Nuclear Waste Management Organization

Roundtable on Ethics

The Roundtable on Ethics has developed the following Ethical and Social Framework within which to consider the management of nuclear wastes, as recommended by the Environmental Assessment Panel in its report to the federal cabinet. The Roundtable recommends that the NWMO adopt this framework, publish it in NWMO documents and on the NWMO Website, and conduct its activities in the light of it. The Roundtable may refine the framework further as the work of the NWMO progresses.

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Ethical and Social Framework

Recognizing that everyone contributing to NWMO's work seeks to use procedures and make recommendations that are ethically sound, NWMO commits itself to embed ethics in all its activities. The aim is to ensure that its work, its ultimate recommendations, and their implementation reflect the highest ethical standards. To assist NWMO in achieving its ethical goals, the Roundtable on Ethics has constructed a framework of questions designed to guide its deliberations and its ultimate recommendations. These questions aim to identify basic values, principles, and issues.

The ethical principles incorporated in the framework include: Respect for life in all its forms, including minimization of harm to human beings and other sentient creatures; respect for future generations of human beings, other species, and the biosphere as a whole; respect for peoples and cultures; justice (across groups, regions, and generations); fairness (to everyone affected and particularly to minorities and marginalized groups); and sensitivity to the differences of values and interpretation that different individuals and groups bring to the dialogue. These principles apply both to the consultative and decision-making procedures used by NWMO and to the recommendations that it will make.

Given the large stockpile of high level nuclear wastes that already exists in Canada and that will be hazardous for thousands of years, some solution to managing these wastes as safely and effectively as possible must be found. Even if no ethically optimal solution exists, it would be ethically justified to adopt the least unacceptable option available.

By contrast, to justify new nuclear power plants or even replacing the ones now in place when they reach the end of their serviceable life, one would have to have an ethically sound waste management method, not just a least-bad one. A solution that is least-bad compared to the available alternatives and a solution that is good absolutely might be two very different things

from both an ethical and a practical perspective. Indeed, a least-bad solution for the existing problem would not necessarily even be able to cope adequately with greatly expanded volumes of waste. Thus, a question that urgently needs to be addressed is whether NWMO is dealing simply with existing wastes and those that will be created in the lifespan of existing reactors or also with substantial additional wastes? And this is no less than the question: What will the future of nuclear power in Canada be?

Ethical Questions Relevant to NWMO's Procedures

Some of the questions that arise concerning procedures are:

- Who should participate in the decision-making process?
- What principles should guide consultations, deliberations, and the making of decisions?
- When facts are in dispute or unavoidably uncertain, how should NWMO proceed?

These general questions give rise to more specific ones. The list of questions that follow is not meant to be exhaustive. For each question, the principle/s involved is/are in boldface type.

Q1. Is NWMO conducting its activities in a way appropriate to making public policy in a **free, pluralistic, and democratic society**? In particular, are its activities **open, inclusive, and fair** to all parties, giving everyone with an interest in the matter an opportunity to have their views heard and taken into account by NWMO? Are groups most likely to be affected by each waste management option, including the transportation required by some of the options, being given full opportunity to have their views heard and taken into account by NWMO? Is NWMO giving special attention to aboriginal communities, as is mandated by the governing legislation?

Q2. Are those making decisions and forming recommendations for NWMO **impartial,** their deliberations not influenced by conflict of interest, personal gain, or bias?

Q3. Are groups wishing to make their views known to NWMO being provided with the **forms of assistance** they require to present their case effectively?

Q4. Is NWMO committed to basing its deliberations and decisions on the **best science** B the best natural science, the best social science, and the best ethical thinking – relevant to the management of nuclear wastes and to doing assessments and formulating recommendations in this light? Equally, have limits to the current state of knowledge, in particular limits to knowledge and areas of **uncertainty**, been publicly identified and the interpretation of their importance publicly discussed and justified?

Q5. Does NWMO provide a **justification** for its decisions and recommendations. In particular, when a balance is struck among a number of competing considerations, is a justification given for the balance selected?

Q6. Is NWMO conducting itself in accord with the **precautionary approach,** which first seeks to **avoid harm and risk of harm** and then, if they are unavoidable, places the burden of proving

that the harm or risk is ethically justifiable on those making the decision to impose it?

Q7. In accordance with the doctrine of **informed consent**, are those who could be exposed to harm or risk of harm (or other losses or limitations) being **fully consulted** and are they willing to accept what is proposed for them?

Ethical Questions Relevant to NWMO's Recommendations

As before, key ethical principles are in boldface type.

Q8. Do NWMO's recommendations reflect **respect for life,** whatever form it takes, wherever it occurs, and whenever it exists (now and into the foreseeable future)? In particular, are NWMO's recommended solutions likely to protect human beings, including future generations, and other life-forms and the biosphere as a whole into the indefinite future?

Q9. Is a reasonable attempt being made to determine, in so far as it is possible to do so, the **costs, harms, risks, and benefits** of the options under consideration, including not just financial costs but also physical, biological, social, cultural, and ethical costs (harm to our values)?

Special ethical issues arise with respect to risk assessment in the nuclear industry. For example, might some scenarios be so horrendous that even a slight risk of their occurrence would be morally unacceptable or would not be accepted by Canadians?

Q10. If implemented, would NWMO's recommendations be **fair**?

This question breaks down into a number of sub-questions:

- Are the beneficiaries of nuclear power (past, present and perhaps future) bearing the costs and risks of managing nuclear waste?
- Are costs, risks, and benefits to the various regions affected by the use, possible transport, and disposal of the wastes being distributed fairly?
- Are the interests of future generations and nonhuman life forms being respected?
- Are the rights of individuals and minorities being respected, especially vulnerable individuals and minorities?

Q11. Do the recommended provisions protect the **liberty** of future generations to pursue their lives as they choose, not constrained by unresolved problems of nuclear wastes? Are the recommended provisions the ones least likely to deprive future generations of choice?

Important Specific Issues

In connection with Q8 to Q11, at least four specific issues merit special consideration.

1. Monitoring, remediation, and, if needed, reversal. Are sound provisions being made to check on whether disposal provisions are working as designed? If problems appear, are provisions

being made to gain the access needed to fix them? Is the issue of reversal if something goes seriously wrong being taken into account?

2. Risk reduction vs. access. What is the appropriate balance between reducing risk to the greatest extent possible and retaining access to the wastes, for remediation, for example, or to recover valuable materials contained in them?

3. Permanent or interim? Is it ethically acceptable to seek a permanent solution now or would it be preferable to recommend an interim solution in the hope that future technological improvements might significantly lower the risks or diminish the seriousness of the possible harms?

4. Lessons to be learned. What lessons can we learn for the future of the nuclear power generation industry from the problem of nuclear wastes and NWMO's efforts to resolve it?

In closing, the point made at the beginning should be repeated. Because we must manage already-existing and already-committed wastes somehow, here a least-bad solution is an ethically acceptable solution. New wastes, whether from building new reactors, importing wastes from other countries, or even replacing existing reactors as they reach the end of their serviceable life, are another matter. For the creation of new wastes to be ethically justified, an ethically sound waste management method must exist, not just a least-bad one.