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Written submission from Edward Waller

Mémoire d' Edward Waller

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

9 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 Edward Waller. I am a Professor and NSERC Senior Industrial Research Chair in Health Physics and Environmental Safety at Ontario Tech University. I obtained my BSc in Physics and MScE in Chemical engineering from the University of New Brunswick, a Masters in Nuclear Security from TU Delft (Netherlands), and a PhD in Nuclear Engineering from Rensselaer Polytechnic Institute (USA). I am registered as a professional engineer (PEng) in Ontario and am also an American Board of Health Physics Certified Health Physicist (CHP). My research areas are diverse, extending into threat assessment, emergency preparedness and response, nuclear security issues and low dose effects on human and non-human biota. I teach courses in a variety of subjects, including radiation protection, environmental effects, shielding design, dosimetry, and environmental modeling.

Prior to joining Ontario Tech U, I worked in industry (SAIC Canada) for over 15 years. One of my responsibilities was project manager and lead scientist on a contract with the Department of National Defence for radiological decommissioning (of surplus DND assets, including military bases, ships and aircraft). As part of this contract, I had responsibilities that including packaging of radioactive waste and shipment to Chalk River Laboratories interim low-level storage (the predecessor to the NSDF).

Of possible interest to the tribunal, I worked for 8 months as a consultant to the International Atomic Energy Agency (IAEA) in the Incident and Emergency Centre (IEC), and I served a 5 year term (2012-2017) as a Canadian representative to the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), where I served as Chair of an Expert Group which produced two UNSCEAR reports. As such, I am familiar with IAEA guidance, and the scientific basis for national level regulations that extend from UNSCEAR, ICRP and IAEA.

I believe my background and experience makes me a suitable person to provide an intervention with respect to the near surface disposal facility.

Intervention

When complete Submit your intervention or email your intervention to interventions@cnsc-ccsn.gc.ca

I am highly supportive of construction and operation of a near surface disposal facility (NSDF) at Canadian Nuclear Laboratories. As a former client of the interim storage facility at Chalk River, I appreciate the need for a longer term solution for low-level waste. While the interim storage, with a 50 year lifespan, was suitable in a short term sense, a longer term disposal facility which can be efficiently monitored as the radioactive waste decays to low levels, is the smart thing to do. The best solution we have is to maintain appropriate facilities to store and monitor this waste in a secure location. My prior experience with CRL in waste management has been overwhelming positive and professional. I am sure that a new facility will operate in a similar responsible, professional and accountable manner.

Nuclear energy is one of the cleanest forms of electricity generation, and the contribution of nuclear energy to providing the energy demand in Ontario while maintaining low emissions is highly significant. As with all types of electricity generation, there is a certain amount of waste generated over the lifecycle of the facility. In addition, low level waste generated from production of medical and industrial isotopes needs to be safely and securely stored. The NSDF is the best solution to management of this waste.

I have reviewed the approach taken by CNL in preparing a license amendment to build and operate a near surface storage facility, and I believe the process is consistent with the regulations involving a CNSC Class 1B facility. The licensing approach is based upon technical data and expertise, environmental assessment and stakeholder involvement, and has been presented over a sufficient period of time for all interested parties to review and critically comment. The approach taken for the licensing, including the safety case, follows the best international guidance and I believe is in harmony and fully consistent with National regulations. From being a representative to UNSCEAR, and having worked at the IAEA, I understand the good science which forms the basis of regulatory guidance, and I trust that the Nuclear Safety and Control Act (NSCA) and the CNSC regulatory documents capture best international guidance developed under UN Member State consensus. Simply put, I trust the NSCA and the way the CNSC does business.

I believe nuclear power is one of the most highly regulated, safety conscious, secure and monitored industries in the world. Ontario has an enviable record of safe and clean performance over the history of CANDU operations. In addition the process for any nuclear technology licensing in Canada is very consultative between the regulatory authority, operator, and with stakeholders and I believe, based upon my observations, due diligence is exhibited in the preparation for operation of a near surface disposal facility (NSDF) at the CNL site. I further believe that the experience and expertise of the management and personnel at CNL will ensure that the facility operates in a safe, secure and environmentally friendly manner consistent with the Canadian regulations and best practices in the industry.

Thank you for providing the opportunity to intervene in this matter, and I am happy to present an oral intervention at your discretion.

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