

Residual Concerns in Siting a Nuclear Fuel Waste Repository

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About CELA

- ▶ The Canadian Environmental Law Association (“CELA”) is a non-profit public interest organization. CELA is a legal aid clinic and appears before tribunals and courts on behalf of low-income individuals, citizen groups, and not-for-profit organizations who otherwise would not be able to afford legal assistance. CELA uses existing laws to protect the environment and advocate for environmental law reform.

Last Year's presentation: Importance of Legitimacy in Environmental Decision Making

- ▶ Last year we talked about how important legitimacy is for acceptable environmental decision making
- ▶ “The environmental problems of the 21st century can be effectively addressed only by processes that link sound scientific analysis with effective public deliberations.”
 - ▶ National Academy of Sciences, National Research Council report: Public Participation in Environmental Assessment and Decision Making, Washington D.C.
 - ▶ Expanding on this statement, that report says: “Environmental decisions present very complex choices among interests and values, so that choices are political, social, cultural, and economic, at least as much as they are scientific and technical.”
 - ▶ Critiques include failure to pay attention to legitimate interests; failure to take certain concerns into account; artificial narrowing of the choices to consider; failure to take important values into account in analyses; making unrealistic assumptions in the face of scientific uncertainty; failure to account for “different ways of knowing.”

Many of the elements I discussed last year should be kept top of mind - the need for the following in the decision making process:

- ▶ Education
- ▶ Trust
- ▶ Communication
- ▶ Public Interest perspectives
- ▶ Indigenous, lay-person and “expert” input
- ▶ Values
- ▶ Science
- ▶ Transparency and open information available to all members of the public



Who are the right “affected public” and the right “decision makers”?

- ▶ An essential question is how the affected public is defined
 - ▶ Are the people being consulted the ones who would be most impacted
 - ▶ Are indigenous and treaty rights being respected
 - ▶ Are all of the affected communities being consulted (e.g. transportation route communities)
 - ▶ What is the geographic definition of the impacted community and environment
- ▶ Also of critical importance is the question of who is making the decision on behalf of the community - and which community



What is the Role of Municipal Jurisdiction

- Municipal jurisdiction over nuclear power regulation is extremely limited
- Municipal land use planning may be over-ridden in case of a conflict due to constitutional rules of federal “paramountcy”
- Some municipal by-laws that apply to everyone equally may apply if they don’t affect nuclear industry operation directly or if they are not in conflict with the operator’s federal licencing



What is the Role of Indigenous Law

- ▶ There is an evolving landscape of application of Indigenous law
- ▶ Some law is being developed within the traditional courts system in Canada
- ▶ Other law is being recognized as rooted in longstanding indigenous legal traditions
- ▶ At the very least, section 35 of the Constitution and the case law interpreting that section is a constraining framework when a project is sited in one or more areas of indigenous traditional territory

What is the Role of Provincial Jurisdiction

- ▶ Even in areas of federal jurisdiction, the provinces and territories retain responsibilities and legal jurisdiction over a range of matters that pertain to “property and civil rights in the province” among other heads of power
- ▶ An example is provincial jurisdiction over exploration drilling, as outlined in our second presentation
- ▶ Other examples could include permits to take water, permits for air pollution, land use planning, and minerals exploration

What is the Role of Federal Jurisdiction

- ▶ As between the provinces and territories and the federal government, jurisdiction over nuclear power and related activities is primarily federal. Nuclear power and related activities fall within federal jurisdiction by virtue of section 71 of the *Nuclear Safety and Control Act*, which provides that:

Any work or undertaking constructed for the development, production or use of nuclear energy or for the mining, production, refinement, conversion, enrichment, processing, possession, or use of a nuclear substance or for the production, possession, or use of prescribed equipment or prescribed information is declared to be a work or undertaking *for the general advantage of Canada*.

What is the Role of the NWMO

- ▶ In 2002 the Nuclear Waste Management Organization was established by the nuclear energy corporations (Ontario Power Generation Inc., Hydro-Quebec and New Brunswick Power Corporation) under the Nuclear Fuel Waste Act.
- ▶ The NWMO, as an industry organization, is responsible under the Act for implementation of an approach to the long term management of Canada's nuclear fuel waste (which it itself recommended to government, and which government then approved). They titled it "Adaptive Phased Management".
- Thus, the owners of radioactive waste are responsible for the funding, organization, management, and operation of disposal and other facilities required for their waste.
- Concerns about the Act include the lack of transparency and accountability (despite much apparent transparency), the control by the nuclear industry of both the Nuclear Waste Management Organization and its advisory council, and the absence of a role for parliament.

