Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

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Written submission from David Snider

Mémoire de David Snider

In the Matter of the

À l'égard des

Canadian Nuclear Laboratories (CNL)

Laboratoires Nucléaires Canadiens (LNC)

Application from the CNL to amend its Chalk River Laboratories site licence to authorize the construction of a near surface disposal facility

Demande des LNC visant à modifier le permis du site des Laboratoires de Chalk River pour autoriser la construction d'une installation de gestion des déchets près de la surface

Commission Public Hearing
Part 2

Audience publique de la Commission
Partie 2

May and June 2022

Mai et juin 2022

Canada

From: David Snider
Sent: April 11, 2022 9:45 PM
To: Interventions / Interventions (CNSC/CCSN)
Subject: May 31 Public Commission Hearing – Canadian Nuclear Laboratories Near Surface Disposal Facility

To the attention of the Senior Tribunal Officer, Commission Registry, Canadian Nuclear Safety Commission:

With this email, I formally request to intervene, by way of written submission, in CNSC's public hearing on Canadian Nuclear Laboratories' application to amend its Chalk River Laboratories site licence to authorize the construction of a near surface disposal facility. The issue-based session that my submission relates to is the "Environmental assessment and environmental protection, including potential impacts on the Ottawa River". My submission as to why the proposed site is unsuitable for a radioactive waste dump are as follows:

1. The proposed site is less than one kilometre from the Ottawa River which forms the border between Ontario and Quebec. The Chalk River site is virtually surrounded by water, having been an island in the river in recent geological time. The river is the drinking water source for millions of Canadians who live downstream. Leaks of radioactive and hazardous contaminants from the dump would contaminate drinking water for thousands of homes, cottages, villages, towns and cities downstream.

2. The proposed site is located on a major fault line above porous and fractured bedrock. Studies in the 1990s determined the underlying limestone bedrock to be porous and fractured, with high rates of groundwater flow into the Ottawa River. The site is located in the Western Quebec seismic zone. Natural Resources Canada states that an earthquake occurs every five days on average in this zone. The largest of these earthquakes can have a magnitude of 6 on the Richter scale.

3. The site is tornado prone as witnessed by the 6 tornadoes that hit the Ottawa-Gatineau region on September 21, 2018. Driven by climate change, storms are becoming more severe, so the tornado risk in the region will increase. Failure of the dump containment system during a tornado could result in toxic radioactive and hazardous waste being carried through the air and spread along the path of the tornado in Eastern Ontario and Western Quebec. Dioxin, PBCs, asbestos and mercury and arsenic are destine to go into the dump. Radioactive materials destined for the dump include tritium, carbon-14, strontium-90, four types of plutonium (one of the most dangerous radioactive materials if inhaled or ingested), and up to 80 tonnes of uranium. Twenty-five out of the 30 radionuclides listed in the reference inventory for the mound are long-lived. This suggests the dump would remain dangerously radioactive for 100,000 years.

4. All of the escaping radioactive and hazardous materials would increase risks of birth defects, genetic damage, cancer and other chronic diseases. The aquatic ecology of the Ottawa River and St. Lawrence River would also be seriously impacted. The International Atomic Energy Agency (IAEA) says radioactive wastes must be carefully stored out of the biosphere, not in an above-ground mound.

5. The IAEA says that only Very Low Level Radioactive Waste (VLLW) can be put in an above-ground landfill-type facility. Canada would be shirking its international obligations as a member state of the IAEA and a signatory to an international nuclear waste treaty if it allowed this dump to be licensed.

6. The giant pile of leaking radioactive and hazardous waste would be difficult to remediate. Remediation costs could exceed those of managing the wastes had they not been put in the mound in the first place. It may be impossible to put the genie back in the bottle.

Other storage options and locations for the radioactive waste must be considered in order for the CNSC to make a truly informed decision. The NSDF may be more convenient and cheaper than other options, but in the long run it could cost much more when the huge negative impact on the environment and human population in the surrounding region and downstream is factored into the equation.

Yours sincerely,

David Snider, B.Sc., LL.B.