



# **Aboriginal Women and Nuclear Waste Management**

**An Issue Paper**

## Background

As of late, the raised anxiety about global warming (or climate change as is the preferred term by our current government) has seen Canada's federal and provincial leaders touting the effectiveness of Canada's zero-emissions nuclear reactor facilities.<sup>1</sup>

It should come as no surprise that with a steadily increasing population and industry, the future for energy resources is increasing daily. There are refurbishments currently required for the immediate nuclear reactors as well as whole new builds of aging nuclear reactor facilities, which can be very costly.<sup>2</sup> The high maintenance and renovation price tag begs the question as to why nuclear development.<sup>3</sup>

Also consider this - why is nuclear power generation being given a reputation by our government as being a 'clean' source of energy, when it produces radioactive waste? This was a point noted by Dr. Gordon Edwards, Mathematics teacher from Vanier College in Montreal, who has a keen interest in nuclear energy. Dr. Edwards spoke at one of the regional dialogues organized by Inuit Tapiriit Kanatami (ITK).

Nuclear power is an odd choice considering the other alternative and sustainable approaches available such as solar, tidal or wind power. Enter David Suzuki. In a recent MacLean's article dated May 3, 2007, David Suzuki was quoted as saying "Climate change confronts us with the opportunity to think and design the kind of energy we want in the future and to me, it's clear it should be a network of small-scale, diverse sources." He lists wind, solar and tidal power as his preferences.<sup>4</sup>

As we all know, having background information on any particular issue is integral to informing individuals from every facet of the community – this is just as important on the plans being proposed for nuclear power generation in Canada. Since 2003, the Canadian government through the Nuclear Waste Management Organization (NWMO) has been seeking input from the Canadian public through nation-wide consultations on what to do with the nuclear fuel waste generated by the 22 nuclear reactors throughout Canada. This is the topic we shall be discussing in this paper.

## What is Nuclear Fuel Waste?

According to the website of the National Waste Management Organization (NWMO) nuclear fuel waste consists of fuel bundles that have been used by a

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<sup>1</sup> Geddes, 2007

<sup>2</sup> Ontario Power Authority, 2007

<sup>3</sup> Inuit Tapiriit Kanatami (ITK)

<sup>4</sup> Geddes, 2007

nuclear power plant to generate electricity and then removed from the reactor. A fuel bundle is about the size and shape of a fireplace log. It weighs about 24 kilograms and is about half a metre long. The fuel bundle contains uranium in the form of cylindrical ceramic pellets, each about the size of a marble. These pellets are placed in long, thin rods, a number of which are combined to make up a single fuel bundle. Each bundle produces about 1 million kilowatt hours of electricity, which is enough power to supply approximately 100 homes for a year.<sup>5</sup>

### **How much nuclear fuel waste do Canadian utilities generate?**

According to the NWMO website about 85,000 used nuclear fuel bundles are generated each year. Based on current rates of nuclear fuel waste production by existing nuclear power plants, it is estimated that a total of 3.6 million used fuel bundles will exist by the end of 2033.<sup>6</sup>

### **What are the Hazards?**

According to the NWMO website used nuclear fuel contains non-radioactive and radioactive atoms – some that are radioactive for thousands of years. In addition, it also contains several chemically toxic elements, including heavy metals. Unlike radioactivity, which gradually decreases over time, the potential toxicity of these elements remains constant. If nuclear fuel waste were to be improperly managed in the future, it could pose a hazard to humans and the environment for a very long time.<sup>7</sup>

### **Nuclear Fuel Waste Act and Electricity Act**

In 2002, the *Nuclear Fuel Waste Act (NFWA)* was passed, requiring the producers of nuclear fuel waste to form a waste management organization (Nuclear Waste Management Organization [NWMO]) to provide recommendations on the long-term management of nuclear fuel waste by November 15, 2005. This Act is a key to the implementation of the 1996 Policy Framework for Radioactive Waste. Natural Resources Canada is overseeing the *NFWA*.<sup>8</sup>

The Act requires the NWMO to establish an Advisory Council, who will provide written comments on the study of the proposed approaches. Currently, there is only one Aboriginal person sitting on this Council, which begs the question - why not more, or an entirely separate advisory council that is comprised of only Aboriginal people with an equal representation of Aboriginal women, youth and Elders.

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<sup>5</sup> Nuclear Waste Management Organization, 2003

<sup>6</sup> Ibid

<sup>7</sup> Ibid

<sup>8</sup> Ibid

As with any public information session transparency is integral for information sharing. In future consultations on this matter it has been recommended several times over that there be more transparency on the issue of nuclear power generation in Canada as there were a lot of valid questions asked by Aboriginal communities in their reports to the NWMO, one's that should have been responded to and acted upon in a timely manner.

### **Aboriginal Input provided to NWMO**

The National Waste Management Organization (NWMO) provided Aboriginal organizations on the national, regional and local levels, the opportunity to advise their Aboriginal representatives of the plans proposed by the NWMO on nuclear fuel waste management and its disposal. Feedback was obtained from the Assembly of First Nations, the Native Women's Association of Canada, Métis National Council, Inuit Tapiriit Kanatami, Pauktuutit Inuit Women's Association, as well as regional and community level political organizations. In each of the recommendations provided by these Aboriginal organizations from feedback obtained from their representatives, it was apparent that more time was needed for efficient dialogue with their representatives and that there was and still is a lot of scepticism of the information provided by the NWMO.

The three options presented by the NWMO were:

1. Leave the waste where it is (at the nuclear generating stations);
2. Centralizing storage, either above or below ground; and
3. Deep geological disposal in the Canadian Shield (concept of the Atomic Energy of Canada Limited).

