

# Nomination of Radionuclides under the Great Lakes Water Quality Agreement

Presentations by:

John Jackson, Toxics Free Great Lakes Binational Network and  
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July 14, 2025 (virtual meeting)

# Agenda

Part 1: Great Lakes Water Quality Agreement & Chemicals of Mutual Concern  
- John Jackson

Part 2: Large gaps in our understanding of radionuclide emissions on public health: the need for precaution and data - Mary Olson

Part 3: Adequacy of the Governance Framework for Canadian Nuclear Regulatory Oversight in the Great Lakes - Theresa McClenaghan

Part 4: Conclusion: John Jackson



Radionuclides as a Chemical of Mutual Concern in the Great Lakes Basin

Prepared for Canadian Environmental Law Association  
By John Jackson

February 2016

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# Part 1: Great Lakes Water Quality Agreement & Chemicals of Mutual Concern (CMCs)



John Jackson

- Great Lakes Ecoregion Network &
- Toxics Free Great Lakes Binational Network

Source: <https://binational.net/agreement/full-text-the-2012-great-lakes-water-quality-agreement/>



# Principles of the GLWQA should guide Annex 3 CMC work

- Ecosystem approach
- Precautionary approach
- Prevention approach “anticipate and prevent pollution”

Means taking long-term perspective and acting now with the very long-term future in our mind instead of waiting for a crisis

# IJC recommendations on radionuclides

- Seventh Biennial Report 1994, the IJC Commissioners called on the Federal governments to “incorporate those radionuclides which meet the definition of persistent toxic substances in their strategy for virtual elimination.”
- Eighth Biennial Report in 1996, the IJC Commissioners repeated their recommendation, stating “We continue to believe, however, that the consideration of radionuclides under the Agreement is important and cannot be ignored, particularly with new proposals to preprocess radioactive material in the Great Lakes Basin.”
- Both federal governments rejected these recommendation.

# Annex 3: Chemicals of Mutual Concern

- “preparing binational strategies for chemicals of mutual concern, which may include research, monitoring, surveillance and pollution prevention and control provisions;” [GLWQA 2012 - Annex 3, Part B, section 1.]
- Scientific research is part of the work to be undertaken for CMCs

## Part 2

**Large gaps in our understanding of radionuclide emissions on public health: the need for precaution and more data**

JULY 14, 2025

**Mary Olson and Cindy Folkers**, coauthors

[www.beyondnuclear.org](http://www.beyondnuclear.org)

See: <https://cela.ca/wp-content/uploads/2025/07/Mary-Olson-PDF-SLIDES-07-14-2025-FINAL.pdf>



**Governments' response to Citizens' on  
Radionuclides as a candidate chemical of  
mutual concern under the Great Lakes Water  
Quality Agreement**

**visit:**

[https://www.greatlakesecoregion.org/toxics-  
radionuclides-team](https://www.greatlakesecoregion.org/toxics-radionuclides-team)



## Part 3:

# Adequacy of the Governance Framework for Canadian Nuclear Regulatory Oversight in the Great Lakes

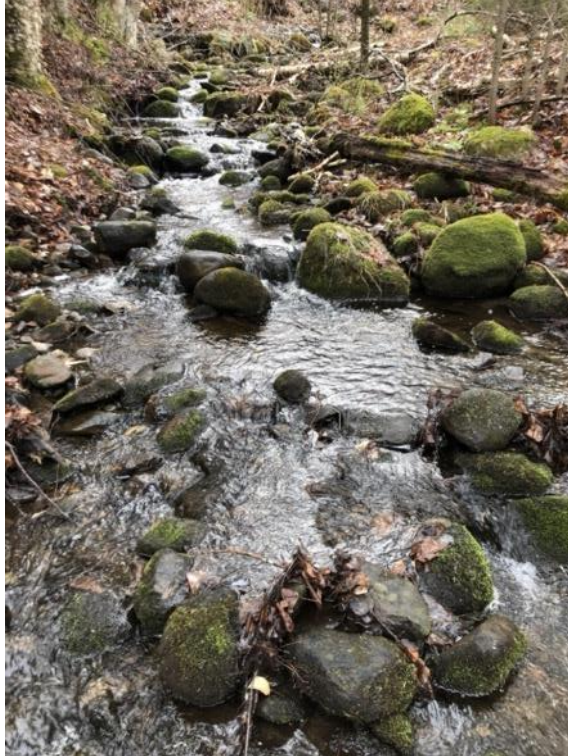
Canadian Environmental Law Association  
Theresa McClenaghan, Executive Director and Counsel  
July 14, 2025



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# Canadian Environmental Law Association (CELA)



*Photo: Kelly Mathews*

- Specialty legal aid clinic dedicated to environmental equity, justice, and health
- Founded in 1970, funded by Legal Aid Ontario since 1978
- CELA provides free legal services relating to environmental justice in Ontario, including representing qualifying low-income and adversely affected communities in the courts and before tribunals. CELA also provides free summary advice to the public and engages in legal education and law reform initiatives.



