



**Written submission from
Ian Clark**

**Mémoire de
Ian Clark**

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



Université d'Ottawa | University of Ottawa

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April 8, 2022

Senior Tribunal Officer, Secretariat
Canadian Nuclear Safety Commission
280 Slater Street P.O. Box 1046, Station B
Ottawa, Ontario K1P 5S9

*Re: Canadian Nuclear Laboratories' application to amend its Chalk River Laboratories site licence to authorize the construction of a near surface disposal facility IAA
Reference Number: 80122*

Dear Secretariat:

I would like to submit a written intervention, in advance of the upcoming public hearings, in support of the proposed NSDF for which the Canadian Nuclear Laboratories is seeking a licence.

I am an environmental geoscientist with over 40 years of research and consulting experience in groundwater and contaminants. I have been a professor at the University of Ottawa for over 30 years and currently remain active in research as Professor emeritus. Throughout my career, I have worked on solutions for geological disposal of nuclear waste. My research group was instrumental in building the safety case for the Bruce DGR project in Kincardine, Ontario, for low and intermediate level nuclear waste, which was approved and recommended for construction by the CNSC. I lead an active research group currently working on the two sites under consideration by the Nuclear Waste Management Organization for high level nuclear waste. Further, I have worked in the current waste management areas onsite at the CNL Chalk River property over the past twenty years on research projects related to contaminant migration on site and so am very familiar with the geology and hydrogeology of the site.

The proposal to construct a single, well-engineered, site for the long-term isolation of low level radioactive waste is a responsible approach to managing the existing and future waste. Past activities at the Chalk River site have produced legacy waste materials that have been maintained at a variety of sites on the CNL property with differing levels of engineered barriers. While local environmental impacts from

these various sites are minimal and managed, the proposed NSDF will provide an improvement for the long-term management of these wastes. The proposed containment mound, as presented in the Environmental Impact Statement (Golder, May 26, 2021) will have two key features that will minimize radionuclide releases from the site over the short and long term. These include a waste water treatment plant to manage leachate generated during the operational life of the facility and a compacted clay cap that will preclude infiltration and leaching of the waste over completed cells and over the final engineered mound following closure. Together with the engineered base and site location, the design represents a sound approach to isolating the waste and minimizing potential seepage of radionuclides into the environment.

As a resident in the Ottawa River watershed who drinks this water every day, and paddles on it every summer, I am very cautious of any threat to the quality of this remarkably high-quality resource. Our stewardship of the Ottawa River water over the past decades has been commendable, with great improvements made since the days of pollution from pulp and paper and logging. I believe that we must do our utmost to preserve the quality of the Ottawa River and its catchment.

CNL and formerly the AECL have been, from the data I have reviewed, responsible tenants in the Ottawa River watershed. Our nuclear industry has made tremendous contributions to the safe use of nuclear energy for peaceful purposes, while setting standards for the safe management of nuclear emissions and waste. My conclusion is that their proposed NSDF is a responsible next step in the stewardship of the environmental impacts of our vital nuclear industry.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Ian Clark', is positioned above the printed name.

Ian Clark
Professor Emeritus, P.Geog