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A precautionary tale

Erika Simpson

The University of Western Ontario, simpson@uwo.ca

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Canada's new environment minister must decide whether or not to approve a nuclear waste facility near Lake Huron – and one consideration should override all others

A precautionary tale

Erika Simpson and Ian Fairlie, Special to PostMedia Network
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The newly minted federal environment minister, Catherine McKenna, has a March 1 deadline to decide on a proposal to construct a permanent repository for nuclear waste beneath the Bruce Nuclear site, little more than a kilometre from Lake Huron.

Called a deep geologic repository, or DGR, the facility is the brainchild of Ontario Power Generation. While it would not store fuel rods from nuclear plants, it would take in all other types of low- and intermediate-level radioactive wastes, such as concrete, equipment and protective gear from the continued operation and planned refurbishment of all of Ontario's 20 nuclear power reactors.

OPG plans to bury more than 200,000 cubic metres of the waste in a series of underground caverns constructed in limestone. The vaults would be 1.2 kilometres from Lake Huron.

While most of the studies and consultations were done when the Conservative government was in power, the final decision falls to the Liberal government, elected on Oct. 19.

If OPG is granted a construction licence in the spring of 2016, OPG forecasts a shovel-ready date of 2018 and an in-service repository by 2025.

Elements of the waste will remain dangerously radioactive for hundreds of thousands of years so the repository might well have to last on its own, without maintenance, for a period of time longer than the 200,000 years that humans have so far even been around.

A federal panel appointed by then minister of the environment, Peter Kent, and the Canadian Nuclear Safety Commission gave its seal of approval to the controversial proposal in May 2015. The panel's favourable view overcame a major regulatory hurdle in the construction of the DGR.

But since the panel released its decision after public hearings, opposition to this plan has only grown and spread.

So far, 184 municipalities representing more than 22 million people have passed resolutions opposing OPG's proposed waste site. A bipartisan group of six U.S. senators and 26 U.S. representatives wrote to Prime Minister Justin Trudeau in November urging him to block the DGR.

The Great Lakes Legislative Caucus, a non-partisan group of state and provincial lawmakers from eight U.S. states (Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin) and two Canadian provinces (Ontario and Quebec), passed a resolution opposing this repository or any nuclear waste repository in the Great Lakes basin.

U.S. senators Carl Levin and Debbie Stabenow have sent a letter to U.S. Secretary of State John Kerry asking him to stop the decision to store such large quantities of nuclear waste along the shores of an internationally-shared resource. They have also asked the International Joint Commission to review and reconsider the decision. (According to Michigan law, nuclear waste is not allowed within 10 miles of the Great Lakes).

Questions also remain about the role of First Nations in making the decision since the Canadian government has a legal requirement to consult them. During the hearings held in Kincardine, Saugeen Ojibway Nation Chief Randall Kahgee argued the nuclear waste site could not go ahead without his nation's support. He added he saw this as a "forever" project and pointed out the Saugeens do not have a process or protocol for looking past seven generations.

Other aboriginal groups, such as the Mohawk Council of Kahnawake and Anishinabek Nation Grand Chief Patrick Madahbee, have stepped forward to back the Saugeen Objibwe Nation.

It didn't help soothe critics that the only example OPG offered of a similar DGR — the Waste Isolation Pilot Plant in New Mexico — is no longer operating, after an underground fire and loss of containment resulted in radioactive releases to the surface in 2014. Likewise, Germany's vaunted salt mine solution for low-level nuclear waste has also proven to be full of holes as thousands of litres of groundwater continue to leak into the Asse mine every day mixing with radioactive waste.

Yet the environmental panel asserted there would be "no significant adverse effects on Lake Huron or the other Great Lakes". Any release of radiation, it stated, "would be extremely low relative to current radiation levels in Lake Huron and negligible relative to dose limits for the protection of the public."

During the hearings, however, one expert claimed this would be one of the most difficult scientific projects conceived in human's history.

The Great Lakes are the drinking water supply for 40 million people, in eight U.S. states, two Canadian provinces and numerous First Nation communities. Since the intention to bury nuclear waste is precedent-setting and the repository would be close to a valuable water resource, federal minister McKenna could announce in March that the proposal should be subject to considerably more input from local, provincial, federal, state, international and First Nations levels.

On the other hand, the so-called precautionary principle suggests OPG's proposal should be jettisoned now. This principle is incorporated into environmental and international law to protect the public from exposure to harm when extensive scientific knowledge on a matter is lacking. It states a project should not be undertaken if it might have serious adverse ecological consequences, even if it is not possible to know that these consequences will materialize.

— Associate Prof. Erika Simpson teaches about international security in the department of political science at Western University. Recently she was awarded the Shirley Farlinger Award for Peace Writings from Canadian Voice of Women, an organization with consultative status at the UN.