

Canadian Perspectives: Building Consensus with Potential Host Communities and the General Public

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Canada as a Host Community

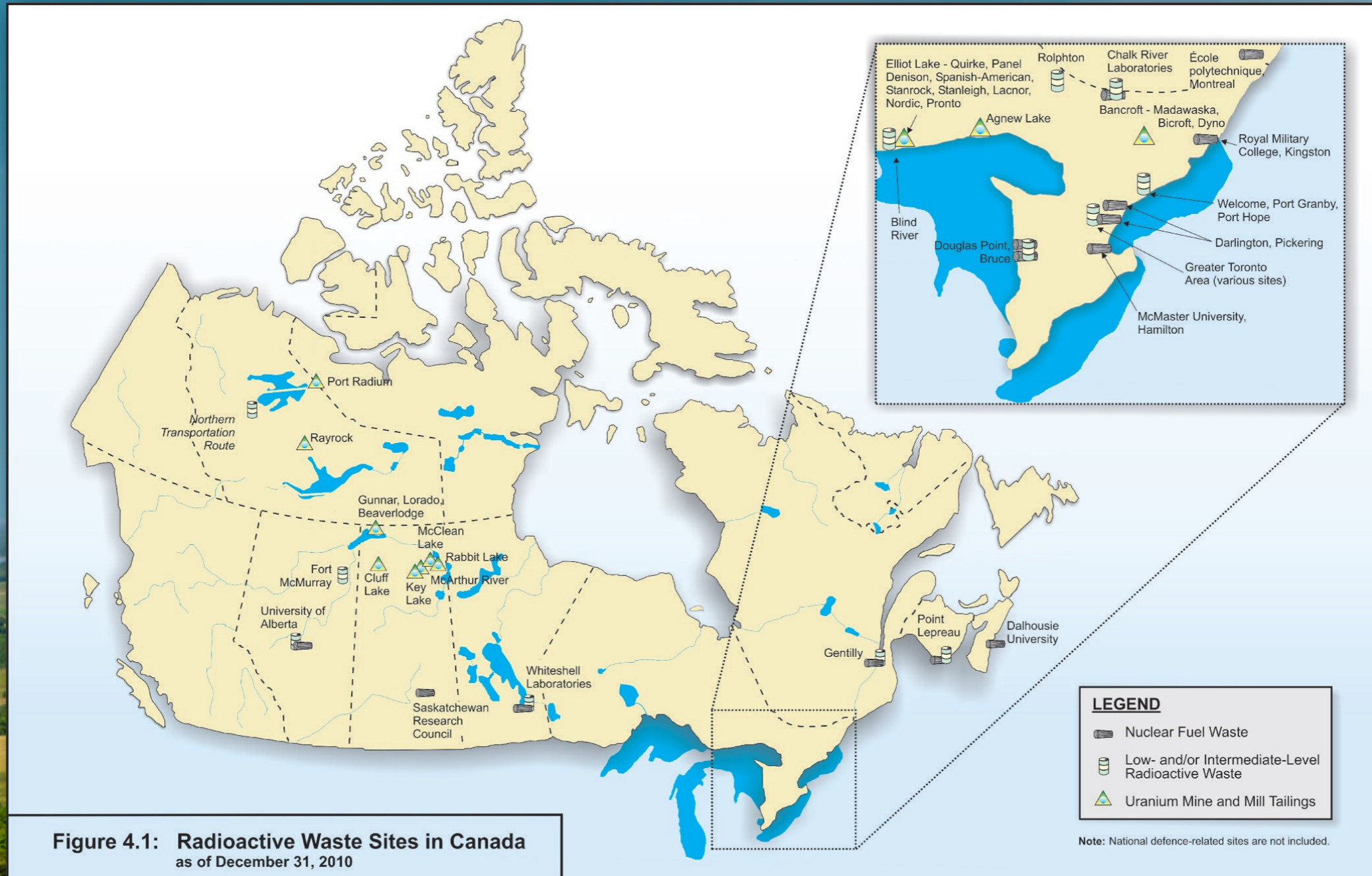
- Who we are
- Radioactive waste management in Canada
- Challenges in public engagement
- Opportunities for improved engagement
- *Waste management message testing*



Canadian Nuclear Association

- Established in 1960 to represent the nuclear industry in Canada
- Promote the development and growth of nuclear technologies for peaceful purposes
- Over 100 members, representing 60,000 Canadians employed directly or indirectly in the nuclear industry

