The Evolution of Decommissioning Planning

Tracing the Requirements to Consider Radioactive and Non-fuel Wastes and Social Risk

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- Public interest law organization, funded by Legal Aid Ontario
- Founded in 1970
- Core mandate is to provide access to justice, use and improve laws that protect human health and the environment
- Engage in litigation and law reform to advocate for comprehensive laws, standards and policies that will protect and enhance public health and environmental quality

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1 . Background

Motivation for Research

- Nuclear power plant operators required to have decommissioning plans and financial guarantees as conditions of licensing:
    - Identifies plans for radioactive and non-fuel wastes and identify risks to natural and social environments post-closure.
- Decommissioning planning became a requirement 30+ years after the operation of Canada's first nuclear power reactor
- In Canada, decommissioning plans were *post hoc* licensing requirements introduced when the *Nuclear Safety and Control Act* came into force in 2000.

1 . Background
Research Aim

NSCA sought to combat historically overlooked gaps relating to decommissioning and financial guarantees, however, residual challenges remain:

- How have decommissioning regulations and policy evolved since the *NSCA's* introduction?
- How do decommissioning plans differ among proponents?
- As the nuclear sector enters an era of decommissioning - with over 60% of all operating reactors now exceeding 30 years of age – what challenges exist by this historic lack of preventative planning and foresight?

2. Challenges

Nuclear Power Plants and Environmental Assessment

- Regulation under the *Impact Assessment Act* (formerly *Canadian Environmental Assessment Act, 2012*) lists a small number of physical activities that trigger federal impact assessment (IA)
- The construction of some new nuclear reactors triggers IA
- Canada's nuclear power plants predate IA/EA law, thus did not undergo an assessment

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2. Challenges

Decommissioning and Environmental Assessment

- **Legislative and regulatory lacuna related to decommissioning**
- Decommissioning not a 'designated project' and thus no IA required despite request from host communities:
  - 51% of the used fuel waste in Canada is stored in temporary facilities at the Pickering NGS.
  - Regional Municipality of Durham asked for an IA of decommissioning as the "indefinite future host community of all the used nuclear fuel waste, refurbishment waste and decommissioning waste"

2. Challenges
Current Process

- Decommissioning only subject to a licensing hearing by CNSC under *NSCA*
  - Significance of social, economic and environmental effects associated with decommissioning and the effectiveness of mitigation measures are uncertain, and not required considerations under existing CNSC regulations and guidance

3. Comparisons

Legislative Basis – Decommissioning and Financial Guarantees

Atomic Energy Control Act (Royal Assent 1946)	***Nuclear Safety Control Act*** (In force in 2000)
DECOMMISSIONING • s 9 make regulations encouraging research in atomic energy	• s 26 licence is required for decommissioning • s 44 Commission can make regulations regarding decommissioning and establishment requirements • No regulations
FINANCIAL GUARANTEE • None	• s 24 terms of licence to provide financial guarantee • No regulations

3. Comparisons

Legislative Basis – Decommissioning and Financial Guarantees

- No decommissioning regs pursuant to *NSCA* despite authority
  - DRAFT *Regulatory Document 2.11.2 Decommissioning* currently open for public comment
- No financial guarantee requirements set out in regulations pursuant to *NSCA* despite authority
  - DRAFT *Regulatory Document 3.3.1 Financial Guarantees for Decommission of Nuclear Facilities and Termination of Licensed Activities* recently closed for public comment
  - Financial guarantees often contingent upon federal/provincial backing

3.Comparisons

Renewable Energy Approvals - Decommissioning

REGULATION Requires decommissioning plan report setting out:

1. Procedures for dismantling or demolishing the facility.

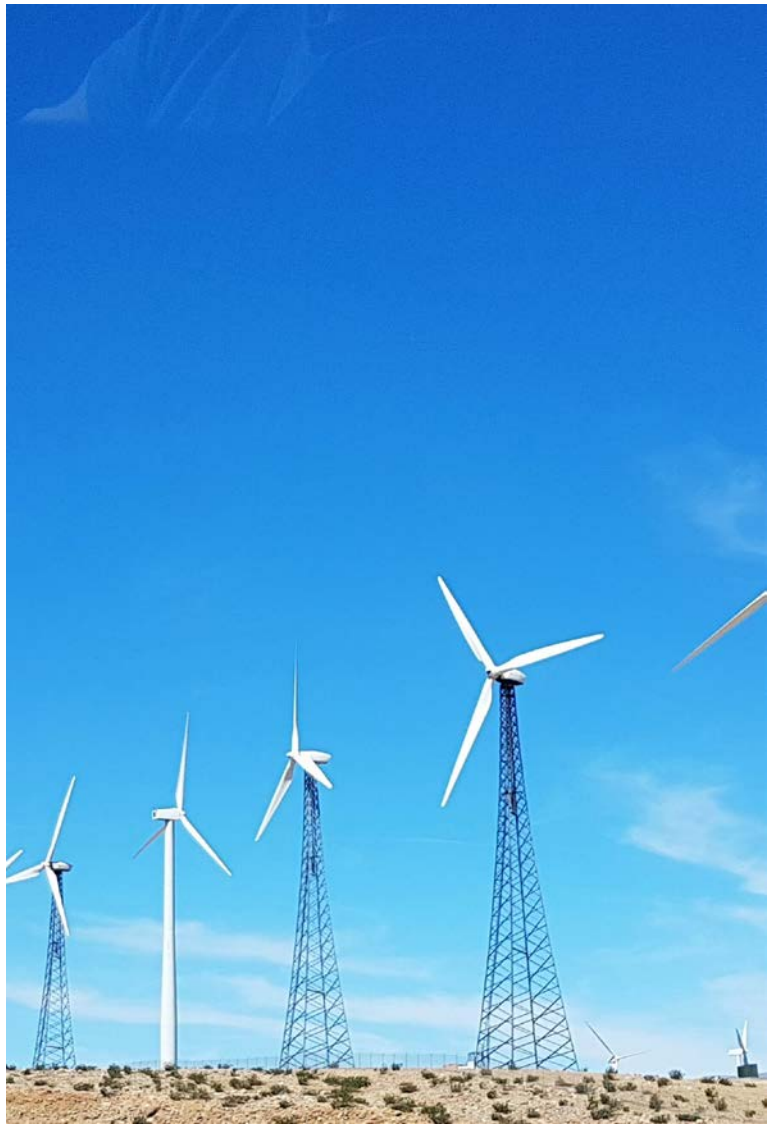
2. Activities related to the restoration of any land and water negatively affected by the facility.

3. Procedures for managing excess materials and waste.

3.Comparisons
Renewable Energy Approvals - Financial Assurance

- The applicant shall submit, as part of the application for the issue of a renewable energy approval, a financial assurance estimate related to the cost of the removal and disposal of waste from the project location.

- The financial assurance estimate mentioned in subsection (1) shall be prepared in accordance with the methodology in the Financial Assurance Guideline.



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4. Implications
Canada's Nuclear Fleet

