

Congress of Aboriginal Peoples

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2005

**Preliminary Commentary on: Choosing a Way Forward –
*The Future Management of Canada's Used Nuclear Fuel***
Draft Study Report - Nuclear Waste Management Organization (NWMO)

Introduction

Choosing a Way Forward – The Future Management of Canada's Used Nuclear Fuel (Draft Study Report) was released by the NWMO in May 2005. This study represents an important opportunity for the Congress of Aboriginal Peoples (CAP) to provide feedback to the NWMO. High-level radioactive waste represents an important spiritual, social, environmental, economic and energy issue for our constituents. It raises many immediate and long-term questions that need to be fully comprehended and reflected upon before truly informed views can be rendered.

Under the agreement between CAP and the NWMO, we are providing our preliminary commentary on the Draft Study Report. In our view, the study fails Aboriginal peoples principally due to the lack of consultation, but also in the presentation of the Aboriginal agenda within the text.

In the 1998 Federal Environmental Assessment and Review Process Report, the following principal messages were stated:

- Neither the proponent nor the Panel had consulted Aboriginal people in an appropriate manner that respected their culture, languages and consultative processes. This must be done if there is to be any chance of meaningful Aboriginal participation in solving the nuclear waste problem.
- Aboriginal people have not been given the time or opportunity, in their own languages and in their own way, to study and understand the proposals for deep geological disposal. From their present understanding, it appeared to many participants that the concept strongly conflicted with their deeply held beliefs about humankind's relationship with and responsibility to Mother Earth, as well as with their sense of responsibility for the welfare of the traditional next seven generations.
- Most Aboriginal participants did not have great confidence in the current proposals of science and technology to manage nuclear fuel wastes safely, in part because these proposals do not incorporate traditional knowledge.
- There was little confidence that the principle of voluntarism and a community's right to refuse a facility would apply to Aboriginal people. The decision-making process proposed did not fit with their traditions and culture and did not correspond with the Aboriginal view of community. Their suspicion in this regard

was heightened by the past history of broken promises and broken agreements in dealings with non-native people and governments.

- Aboriginal people have not shared proportionately in the economic prosperity of other Canadians and they feel they should not be forced to accept the waste products from the industrialized economy. They doubted that they would derive any significant benefit from agreeing to accept a facility.

The overall effect of the NWMO Draft Study Report is a minimization of Aboriginal rights and interests in the nuclear fuel waste issue. The study does little to alleviate the mistrust and unease that exists between Aboriginal peoples and the nuclear energy industry. High-level radioactive waste disposal remains an important issue for Aboriginal people since it involves our fundamental beliefs about Mother Earth.

Overview of Issues in the Draft Study Report

Issue 1

Consultation with Aboriginal peoples

Section 7 of the *Nuclear Fuel Waste Act* (NFWA) states:

The waste management organization shall consult the general public, and in particular aboriginal peoples on each of the proposed approaches. The study must include a summary of the comments received by the waste management organization as a result of those consultations.

CAP does not view the NWMO dialogue process as fulfilling the consultation requirement under the NFWA.

On page 212 of the Draft Study Report, NWMO states “*On treaty lands, Aboriginal and treaty rights are defined under s. 35 of the Constitution Act, 1982.*” While this statement is true, it fails to capture the fact that the recognition and affirmation of Aboriginal rights in s.35 of the *Constitution Act* encompasses more than Aboriginal people who live on treaty lands.

Also on page 212, NWMO states:

We have heard that these discussions did not constitute “consultation” as they [Aboriginal people] saw it. The nature of the specific obligation will be clarified as directly affected individuals and communities become more evident.