Radioactive Waste Management Across Canada



Canada's Nuclear Fuel Cycle

Waste Category	Waste Produced in 2010	Waste Inventory to the End of 2010	Waste Inventory to End of 2050
Used Nuclear Fuel	298 m ³	9,075 m ³	20,000 m ³
Intermediate-Level Radioactive Waste	208 m ³	32,906 m ³	67,000 m ³
Low-Level Radioactive Waste	5,116 m ³	2.34 million m ³	2.59 million m ³
Uranium Mill Tailings	0.7 million tonnes	214 million tonnes	
Waste Rock	N/A	175 million tonnes	

Adapted from *Inventory of Radioactive Waste in Canada* (LLRWMO, 2012)



Radioactive Waste Management

- Low and intermediate level waste shipped to waste management facilities for interim storage
- Used nuclear fuel is placed in interim storage on-site



Radioactive Waste Management

- Two initiatives for the development of deep geologic repositories for long-term management of low/intermediate level waste and used nuclear fuel, respectively
- Nuclear Waste Management Organization responsible for long-term management of used nuclear fuel



Challenges in Public Engagement

One of the greatest misconceptions about the nuclear industry is that there is no solution for radioactive waste management.



What do Canadians Think About Radioactive Waste Management?

“It is wrong to generate 40 or 50 years of electricity for our generation and then leave a nuclear waste problem that will go on for generations to come.”



What do Canadians Think About Radioactive Waste Management?



Canadian Nuclear Attitude Survey	2011		2012	
	Agree	Don't know	Agree	Don't know
Supportive of Nuclear Energy	38%	6%	37%	9%
Familiar with the concept of radiation*			69%	31%
Worry about understanding the health impacts of nuclear energy	79%	1%	70%	4%
It is wrong to leave a nuclear waste problem for future generations	84%	1%	74%	3%
Used nuclear fuel is safely and responsibly managed	44%	18%	51%	20%
Science will find a way to manage nuclear waste safely	55%	5%		

* 8% of respondents correctly answered two questions on radiation.



Radioactive Waste Message Testing

Radioactive Waste Message Testing

Purpose: *To pre-test CNA communications to women regarding radioactive waste. To determine whether the messages are understandable and what they most want to know.*

Radioactive Waste Message Testing

- Nov 2012 - Jan 2013; Decision Partners conducted message testing with 29 Ontario women aged 31-45 with children at home.
- Interviewed 45 minutes to determine familiarity and interest in the Canadian nuclear industry, beliefs about waste management, storage and transportation.

Radioactive Waste Message Testing

- Assessed reactions to industry responses to five common questions about radioactive waste:
 - ✓ *What is radioactive waste? Levels/types?*
 - ✓ *What are Canada's plans for storing radioactive waste?*
 - ✓ *How are radioactive materials transported?*
 - ✓ *Who is responsible for managing radioactive waste?*
 - ✓ *Can we recycle or reuse radioactive waste?*

Areas of Concern



Areas of Concern

- Response to “What is radioactive waste” had a perceived inconsistency regarding whether low-level waste can be stored until it is thrown away as “ordinary garbage”.
- Clarify that if longer-term management is required, it will be sent to an appropriate waste management facility.

Areas of Concern

- Response to “What are Canada’s plans for long-term storage of radioactive waste” must address transportation through or near communities and whether low-level waste can be stored until it is thrown away as “ordinary garbage”.
- Clarify how low and intermediate level waste and used nuclear fuel will be safely transported, touching on transport through communities.

Areas of Concern

- Response to “How are radioactive materials transported” must address concern that they may be unknowingly exposed to risks and potential harm from waste transported via truck or passenger planes.
- Clarify how radioactive materials are transported - note licensing/training of carriers, routes through populated areas, and use or non-use of commercial aircraft.

What They are Telling Us

What They are Telling Us

- Use “clear examples” and “plain language”, that speaks to “the average person” and “addresses all sides”.
- “Engage communities... it can’t just be about the science and government stakeholders; it’s about open and honest communication.”

What They are Telling Us

- “Keep it real, because if you’re going to answer a question and it sounds like you’re skirting around something or you’re avoiding something, you get discredited pretty fast.”

Conclusions

- People's mental models - existing beliefs - must be considered to avoid inappropriately escalating concerns or raising new ones.
- Canadian nuclear industry should be prepared to address additional questions about storage of all levels of radioactive waste. These messages should be pre-tested.

Conclusions

- Women are generally not aware that radioactive waste may be transported, but when discussed, wanted to know what precautions protect communities, as well as workers.
- Messages must use language appropriate for a general audience. Acknowledgement of what is not known about a topic is appreciated.

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