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Releases of radioactive form of hydrogen from Lepreau spiked in 2008, report says

Environment: Amounts of tritium found in Bay of Fundy still well below
federal guidelines

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OTTAWA - While still well below the government's allowable limits, releases of tritium from the Point Lepreau nuclear plant into the Bay of Fundy were more than six times higher in 2008 than the previous year.

Photo: An overview shot of the work being done in the turbine and generating area at the Point Lepreau Generating Station during the ongoing refurbishment. Mike Buckthought of the environmental group Sierra Club Canada says Canada's allowable limits of tritium are too high. He authored the report 'Tritium on Tap,' which tallied tritium releases based on figures routinely compiled by the Canadian Nuclear Safety Commission.

The amounts spiked to their highest level in 19 years.

NB Power says it was because of the refurbishment underway to extend the life of Atlantic Canada's only nuclear reactor by 25 years.

The plant went offline in the spring of 2008.

Tritium is a radioactive form of hydrogen that occurs naturally in tiny amounts.

It is also a by-product of the normal operation and maintenance of heavy-water Candu reactors like Lepreau.

The amounts involved are well below federal guidelines for drinking water or human exposure.

NB Power spokeswoman Heather MacLean said Lepreau's figures were "actually 1/10,000th of the allowable release.

"There is no issue here. Safety is our first priority."

Likewise, the Canadian Nuclear Safety Commission says the public is not at risk.

"There is no convincing evidence - either from biological experiments, observations of humans following accidental intakes of tritium, or routine surveillance of radiation workers - that doses of tritium, at the levels received in Canada, cause adverse health effects," says the CNSC.

Still, Canada's allowable limits are too high, argues Mike Buckthought

of the environmental group Sierra Club Canada.

He authored the report "Tritium on Tap," released Friday, which tallied tritium releases based on figures routinely compiled by the CNSC.

The Sierra Club report lists the Bay of Fundy, the Great Lakes and the Ottawa and St. Lawrence rivers as polluted by "radioactive water."

The report says "large quantities of radioactive water containing tritium are routinely released into the air and the Bay of Fundy, with unknown impacts on people and marine ecosystems."

Lepreau's releases into the bay rose from 300 trillion becquerels in 2007 to 2,000 trillion in 2008.

A becquerel is a unit of radioactivity. If a litre of water has 600 becquerels, it contains 600 tritium atoms decaying every second.

An accidental release of tritium from the Pickering nuclear plant in 1992 also sent 2,000 trillion becquerels into Lake Ontario.

Afterwards, levels of tritium were 600 times higher than normal background amounts at water treatment plants in the Toronto area, said the report.

That still left the levels less than one-tenth of the allowable limit.

The CNSC restricts the amount of radioactive material that can be released from any nuclear facility.

Actual releases are typically a fraction of the allowable limit.

The Sierra Club report focuses on tritium in drinking water supplies such as Lake Ontario and the Ottawa River, where deliberate releases have occurred at the Chalk River research reactor.

The lake has huge nuclear plant complexes in Pickering and at Darlington on its shores.

The CNSC says tritium has been measured for some time in public drinking water supplies in the vicinity of nuclear facilities.

Concentrations are typically in the range of 1.9 to 209 becquerels per litre.

That is a small fraction of the 7,000 Bq/L guideline set by Health Canada and adopted as Ontario's standard.

Environmentalists argue that the nuclear industry downplays the significance of tritium releases because tritium can increase the risk of cancer and birth defects.

Buckthought argued the only real long-term solution to releasing more tritium into the environment is to replace nuclear reactors with renewable sources of electricity.

Sierra Club is also calling for drinking water standards to be revised.

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