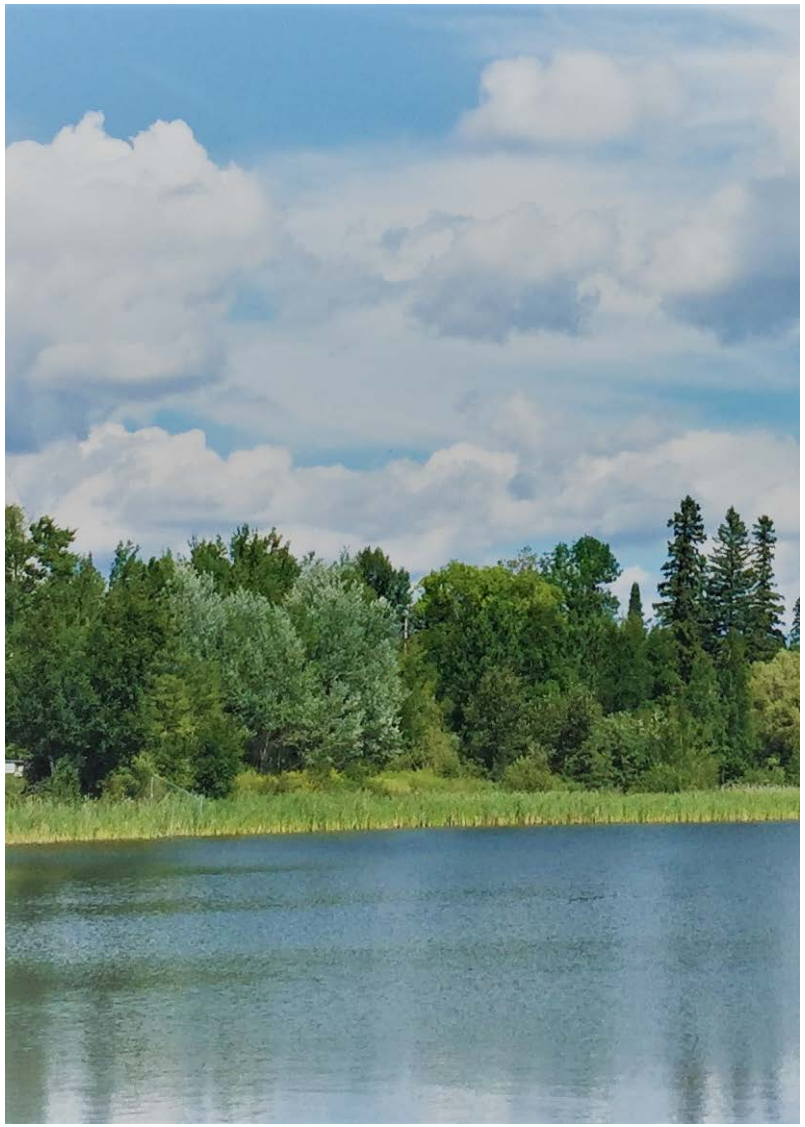
Despite absence of regulations, consistent guidance and legislated frameworks, extensive decommissioning decision-making has already occurred by Canada's nuclear regulator.

- Decommissioning licences granted for: Gentilly-2, SLOWPOKE-2 reactors, Whiteshell reactor
- Decommissioning licences currently being reviewed for renewal for Whiteshell reactor
- Decommissioning licence soon to be sought for Pickering Nuclear Power Generating Station.

4. Implications
Precautionary Principle

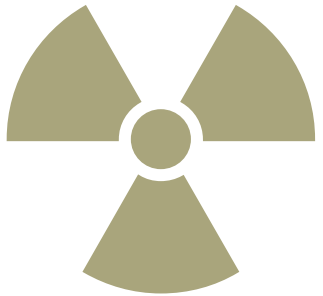
In order to achieve sustainable development, policies must be based on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

114957 Canada Ltée (Spraytech, Société d'arrosage) v. Hudson (Town), [2001] 2 SCR 241 at paras 30 – 32.



4. Implications
Nuclear Fuel Waste

- In early 2000s, nuclear industry recognized 'nuclear renaissance' was contingent upon a plan to manage stockpiles of high-level radioactive fuel waste generated by reactor operators since 1960s
- *Nuclear Fuel Waste Act* (*NFWA*) passed in 2002 - federal government delegated responsibility for developing long-term nuclear fuel waste strategy to Nuclear Waste Management Organization (NWMO)
- *NFWA* requires NWMO to consider issues like ethics, environmental impacts and risks of different waste management approaches



While *NFWA* incorporates sustainability considerations, the Act came into force 30+ year later than operations of Canada's first reactor

4. Conclusion

Framework for decommissioning planning is predominantly addressed by policies, not prescriptive regulations setting our standards/framework

Without IA, no mechanism to assess a project's contribution or harm to sustainability, prior to undertaking.

Without IA, no means of achieving sustainable development. Fostering sustainability is recognized as a statutory purpose of Canada's federal environmental law.

Thank you!

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