



BRIEFING NOTE

Need for urgent action to clean up radioactive mine waste found beneath homes in Elliot Lake, push for accountability

Current to June 29, 2023

Four families are seeking public support for their request for action by the Federal government, Canada's nuclear regulator, the Canadian Nuclear Safety Commission (CNSC), and BHP to clean up radioactive wastes found on their properties in the city of Elliot Lake, Ontario. Mine waste was moved from the nearby Rio Algom (now BHP) uranium mines in the 1960s and used as fill at some residential properties and in construction materials. As we detail below, the families residing in these four homes have been exposed to radon above Health Canada guidelines and doses of radiation above the CNSC's effective dose limits for members of the public.

The families are asking you to support them by:

- 1 Writing a letter to the Canadian Nuclear Safety Commission** and ask them to protect Elliot Lake families from radioactive waste on their properties. The CNSC must issue an Order against mining company BHP to clean-up the four properties. The mine waste must be placed at one of the local CNSC-licensed waste facilities.

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- 2 Writing a letter to Natural Resources Canada** and ask them to protect Elliot Lake families from radioactive waste on their properties. The Federal government must apply its Policy for Radioactive Waste and Decommissioning that recognizes Federal jurisdiction for all nuclear matters, including radioactive waste, and requires government authorities to manage radioactive wastes in a manner that protects human health, safety and the environment over the long term.

The Honourable Jonathan Wilkinson
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1. The Need for Clean Up

- The City of Elliot Lake in Northern Ontario was once a global 'uranium capital' with a booming uranium mining industry. The mines operated from the 1950s to late 1990s.
- As early as the 1970s, Canada's nuclear regulator, then called the Atomic Energy Control Board (AECB), was aware that radioactive mine waste rock was moved off Rio Algom mine sites and used as fill on housing lots and in construction materials, like concrete, throughout Elliot Lake.
- The presence of radioactive waste at four private residences in Elliot Lake is an egregious failure of Canada's nuclear regulatory system, which prides itself on regulating the nuclear industry for the whole lifecycle, including uranium mining and eventual disposal of wastes. No action has been taken to remove the radioactive mine waste or survey radiation levels since the early 1980s:
 - Former mining company Rio Algom (now BHP) owned and rented homes to its employees throughout the 1970s. The company acknowledged the homes were placed on mine waste rock and undertook annual maintenance and testing to ensure radon/ radon progeny and gamma radiation levels at the properties remained within allowable limits. This testing ceased and knowledge of the hazard was never passed along, when the homes were privately sold in the early 1980s.

Recommendation 1: To protect the environment and health and safety of four Elliot Lake families, the Canadian Nuclear Safety Commission must issue an order against licensee BHP requiring the decontamination of the four residential properties and the return of the radioactive wastes to a nearby licensed nuclear waste site.

2. Radiation Exposure and Health Impacts Above Canadian Standards

- Radon and gamma radiation experts recently surveyed the four Elliot Lake residents' homes, finding vast exceedances of Canadian limits:
 - **Radon/Radon Progeny:** Health Canada's [guideline](#) for indoor radon is 200 Bq/m³. The residents' homes had readings 2 to 9 times recommended limits.
 - **Outdoor gamma radiation:** There is no CNSC Guideline for Radioactive Materials. Instead, it relies on Health Canada's Guidelines for the Management of Naturally Occurring Radioactive Materials ([NORM](#)), which specifies that where surface contamination for radiation is measured at a rate of 50 µR/hr at 50cm above ground, further investigation is required. All of the four properties have areas, namely in the driveway, near the homes' foundations, or in the crawlspace beneath the home, exceeding this guideline.

- **Exposure to radioactivity:** The CNSC has set a strict limit on the [annual allowable dose](#) of radiation for a member of the public at 1 millisievert (mSv) per year. The residents' exposures, before any recent interim mitigation measures, range from 8 – 32 mSv of radiation annually.
- As the mine waste rock decays, gamma radiation is emitted as well as radon and radon progenygases, which can easily build up in the indoor, home environment. Radon is a radioactive gas and known human carcinogen.
- No protections are in place to monitor the health of residents exposed to radioactive mine waste. As a result, the four families are being exposed to radiation well above Canadian guidelines, posing an immediate and serious health risk. If this mine waste was located at a licenced site, health and environmental protections would be in place to limit public exposures and mitigate impacts.

Recommendation 2: Radioactive waste is not and should never be a private homeowner responsibility. To properly protect the health and safety of the four families from radioactive wastes, the mine wastes should be moved to nearby licensed nuclear waste sites. These hazardous wastes must be isolated from the public.

3. Canada's Modernized Radioactive Waste Management Framework

- In March 2023, the Federal government published its [Policy for Radioactive Waste Management and Decommissioning](#). It acknowledges that “early waste management practices” may have resulted in impacts on a number of communities, including those of Indigenous peoples and their environments.”
- The Federal government acknowledges its responsibility to implement international commitments, which includes “requirements to make certain that all radioactive waste in Canada is managed safely for generations to come.”
- The Policy recognizes the responsibility of the federal government, noting “radioactive waste can remain hazardous for very long periods of time, waste generators and owners must manage radioactive waste, including its disposal, in a manner that protects human health, safety, security, and the environment over the long term. The federal government is responsible for ensuring that this takes place, as responsibility for nuclear matters falls within federal jurisdiction under the Constitution.”
- The Federal government must live up to its policy commitment that “All radioactive waste and decommissioning activities and all radioactive waste management facilities, locations,

and sites are safely managed by waste generators and/or owners and regulated by Canada's nuclear regulator, the CNSC, to protect human health, safety, security and the environment now and over the long term, and to ensure nuclear non-proliferation."

- The Federal government's *Policy for Radioactive Waste Management and Decommissioning* does not state that private homeowners are responsible for radioactive mine waste found on their properties.

Recommendation 3: The Federal government must apply its *Policy for Radioactive Waste Management and Decommissioning* that recognizes Federal jurisdiction for all nuclear matters, including radioactive waste, and requires government authorities to manage radioactive wastes in a manner that protects human health, safety and the environment over the long term.

For more information or questions:

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