Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

CMD 22-H7.133

File / dossier : 6.01.07
Date: 2022-04-11
Edocs: 6771733

Oral presentation

Written submission from Janet Graham

Exposé oral

Mémoire de Janet Graham

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

RE: Canadian Nuclear Laboratories' Application to Amend Chalk River Site Licence for Construction of a Near Surface Disposal Facility

Submitted by: Janet Graham

April 11, 2022

My comments are focused on radioactive waste and water and how important it is to keep the two separate. This point is emphasized in an excellent March 2018 episode of the popular Radio Canada program *Découverte*. The episode is called *L'héritage radioactif de Chalk River.*

If you haven't seen it already, I strongly urge you to watch it. The production uses excellent animated graphics to illustrate that the proposed site of the NSDF is basically surrounded by water. The Chalk River Laboratories property is situated on what would have been an island in the Ottawa River five thousand years ago. The proposed site for the NSDF is surrounded on three sides by wetlands. If that wasn't bad enough, the water table is very close to the surface at the proposed site for the NSDF.

Given the critical importance of keeping water away from radioactive wastes, the choice to site a facility for more than one million tonnes of radioactive waste on the Chalk River Laboratories property seems like a very poor one.

The *Découverte* production crew travelled to France to learn about the history of radioactive waste facilities there. They visited the first French disposal facility, the Centre de la Manche. They learned how that project failed and leaked, resulting in high levels of tritium discharged to nearby water bodies.

They also learned about a much improved project, "Centre de l'Aube". It employs sophisticated moveable covers to keep waste dry during disposal operations.

The narrator of the program laments the fact that the French have learned from their mistakes and have acquired valuable experience, but their knowledge doesn't seem to have got across the ocean to benefit us here in Canada.

The International Atomic Energy Agency stresses the importance of keeping radioactive waste and water apart from each other. IAEA Specific Safety Guide SSG-29, Near Surface Disposal Facilities for Radioactive Waste, says that "ingress of water into the facility towards the waste and the migration of radionuclides from the waste to the biosphere should be prevented." As a member state of the IAEA, Canada is should follow its safety guidance.

The City of Ottawa agrees that keeping radioactive waste away from water is important. In April 2021, Ottawa City Council passed a resolution of concern about the NSDF

calling for (among other things) “the Canadian Nuclear Laboratories and its regulator, the Canadian Nuclear Safety Commission, to prevent precipitation from entering the NSDF.”

Given the lessons learned in France, public concern, the specific request from City of Ottawa, and the IAEA international safety recommendation to prevent ingress of water into a nuclear waste facility, one would hope that measures would be taken to address this issue.

So how is this issue dealt with in the proposed licence?

Something called a "weather cover structure" does appear on a list of "consolidated commitments." These are things that the proponent has promised to do that are supposed to mitigate the adverse environmental effects of the NSDF. The list contains 856 "consolidated commitments" in a 105-page document that is posted on the Impact Assessment Registry.

One might wonder if a project that needs a 105-page document with 856 commitments to mitigate its adverse effects is a sound project. But let's look at what it says about the weather cover structure.

The "weather cover structure" commitment says that “designs are being evaluated for compatibility with the NSDF Project configuration and if feasible, could be implemented as a mitigation measure." The language here is very weak: "if feasible" and "could be implemented." The upshot is that the proposed license for the facility does not require that a weather cover structure would be built.

So there is nothing concrete at all in this proposed license to keep precipitation out of the NSDF.

The proposed license amendment approving construction of the NSDF does not address Ottawa's direct request to prevent precipitation from entering the NSDF, and it would not comply with the international safety standard in SSG-29 to prevent ingress of water into the radioactive waste disposal facility.