What is the Role of the Canadian Nuclear Safety Commission

- ⦿ The CNSC was established in 2000 by the *Nuclear Safety and Control Act*, replacing the *Atomic Energy Control Act*.
- ⦿ The obligation in the previous Atomic Energy Control Act to “promote” the use of nuclear power for peaceful purposes was removed
- ⦿ There are still issues about sufficient independence from industry, and continued reporting to the same federal Minister responsible for promoting nuclear power despite longstanding calls from civil society for this to be remedied

Role of Federal Government

Environmental Assessment Becoming Impact Assessment

- ▶ There is a brand new federal Impact Assessment Act that, once operational, will likely apply to a proposal for a fuel waste repository
- ▶ There is not yet a finalized project list, but we expect fuel waste facilities and other waste facilities to remain on the project list
- ▶ An Impact Assessment Report would be filed by the CEA Agency or a Panel, and the federal cabinet would make a final decision on the Impact Assessment based on five factors: sustainability; significance of adverse effects; mitigation measures; impacts on Indigenous Peoples and on their rights; impact on the federal governments commitments on the environment and on climate change.

What is the Role of the International Community

The International Agreement on Used Fuel Waste

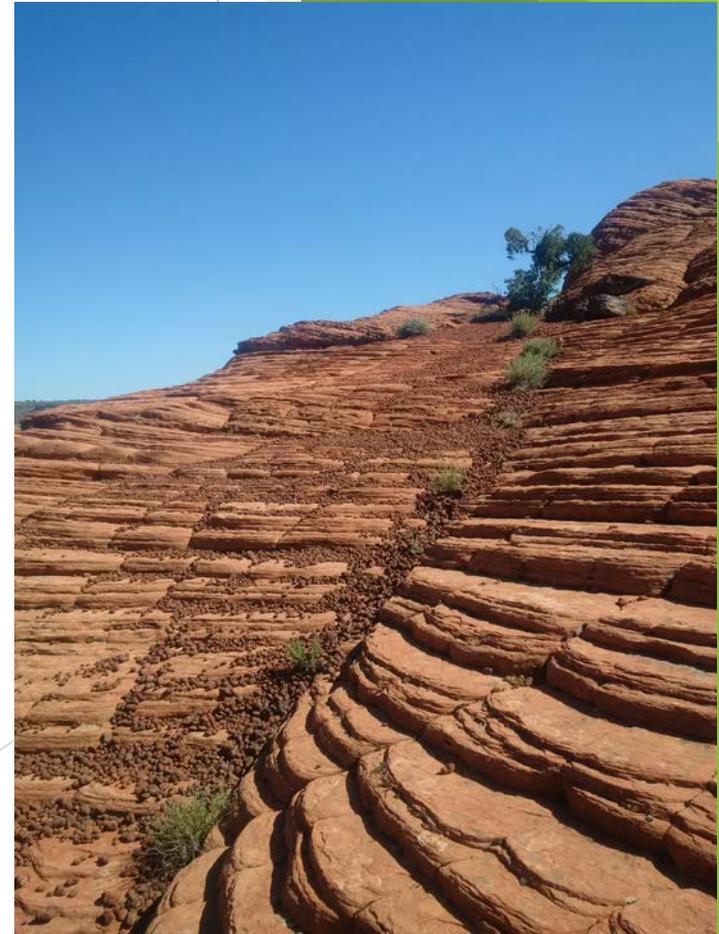
- The 1997 Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management was ratified by Canada in 1998 and in force in 2001
- Defines “disposal” as the “emplacement” of used fuel or radioactive waste without the intent of retrieval
- Requires contracting parties to ensure that society, the environment, and individuals are “adequately protected” against radiological hazards

Spent Fuel Convention cont'd

- The Convention aims to avoid imposing “undue” burdens on future generations
- Uses language like “suitable measures”, “adequately protected”, “reasonably practicable improvements {e.g. to existing facilities}
- Generation of radioactive waste to be kept to the “minimum practicable”
- Provides that radiation exposure to workers and the public be kept “as low as reasonably achievable, economic and social factors taken into account”