Meaningful consultation with Aboriginal people requires serious understandings of the potential for infringements of Aboriginal title, Aboriginal treaty and other rights. It implicates understanding our preferential access to traditional territory, which storage of nuclear waste may involve. As concerns off-reserve, non-status and Metis people, such understanding requires an understanding of: the beneficiaries of Aboriginal title, Treaties,

and rights; access to traditional territories subject to Treaties of land cession; the limits government must observe in taking up tracks of ceded traditional territories for development, including storage of nuclear waste; how the entitlement of various classes of Aboriginal beneficiaries differ, particularly as between off-reserve, non-status, status and Metis people; what forms of justification are available for detrimental impacts to different Aboriginal rights, including unknown impacts as may be occasioned by storage of nuclear waste; and what consultation processes are required, and with whom these processes must be conducted in the case of off-reserve and Metis people.

Issue 2:

Independence of the Nuclear Waste Management Organization

The 1998 report of the Nuclear Fuel Waste and Disposal Concept Environmental Assessment Panel (Seaborn) called for the establishment of a nuclear waste management agency:

Recommendation 3.1

The Panel recommended that a nuclear fuel waste management agency be established quickly, at arm's length from the utilities and AECL, with the sole purpose of managing and co-ordinating the full range of activities relating to the long-term management of nuclear fuel waste.

In December 1998, the Government of Canada's response to the Seaborn panel only partially addressed recommendation 3.1. Through s. 6(1) of the *NFWA*, the federal government established the NWMO calling upon the nuclear energy entities (Ontario Power Generation, Hydro-Québec, New Brunswick Power and Atomic Energy of Canada Limited) to establish a waste management organization. CAP views this federal decision to be a policy failure since the government did not establish the arm's length agency called for by Seaborn and instead established one controlled by corporations responsible for the nuclear waste problem. We acknowledge the effort of NWMO officials to distance themselves from the nuclear energy industry; however, the sober reality remains that the credibility of their messaging remains compromised. To achieve understanding, balance and clarity concerning NWMOs Draft Study Report, extra effort is required by the reader. At the end of the day we must ask ourselves, who is delivering the message and what are their interests?

Issue 3

Phasing out of Nuclear Power

Section 12 of the *NFWA* describes the requirement of the study to be carried out by NWMO:

12. (1) Within three years after the coming into force of this Act, the waste management organization shall submit to the Minister a study setting out:

- (a) its proposed approaches for the management of nuclear fuel waste, along with the comments of the Advisory Council on those approaches; and
 - (b) its recommendation as to which of its proposed approaches should be adopted.
- (2) Each of the following methods must be the sole basis of at least one approach:
- (a) deep geological disposal in the Canadian Shield, based on the concept described by Atomic Energy of Canada Limited in the *Environmental Impact Statement on the Concept for Disposal of Canada's Nuclear Fuel Waste* and taking into account the views of the environmental assessment panel set out in the *Report of the Nuclear Fuel Waste Management and Disposal Concept Environmental Assessment Panel* dated February 1998.
 - (b) storage at nuclear reactor sites; and
 - (c) centralized storage, either above or below ground.

The NWMO Draft Study Report is silent concerning the phasing out of nuclear energy and the potential for phasing out to work concomitantly with a method to manage nuclear fuel waste. The concept of achieving safety through the phasing out of nuclear energy production has been side-stepped. This omission creates uncertainties as to the objectivity of the study, since reduction at source is a fundamental principle in environmental issues. Building more reactors and producing more waste does not make sense as long as there is no credible solution to the long-term storage of nuclear fuel waste.

Issue 4

Adaptive Phased Management - Option 4

We understand that under Option 4, NWMO is proposing a management system as well as a technical method:

- The management system is phased and adaptive.
- The options would be evaluated at every stage, and interested and affected citizens would be engaged to participate in decision-making about whether to proceed, stop, or reverse the process.

Option 1	Option 4
• Long term management of used nuclear fuel through containment and isolation in a deep geologic repository	• Centralized containment and isolation of the used fuel in a deep geologic repository

• Used nuclear fuel is transported from the nuclear reactor sites to a central location for long-term management	• Provision for an interim step in the implementation process in the form of shallow underground storage of used fuel at a central site, prior to the final placement in a deep repository
• Following an interim period of monitoring, the repository is closed, with the intent to retrieve the used fuel	• Potential for retrievability of the used fuel for an extended period, until such time as a future society makes a determination on the final closure, and the appropriate form and duration of post closure monitoring.