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# Canadian Nuclear Regulator is Not Independent of Industry it Regulates

- The Canadian Nuclear Safety Commission states that it is an independent regulator
- However, the intention to properly separate the regulator from the interests in promotion of the use of nuclear power have never been actioned since the legislation was amended to allow for this
- When the Nuclear Safety Control Act was enacted to replace the prior Atomic Energy Control Act, “promotion” and “utilization” of nuclear energy were removed from the objects
- Separate legislation was intended to have separate Ministers of the Crown oversee the CNSC versus AECL and other promotional interests



# Need for separation of regulator from promotion has a long history

- Many high level nuclear safety reviews over many decades led to repeated recommendations for nuclear governance changes.
- For nuclear fuel waste, the Seaborn Panel recommended an independent arm's length agency to advise government on long term strategy. Instead the Nuclear Waste Management Act set up an Agency whose board is entirely the operators of nuclear facilities and owners of the fuel.
- For operations, attempts were made in the 1970s to pass new legislation to separate Ministerial responsibility for promotion versus safety and oversight; it took until the 1990s for new legislation to pass separating these functions but Canada's government has not made a "machinery of government" decision to name separate Ministers for the Nuclear Safety Control Act and the Nuclear Energy Act.



# Lack of separation of regulator from industry interests can lead to catastrophe

- Examples where lack of separation of the regulator from industry interests such as promotion and utilization of nuclear power was found by expert, agency and government reviews to lead to disasters including Windscale in the UK, Three Mile Island in the USA, Chernobyl in the USSR, Fukushima Daiichi in Japan among others.
- The latter accident investigation found that the tragedy at Fukushima Daiichi was in part a result of a failure of the regulatory body with its oversight mandate to be effectively separated from the natural resources Agency which had a nuclear power promotion mandate.



# Regulator backs industry demands and resists those of civil society on key issues

- Length of nuclear power plant licences
- Transparency
- Disclosure of Safety Studies
- Confidentiality requests
- Denial of key due process that would allow for weighing of evidence
- Use of promotional language and allied promotion to expedite unproven technologies
- Senior executive speeches



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# Other hallmarks of regulatory capture in nuclear sector

- Examples of regulatory capture include the exchange of key personnel between industry and the regulator without adequate cooling off periods
- Key consultations involve industry but not the public (and this despite CNSC commissioners' direction) such as KI pre-distribution
- Industry leads standard setting such as through the use of CSA standards
- The regulator provides extensive time at hearings to proponents, and miniscule amounts of time to intervenors to present their points of view
- MOUs and work on “roadmaps” that expedite technology development by the regulator with industry



# Radionuclide Standards not protective enough

E.g., tritium standard for drinking water -

- Ontario drinking water standard is 7000 bq/L
- However the Advisory Counsel on Environmental Standards recommended 20 bq/L in 1994 as a revised drinking water standard
- Ontario Drinking Water Advisory Counsel recommended reduction to 20 bq/L annualized as the drinking water standard for tritium in 2009
- Neither has been acted on to date by the province of Ontario, which is the sole shareholder of Ontario Power Generation despite nuclear industry public claims that they could meet this standard
- The highly inadequate 7000 bq/L number is routinely cited by industry and regulator in response to spills and other events to claim that the event “meets the required standards”



Photo: Fe de Leon



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# Adequacy of regulatory oversight and standard setting are crucial due to expanding industry

- Plans and hopes for expansion in Ontario and beyond will affect the Great Lakes basin and exposures, loadings, cumulative, synergistic, and additive interactions with other radionuclides and chemicals
- Canadian regulator has stated it does not examine technology choice nor siting decisions of province of Ontario in energy supply
- Ontario has called for examination of new nuclear at Wesleyville, potential refurbishment of Pickering, is midway on refurbishment of Darlington, an impact assessment is underway for new large nuclear at Bruce, new nuclear at Darlington adjacent to existing plants has been licenced, and a myriad of waste sites exist and are planned



# Intersection of governance and regulatory jurisdictional responsibilities and choices leave gaps

- Nuclear power and its related activities were deemed federal jurisdiction under Canada's constitutional framework
- However electricity generation choices and property and civil rights are provincial
- Municipalities and their utilities are responsible for safe drinking water supply; however as noted the provincial standards for radionuclides are inadequate (as are the related federal guidelines)
- The Canadian regulator chooses not to second-guess siting decisions by Ontario
- Ontario (by choice) does not apply its environmental assessment rules to nuclear sector proposals (unlike other provinces)



# Part 4: Conclusion

John Jackson

- Will be submitting a more detailed brief by September 5, 2025
- Will have additional issues in it
- Final hour of this meeting: you will be hearing about these and other issues from the involved activists

*U.S. Nuclear Regulatory Commission's Recommendation that Radionuclides Not Be Listed as Chemicals of Mutual Concern Under the Great Lakes Water Quality Agreement, January, 2017, p. 1.*

“Designating radionuclides as chemicals of mutual concern will unnecessarily increase regulatory burden without a commensurate increase in safety or environmental protection. In addition, the change in designation may unnecessarily increase public concerns by implying that current regulations are not protecting public health, safety and the environment“

# Is Annex 3 on Chemicals of Mutual Concern working?

- Since 2012 when the CMC designation in the GLWQA was created, only 8 substances have been designated?
- Are there really only 8 substances that the public should be concerned about in the Great Lakes?
- Don't unnecessarily increase public concerns?
- Isn't it worse to put the public at ease when there is evidence of problems?

# Contact information



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