What is the Size of the Problem

- ▶ The NWMO found that used fuel waste from nuclear generating stations will have to be managed for hundreds of thousands of years, and only after one million years will it approach the radioactivity levels of natural uranium - this is even longer if other forms of nuclear power generation are pursued



What are the Questions

- ▶ Typical community concerns regarding hazardous materials siting decisions apply also to nuclear fuel waste siting
 - ▶ What kind of hazard or danger could be present
 - ▶ Who could be impacted
 - ▶ How could the hazard occur
 - ▶ What are the pathways
 - ▶ What are the potential health effects if things go wrong
 - ▶ What can be done to prevent the hazard
 - ▶ How can the situation be controlled if things go wrong
 - ▶ How can members of the public be confident in the answers they are provided

What are the Key Areas of Uncertainty

- the properties of the fuel over such incredible time frames;
- the behaviour of the geological formations;
- the possibility of cataclysmic events;
- the ability of human technology to withstand environmental pressures over decades much less thousands and hundreds of thousands of years



Key Areas of Uncertainty cont'd

- Ability to develop technology which could be controlled, managed, monitored and kept isolated from human and natural environments over hundreds of thousands of years is in doubt
- Intractable issues include communication issues, technology maintenance, follow up and monitoring issues



What are the Potential Changes to the Project

- ▶ A used nuclear fuel waste site may involve additional fuel from new reactors but the decision to pursue new nuclear power has so far been at the Ontario cabinet table
- ▶ There are efforts to research and license “Small Modular Reactors” which could introduce new types of fuel, with different hazards, different non-proliferation risks, and different management and safety requirements
- ▶ For example, the CANDU fuel is not enriched; but some of the SMR proposals anticipate use of enrichment processes
- ▶ In addition to type of waste, size of the project and volumes could also change (such as occurred during the low and intermediate DGR hearing in Kincardine)
- ▶ Is it possible the project could also encompass intermediate level waste?

What are the Potential Changes to the Project

Trade Issues

- If repository is developed, will there be a basis to refuse fuel waste from elsewhere even though NWMO says it will take fuel waste from Canada only ?
- In the case of other domestic and hazardous waste handling in North America for example, waste is traded across borders and there are doubts about the legal ability to restrict this trade in North America under NAFTA, and perhaps beyond, under other bilateral trade agreements that have been negotiated or are in progress



Need for extra consideration of impact on Indigenous people's due to prior history and in light of the finding of the UN Rapporteur

- ▶ CELA recently hosted the UN Rapporteur on human rights and toxic's Indigenous engagement session (at the request of Indigenous leaders) during his visit to Canada. His recently released end of country visit and interim report found "Canada's inaction on toxic exposure a disturbing sign of discrimination".
 - ▶ Throughout the lifecycle and value chain of economic activity in Canada, indigenous peoples appear to be disproportionately located in close proximity to actual and potential sources of toxic exposure. Indigenous peoples live next to refineries and other manufacturing facilities. Existing and proposed pipelines crisscross their lands. Landfills, incinerators and other waste disposal sites are often closest to their reserves. This proximity and issues of access to justice and remedy (further below) raise questions of dignity and equality."

<https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=24678&LanglD=E>

What are Some Remaining Ethical and Moral Issues

- We are continuing production of toxic radioactive waste that will remain highly dangerous over millennia for fleeting current energy needs
- There is an issue of avoidance of full liability and accountability for accidents
- Siting fuel waste in northern communities based on “economic” arguments raises major question of environmental equity
- Access to information remains a major problem



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CELA works to protect human health and our environment by seeking justice for those harmed by pollution and by working to change policies to prevent such problems in the first place. For almost 50 years, CELA has used legal tools to increase environmental protection and safeguard communities. As a **Legal Aid Clinic**, our top priority is to represent low-income individuals and communities and to speak out for those with less

Staff Blog

Committee report recommends major reform of Parliament's control of toxic substances

Joseph Castrilli and Fe de Leon | 2 weeks 3 days ago

If the recommendations of a Parliamentary committee are adopted by the House of Commons, Canada will move closer to enshrining environmental rights, substituting safer alternatives, and strengthening protection of vulnerable populations in the regulation of

CELA's Lawyer Referral List

News and Events

Jun 26 2017

Citizens ask Auditor-General to probe origins of plan to create a giant mound of radioactive waste beside Ottawa River

Jun 22 2017