When unpacked, Option 4 is recognized by CAP constituents to be a re-tread of the Atomic Energy of Canada Limited's 1978 concept described in the Environmental Impact Statement on the Concept for Disposal of Canada's Nuclear Fuel Waste. In 1998, after seven years of public hearings, this concept was found to be unacceptable and questionably safe by the only public, independent and credible review it has ever had: Report of the Nuclear Fuel Waste Management and Disposal Concept Environmental Review Panel and published by the Canadian Environmental Protection Agency.

Issue 5

Aboriginal Traditional Knowledge

In observations provided on NWMO's Discussion Document 2, *Understanding the Choices*, we criticized the referencing of Aboriginal Traditional Knowledge. In the Draft Study Report, there are appropriate comments, but old elitist attitudes still dominate the text. For example, in reference to seeking a community to host the central facilities, the report states "*The site must meet the scientific and technical criteria...*" but when Aboriginal Traditional Knowledge is considered, the study that it would only need to be "*responsive.*" A balance between scientific and technical work needs to be made with Aboriginal Traditional Knowledge. We recognize that this will not be an easy task since Aboriginal Traditional Knowledge is holistic and uses spiritual processes; a core difference to science.

The NFWA calls upon the waste management organization to create an Advisory Council to be appointed by the governing body of waste management organizations. In s.8 (b.1), the membership of the Council "reflects expertise in traditional aboriginal knowledge;" CAP is not persuaded by anything in the Draft Study Report that such expertise exists in the Council. We do not view this Advisory Council as having appropriate representation to provide informed comment for all Aboriginal people.

Under Citizen Engagement, the Draft Study Report informs us concerning technical and scientific experts who were involved and it is clear that Aboriginal Traditional Knowledge holders were not involved. Under the Technical Possibilities, Aboriginal Traditional

Knowledge holders were not involved in the examination of alternative management approaches; this is an obvious gap in the study process.

Issue 6

Technically Sound - Safety

The Draft Study Report states that the primary objective of nuclear fuel waste management is *Public Safety*. We are told that it would be unfair for the communities in the vicinity of nuclear reactors to be left with the waste because they had agreed to the reactor, not the nuclear waste.

“However, the existing sites were not chosen for their technical suitability as permanent storage sites. Furthermore, the communities hosting the nuclear reactors have an expectation that the used nuclear fuel will eventually be moved. The NWMO believes that the risks and uncertainties concerning the performance of these storage approaches over the very long term are substantial in the areas of public health and safety, environmental integrity, security, economic viability and fairness.” (pg.15)

Our understanding is that these communities were never aware that there were nuclear waste disposal issues and were assured that nuclear power was a clean technology. It was not until the Hare Report in 1977, that the Government of Canada acknowledged publicly that the problem of nuclear waste existed. Today, AECL through its website for children still presents the old message:

Luckily, nuclear power reactors are great news for the environment. This is because they don't produce any ash, smog, greenhouse gases like carbon dioxide and methane, which can contribute to global warming, or acid rain pollutants, like sulphur dioxide. In fact, there's no doubt that nuclear energy is a Clean Air energy in Canada!

Nuclear generated electricity also doesn't pollute the environment. By 1997, nuclear generated power had saved the earth's atmosphere from being polluted by more than one billion tonnes of carbon dioxide emissions.

(<http://www.aecl.ca/kidszone/atomicenergy/environment/index.asp>)

An NWMO Fact Sheet states:

In 1977 the federal government appointed an expert group to carry out a study on the safe, long-term storage of radioactive waste from nuclear power stations. Among other things, this group of experts, led by Dr. Kenneth Hare, reported that “Canada urgently need[ed] a plan for the management and disposal of nuclear wastes.” It said that underground disposal in geological formations was the most promising option.

Following release of the Hare Report, AECL was asked to undertake research on nuclear waste disposal to verify that permanent disposal in a deep underground repository would be a safe, secure, and desirable method of disposing of radioactive waste. From this point forward, the process is referred to as a validation of the concept.