Unfortunately, the three questions had not had any input by Aboriginal leaders, women, Elders and youth, but an opportunity could have been made for this. Having questions designed by Aboriginal people for Aboriginal people would have been a gesture of good will on this matter if the NWMO were serious about building a better relationship with Aboriginal peoples.

The Native Women's Association of Canada presented the following underlying principles for consideration in their report:

1. Respect for the social structures, vulnerable languages and cultures, indigenous plants and medicines, hunting, fishing and trapping grounds, areas of spiritual significance as defined by potentially impacted Aboriginal communities.
2. Settlement of land claims, the use of Crown Land for subsistence pursuits, Aboriginal title etc before "siting" is initiated.

3. Demonstrated willingness of the NWMO to understand the unique spiritual connection of Aboriginal (women) people to the environment and to utilize the understanding they gain to find a solution that benefits future generations.<sup>9</sup>

Whereas, any proposed “siting” will occur on the traditional territories of Canada’s Aboriginal peoples, the Native Women’s Association of Canada and other Aboriginal organizations further recommended NWMO and Natural Resources Canada (NRCan) engage Aboriginal peoples as full and effective partners in any Nuclear Waste Management Strategies, including “siting” of nuclear fuel waste.

### **Siting of Nuclear Fuel Waste**

One of the major concerns brought forward by Aboriginal groups was ‘siting’ of the nuclear fuel waste. With the fact that nuclear fuel waste is radioactive for thousands of years after it’s utilized for its energy, it should come as no surprise that Aboriginal groups would be opposed to further nuclear power generation or storage of the nuclear fuel waste on their lands or anywhere adjacent to.<sup>10</sup> According to the Assembly of First Nations, several First Nations are situated close to a nuclear power plant (Ontario, Quebec and New Brunswick); some hold traditional territory in areas that could be considered for long-term storage of nuclear fuel waste, while others are located along potential transportation routes.<sup>11</sup>

Remote sites for site disposal are preferred as they are situated away from large populations. Unfortunately, it was not made explicitly clear by the NWMO as to what is meant by “remote” and no potential remote sites were shared. Unfortunately, for Aboriginal Peoples whose traditional lands are located in the north, contaminants are of serious concern to them because of long-range transportation and accumulation issues. According to the Final Report compiled by the Inuit Tapiriit Kanatami, Inuit have been opposed to the long-term management of nuclear fuel waste in the Canadian Arctic. Of particular interest to the Inuit is the risk of Tran boundary problems associated with the long-term management of nuclear fuel waste. For example, in a BCR (# B05/06/09-09) the ITK Board of Directors unanimously agreed that they are in complete opposition to the storage/disposal and transport of Nuclear Fuel Waste in the Canadian Arctic including marine areas and aerospace.<sup>12</sup>

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<sup>9</sup> National Consultation on Nuclear Waste Management, June 14, 2005

<sup>10</sup> Inuit Tapiriit Kanatami

<sup>11</sup> Assembly of First Nations, March 2005

<sup>12</sup> Inuit Tapiriit Kanatami, June 9, 2005

## **Recommendation made by NWMO**

After a comprehensive three-year study, the NWMO concluded on November 3, 2005 within its submission to the Minister of Natural Resources Canada, that the 'Adaptive Phased Management' for the long-term care of Canada's used nuclear fuel. The phased plan being proposed is for centralized containment and isolation of used nuclear fuel deep underground in suitable rock formations, possibly in the crystalline rock of the Canadian Shield, or in other formations like sedimentary rock.

## **Government of Canada accepts NWMO recommendation**

June 14<sup>th</sup>, 2007 The Government of Canada announced the decision to accept the recommendation of NWMO for the Adaptive Phased Management of Nuclear Waste. According to the Government news release, the Adaptive Phased Management approach has three key phases:

1. Maintain the used Nuclear Fuel at the reactor sites, while preparing for centralization at a site in an informed and willing community.
2. Determine if an interim optional step of a shallow underground storage facility at the central site is desirable; and
3. Locate and prepare a site to contain the used nuclear fuel in a deep repository with ongoing monitoring and the possibility of retrieval.<sup>13</sup>

Aboriginal peoples and women in particular have every right to be concerned about what negative effects our changing society will have on their children and their children's children, as the long-term negative aspects far outweigh the short term gains that come from storing nuclear fuel waste in anyone's territory. The long-term impacts are the issues we must keep at the forefront of our minds in protection of our rights and the health and happiness of our children, families and Aboriginal communities to come.

## **Recommendations**

The recommendations in the Native Women's Association of Canada report should be incorporated in the ongoing collaboration and implementation of the Adaptive Phased Management of Nuclear waste.<sup>14</sup> Specifically, the following recommendations should be considered in the work of NWMO and the Government of Canada.

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<sup>13</sup> Government of Canada News Release, June 2007

<sup>14</sup> National Consultation on Nuclear Waste Management, June 14, 2005

1. Aboriginal women must be engaged as full and effective partners with the ongoing implementation of Nuclear Waste Management.
2. In recognition of spiritual significance of water to Aboriginal women. The need to ensure underground and adjacent water sources are fully protected and assessed prior to implementation.
3. The Native Women's Association of Canada must be involved in consultations and risk assessment of the "interim shallow storage" option of storing nuclear waste.
4. Aboriginal women's connection to the environment and spiritual connection to territories, habitat and species must be acknowledged and considered in "siting" considerations.
5. One resounding recommendation is that more time was and is still needed for additional input to be gathered from the Aboriginal peoples and their representatives, including women, as the potential impacts to come from the decision that will be made on the fate of nuclear fuel waste management is immense.

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