Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

CMD 22-H7.27

File / dossier : 6.01.07
Date: 2022-04-05
Edocs: 6756792

# Written submission from Lawrence Johnson

# Mémoire de Lawrence Johnson

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

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

5 April 2022

Subject: 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:

My name is Lawrence Johnson, and I would like to file an intervention regarding the NSDF application. I am a retired nuclear scientist living in Winnipeg and worked for 21 years at the Whiteshell Laboratories of AECL and spent 14 years there as Manager of the Fuel Waste Technology Branch where I managed programs on engineered barriers for nuclear waste disposal. I also worked for 16 years in Wettingen, Switzerland at the National Cooperative for the Disposal of Radioactive Waste (Nagra) where I was Senior Expert in safety assessment and R&D Coordinator and managed projects on waste forms, engineered barriers and long-term safety assessment for repositories for low-, medium- and high-level wastes.

I read in detail the Safety Case for the NSDF and much of the Vol. 2: EIS Rev. 3 (26 May 2021). In my opinion the Safety Case is sound, and the EIS and safety case are comprehensive and clearly make a convincing argument for the approval and construction of such a facility.

There is no question in my mind that this should proceed, as the practice of continuing storage of ever greater amounts of LLW materials above ground is unsatisfactory. The analysis of alternatives shows that the NSDF is superior from several perspectives.

It is often not understood by the public that surface interim storage of radioactive wastes, while it can be done safely when carefully monitored, is not sustainable as the wastes have a lifetime exceeding that of the technical systems used to control them and indeed of our societal governance structures (regulators, governments, and corporations). Interim storage must not be allowed to evolve into indefinite storage which could lead to neglect or even abandonment. Thus, disposal systems must be developed to contain the wastes and ensure that this containment and isolation continues beyond the lifetime of human control and intervention. The NSDF is indeed designed to ensure that this is achieved, and the EIS and safety case clearly illustrate this. Deferral of the project will ultimately lead to a situation that is less safe than implementation. The consequences of loss of institutional control of above ground long-term storage cannot be reliably estimated. In contrast to this, the long-term risks of the completion and operation of this facility appear to be acceptable and have been cautiously assessed, including the likely eventual loss of monitoring and institutional control. This will result in a safe environment for humans as well as low ecosystem impacts.

In conclusion, I believe the project should proceed in a timely fashion.

Thank you for providing the opportunity to intervene in this matter,

Lawrence Johnson