be morally acceptable, there must be not just a least-bad management solution, there must be a genuinely good solution.

*-- Roundtable members expressed a range of perspectives on how NWMO might address scenarios which envision waste beyond that generated to the end of the life of existing reactors:*

- NWMO has the option of saying that nothing follows from NWMO's study and recommendation with respect to the future of nuclear energy, in particular the ethics of its future use or development, that nothing the NWMO or the Roundtable on Ethics has done has attempted to evaluate the implications of their recommendations to the future of nuclear power.
- NWMO does not have this option because the two cannot be disconnected in this way.
- Recognizing the links and attempting to address the alternative scenarios which might ensue, as on page 26, is all that the NWMO can do.

- It is very important ethically that NWMO address the future of nuclear energy. Whether it is written in the mandate is really of no consequence.

*-- Concerning the treatment of used fuel scenarios in the discussion document:*

- Commend mention of the various nuclear energy scenarios on page 27, however noted that the Assessment Team narrowed its focus to used fuel created over the life of existing projects. Don't believe the scenario which the Assessment Team chose is the most realistic.
- The scenarios approach to the question of the future of nuclear power is a good one and deserves expansion. The scenario of repatriation of waste from non-Canadian CANDU reactors must be raised and discussed because we are contributing to the creation of waste in countries that cannot manage/address it.

*Nature of the Hazard posed*

- NWMO needs to take a more definitive position on the nature of the hazard posed by used nuclear fuel. It is important to compare used nuclear fuel with other common risks since many other social goals might be achieved if some of the billions of dollars associated with a management approach were instead allocated to them.
- The workshop which NWMO is planning to conduct to make sure the statement of the hazard associated with used nuclear fuel is understandable to a broad audience is an important one.

*Treatment of Uncertainty*

- Regarding the treatment of uncertainty, the bar graphs and influence diagrams may portray that the assessment is scientific. However, the models and science all have uncertainty, so what appears to be hard is actually soft. It could be likened to looking through a glass darkly. This ties in to the need for adaptability, accountability and reversibility and the advantages of postponing decision on an approach.
- Commend portrayal of the uncertainty of the facts and how that affects the ethics. It is important that the document make the statement that we are unavoidably dealing with uncertain facts and how this uncertainty connects with ethics.
- The ethics of decision making in conditions of uncertainty relates to all of the objectives. This should be the factual overarching theme.

- It is important to phrase the discussion of uncertainty in a way which people will understand and accept. It is not that the state of knowledge is worse than for other issues; what is special about this problem is the timescale, and the stakes which are magnified by the timescale.
- One ethical argument in favour of considering an approach which would involve using two or all three of the management approaches which have been assessed is that, in conditions of uncertainty as we are experiencing concurrently, running different options at once would allow us to learn things we don't already know.

### *Implementation Plan Considerations*

*Towards the end of the meeting, Roundtable members briefly discussed requirements and inclusions for an implementation plan for any recommended approach.*

- Need to include a frank assessment of the recommended alternative(s) and the implementation plan against the *desiderata* identified at the beginning of the study. Where did we compromise? Where were the trade-offs?
- Need to balance between the difficult choice of not leaving trouble to future generations vs. leaving them flexibility to implement their own values.
- Need to discuss potential weaknesses of any recommendation made.
- Need to include mechanisms for ongoing safety review and monitoring.
- Need to recommend independent monitoring and ethics monitoring, rather than simply financial ones or audits.
- Implementation is not just a technical and design problem but a social and ethical problem.
- Values need to be built in to the management plan.
- Identify principles for site selection.
- Governance is a difficult issue which will need to be addressed. Government usually appoints an Advisory Board. Need some way to deal with the appearance of independence, inclusion of a broad range of views/ multiple perspectives, and relationship with existing organizations.
- There needs to be space for civil society.
- May want to consider sending out a broad call for nominations for Board membership.



- Aboriginal people should be able to appoint some Board members on an ongoing basis.
- A critical matter is who the NWMO will be accountable to going forward. Even if the NWMO is a private sector institution, there will need to be public sector involvement and accountability.
- It makes sense to have a scientific authority, or other bodies, which report on a regular basis to government and therefore on the public record.
- It will be important to indicate how the NWMO as a safety-ethics watchdog and implementing organization will be separated or insulated from the industry, how it will handle industry and public involvement in a more responsible way in the future than was done in the past. It may be necessary to put forward “a whole new order”.
- The public interest transcends the industry. Consider recommending something similar to the old Scientific Advisory Council, set up by AECL, of leading Canadian scientists to provide a peer review process as just one of the necessary monitoring and advisory participants.
- Look to the published guidelines and ethics review of the National Research Council of Canada, set up in 1991 and the Tri-Council Guidelines on Research Involving Human Subjects. May want to set up an Advisory Science Committee because good ethics requires good science.
- Look to the current work on setting standards for reporting as part of the Global Reporting Initiative, and other advanced models of reporting. Build in an obligation to report against standards, including ethical standards put in place, similar to what has been built in to the current NWMO process.

#### *Advice for the Draft Study Report*

*Roundtable members briefly provided comment to NWMO on the preparation of its next public document – the Draft Study Report.*

- It is important to get the language right:
  - Should the language be one of trade-off or sacrifice? A decision needs to be made about whether are talking about glass half full or half empty. Perhaps the language should focus more on compromise rather than trade-offs which might be appropriate. For instance, are we actually *sacrificing* adaptability to security?

- Or perhaps it is more finding ‘*the right balance between*’ rather than trade-off.
- Need to be clear if are breaching certain rights. In the face of conflicts between values, it is important to be clear on which we are choosing to honour and even more important which we are not.
- In the report, attempt to set the structure for the public debate which will inevitably follow. Identify a structure or framing which will help people discuss this issue intelligently rather than as ideologues; which will enrich the political discussion rather than impoverish it. This is potentially a highly polarizing and controversial issue.
- Suggest a debate in Parliament to ensure inclusiveness.
- Ethically it may be important for people to speak on this, perhaps on an ongoing basis - for instance every 100 years.

*Adjournment of the meeting*

*Next meeting scheduled for March, 2005..*