The Draft Study Report, under the subsection Safety – 1.1 First Principles, states “...we do not live in a risk-free world and that a technical method cannot be practically demonstrated over thousands of years prior to implementation.” No intellectually sustainable argument can be developed for a method likely to last at least 10 000 years. All parties concerned with this issue agree that it is beyond the capacity for humans to create such a method.

CAP’s constituents believe that nuclear fuel waste should not be produced until such time as it can safely be disposed. Under the subsection The Long View, it states “...there appears to be no imminent safety or environmental crisis forcing a decision.” This is the essence of the nuclear waste problem where people are not aware of the human impact on earth and how our present-day actions will resonate into the future.

Issue 7

Economically Feasible

First Principles – page 11 states:

An economically feasible management approach, as it has been defined through dialogue in the NWMO study, is one that ensures that adequate economic resources are available, now and in the future, to pay the costs of the selected approach. The cost must be reasonable.”

One central fact is immediately apparent to any inquirer into the nuclear energy industry; there are many examples of exorbitant cost overruns whether it is nuclear plant construction or re-fits. We have financial uncertainties concerning the projections and guarantees based on the deeply troubling financial record of the nuclear industry. It is clear that financial considerations are required over a massive time frame for multi-generations, and covering much political uncertainty.

It is a cold reminder to CAP’s constituents and Canadian taxpayers that we are all shackled to the nuclear industry for many generations to come. The fact that the federal government has made Canadians the equivalent of stockholders in nuclear power, is an ominous symptom of an impending financial quagmire. We know that the nuclear industry could not exist without public funding, bailouts, subsidies and protective legislation. The financial uncertainties are deeply troubling by themselves, but taken in concert with the environmental risks, they form a potent combination.

Concern was raised in our dialogue sessions that the true costs of nuclear energy have been hidden by the nuclear industry. In 2001, the United States Department of Energy undertook

an economic analysis of energy producers and reported that nuclear fission, per kilowatt hour, was the most expensive form of energy production with the exception of solar photovoltaic. We believe that nuclear fission is more expensive than hydroelectric dams, natural gas, geothermal, biomass coal, small hydroelectric, wind, and solar thermal.

The 'polluter pays' principle means that all funds for future liabilities such as nuclear waste management and reactor decommissioning should be in place in order to avoid the financial burden falling on future generations. The "polluter pays" principle puts the onus not only on the generation that produces the waste but also on the actual producer of the waste.

Status of Financing Systems for High-Level Radioactive Waste Management
GF Energy, LLC (October 2003)

CAP views the polluter pays principle as a minimum requirement. The major difficulty with this laudable principle is its application to the problem of nuclear fuel waste. The principle loses its meaning when projected against the timeframes that the waste remains dangerous. We see the primary financial and legal liability remaining with the waste owners until the waste is no longer a threat to the environment and human beings.

Some of the costs for security are accounted for in the economic costs of all three approaches through facility designs and monitoring programs. However, recent international events indicate that security standards can be breached and additional costs may be required to address as yet unspecified risks. With the passage of time, it may be necessary to change current security standards and activities to account for changing world events. This may dramatically change future security requirements and its attendant costs. Cost uncertainty is greatest for the Storage at Nuclear Reactor Sites and Centralized Storage since both these approaches provide opportunities for the accessibility of used nuclear fuel throughout the entire lifetime.

Assessment of Benefits, Risks and Costs of a Proposed
Adaptive Phase Management Approach
Golder Associates and Gartner Lee Limited

It is clear that there are major financial considerations involved with the security of nuclear fuel waste. Since the submission of the Golder Associates and Gartner Lee report, there has been increased uncertainty about security and the concomitant financial costs, yet there have been no changes in the NWMO budget projections.

There is clearly no financial mechanism that can encompass the timespan involved with nuclear fuel waste. CAP believes that the major financial uncertainties are reason alone to begin the phase out of nuclear energy in Canada.

NWMO's Discussion Documents 1 and 2 were deficient in describing the history of the nuclear industry in Canada, and in particular why it has taken so long to deal with the issue of nuclear fuel waste. The Draft Study Report continues this selective approach in its presentation of the history of the nuclear industry in Canada. It is of questionable value to ask Aboriginal people their views on nuclear fuel waste storage, when they are unaware of the history of the industry, past efforts to deal with this material, and the validity of alternative points of view.

CAP views the reality of this environmental issue holistically as a unified and coherent whole: from the mining, conversion, fuel fabrication, use in the reactor and spent fuel storage. In contrast, the Draft Study Report chooses to be silent on the history of the nuclear industry and the environmental problems throughout the entire nuclear cycle. For example, uranium tailings represent a serious threat to both the environment and human health in northern Saskatchewan, northern Ontario and in parts of the Northwest Territories.

For fifty years, nuclear energy has been sold to Canadians as a clean and safe form of energy where benefits outweighed risks. In 2005, AECL's website for children continues to distribute misinformation:

All energy sources produce waste that must be managed carefully. Luckily, nuclear wastes are amazingly small in volume and easy to control. In Canada, the total amount of nuclear waste over 40 years would only fill three hockey rinks to the height of the boards.

(<http://www.aecl.ca/kidszone/atomicenergy/environment/index.asp>)

Seen from a holistic perspective, the use of nuclear energy gives rise to significant and long-term adverse effects to both human health and the environment. The Draft Study Report requires history on the relationship of the nuclear cycle to Aboriginal peoples, and a clear acknowledgement of the harm that has been done to the environment and human health.

Issue 9

Transportation of nuclear waste

In Table 3-1 Fairness, the risks and uncertainties are listed. In regard to Option 4 - Adaptive Phased Management, it states:

Transportation of the used nuclear fuel will involve more communities in the risk associated with the implementation of the approach. However, it is expected that this risk will be small and that the approach to engagement in decision making at each step of the way of those who are affected embodied in this approach will ensure that fairness issues are identified and explicitly addressed before implementation proceeds.

This minimization of risks stands in contrast to recent terrorist events and does not compare well to the prescient remarks made in the 1976 report by the United Kingdom Royal Commission on Nuclear Power and the Environment. At that time, Sir Brian Flowers reported that where necessary, security measures might even seriously affect personal liberties; an issue that the Draft Study Report does not consider. Flowers reported the following reasons for the elevated risks:

- One reason for theft would be the value of the element: if plutonium-fueled reactors become common then it will be traded internationally. One kg of plutonium can produce as much energy in a power station as 1,700 tonnes of oil, currently worth about £80 000 pounds.
- The other reason would be because of its potential use in a terrorist weapon, which would have enormous psychological impact. It could be disseminated into the atmosphere with conventional explosives, when it would pose not only acute and long-term radiological hazards to those who inhaled the airborne particles, but would contaminate large areas of land. Decontamination would be very costly ... ; several hundred thousand pounds per gram of dispersed plutonium.
- The dispersion of a small amount of plutonium into the atmosphere with conventional explosives would pose a very serious radiological hazard since an individual dose of only a few milligrams is sufficient, if inhaled, to cause massive fibrosis of the lungs and death within a few years. Much smaller quantities can cause lung cancer after a latent period of perhaps 20 years....

Conclusion

In the Forward to the Draft Study Report, there is no reference to Aboriginal people, unless we are to assume that NWMO views Aboriginal people as “citizens.” This section also makes reference to citizens playing a “*legitimate role in making decisions.*” The idea of a legitimate role for Aboriginal people and the public provides insight into how slowly the nuclear industry has shed its past elitist and secretive approaches.

Aboriginal ways of life are protected by constitutionally based Aboriginal title, Aboriginal and Treaty rights, and by preferential rights of access to traditional Aboriginal territories. Since 1973, these rights have received serious juridical attention, yet they are in many respects still inchoate with much of their major framework now being hammered out by the Courts, Parliament and Legislatures. The NWMO Final Study Report will need to reflect this in its content.

