



Supplementary Information

Renseignements supplémentaires

Oral presentation

Exposé oral

Revised written submission from the Provincial Council of Women of Ontario

Mémoire révisé du Provincial Council of Women of Ontario

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 30 to June 3, 2022

30 mai au 3 juin 2022

PROVINCIAL COUNCIL OF WOMEN OF ONTARIO

(Estb. 1923)

May 16th 2022

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Submission : Ref.2022-H-07 : Canadian Nuclear Laboratory (CNL) application to amend its license to allow for the construction of a “Near Surface Disposal Facility” .

Introduction

The Provincial Council of Women of Ontario has a very strong interest in , and have researched and developed policies on nuclear issues as they impact health, environment, workers, families and society for over 30 years. Using these policies we have presented to many Boards, Commissions and the political representatives regarding a wide range of nuclear projects, policies and plans.¹

With regard to the current CNL proposal, PCWO is following up on our previous comments to CNSC in 2017 about what we considered a “*scoped and hurried*” Environmental Assessment of the Near Surface Disposal Facility at Chalk River Laboratories.

We are therefore very aware of, and strongly support, the concerns of the many groups such as the Old Fort William Cottagers Association, the Ralliement contra la pollution radioactive group, over 140 downstream municipalities along the Ottawa River, and the Indigenous peoples, on whose “*Un-ceded*” lands this current CNL proposal to build a giant- above ground nuclear waste dump for the one million tons of mixed radioactive and hazardous waste alongside the Ottawa river, may be built. **2**

With this in mind PCWO raises the following issues regarding the current CNL proposal.

Geology

Of great concern to PCWO is the location of the proposed CNL mound in a known area of geologic instability, where there is considerable risk from earthquakes. According to the 2017 Canadian Nuclear Laboratory project description of this area , “*Two main fractures of faulting zones are present in the CNL property; the Mattawa Fault, which lies below the Ottawa River and consists of the northeast boundary of the property; and the Maskinonge Lake lineament in the southwest area of the property. Within the Perch Lake Basin a moderate probable fracture zone extends from*

approximately east to west through the upper portion of the basin.” 3. And, according to the late J. Robert Janes BSc, M. Eng. author of Geology and the New global Tectonics, “ These faults are known to be active and have been for thousands of years”4. This latter precautionary statement is in contrast to the optimistic, but not tested, CNL staff comments at the February 22nd, 2022 CNSC hearing, that this high mound is “designed to withstand a significant seismic event, the magnitude of which has not been observed in the region”.

Technical Protection, Exposure to Weather and Life Span

PCWO finds it extremely troubling, that CNL’s proposed 60 foot high, mostly above-ground nuclear dump, which is planned to contain one million tons of mixed radioactive and hazardous wastes will have its upper container exposed to the elements for about 50 years until the mound is completely sealed. Additionally, while CNL predicts and plans for the synthetic, high density polyethylene geomembrane-liner system, and other technologies, to protect the mound’s contents from the elements for 550 years, it is our understanding that liners for municipal dumps don’t always work as expected and can eventually leak. 5. It is significant that this project will be their first test and any failure will be disastrous.

Equally worrisome, the mound is to be built on a slope in a very sensitive wetland area that drains into the Ottawa River which is less than 1,000 metres from the site. It is also common knowledge that the water table is just inches under the surface at that location, the bedrock is highly fractured, and there is a probability that the site could be flooded, particularly in these days of rapidly changing weather, and an ever increasing number of significant and extremely damaging floods. No matter how well a project (in this case a very high mound) or building is engineered, or barriers created, water usually finds a way to the lowest point nearby. We note that *previous studies by dump proponents, identified many ways the mound would leak and described the inevitable disintegration of the mound within 400 years through a process of normal evolution” 6.*

It is also clear that the site is far too small to be dealing with so many kinds of Nuclear and hazardous waste projects. It should be located on much larger pieces of land. And while it seems logical to remove old buildings, and to sort, categorize and secure CNL’s current nuclear waste on the site, or preferably on a much larger site elsewhere, low and intermediate nuclear waste from across Ontario and Canada should not be transported in, but dealt with safely close to where it is produced and well away from sensitive natural areas and any water body.

Low and Intermediate Nuclear Waste Risks

According to respected independent scientist Gordon Edwards and others, some intermediate and low level nuclear wastes, are dangerously radioactive and extremely long-lived. Also, according to Dennis Leneveu, a former vault modeller for Canada’s first high level waste program in the 1990s, post-closure monitor

assessments found that both high level and low level were “*long lived*” and “*major dose contributors*” .7. These facts make CNL plans for five hundred years of containment and monitoring, and then abandonment , not only poor planning but lacking due thought of health, environmental and social stewardship for the benefit of generations to come.

Conclusion

The potential releases of extremely dangerous radioactive elements and other hazardous wastes, whether as a result of design flaw, human error, or act of a malevolent nature, will pollute the site , the ground water, surrounding lands, the Ottawa River, and hence the environment, health, and welfare of nearby and downstream Ontario and Quebec residents immediately and for many years to come . PCWO urges the Commission members to turn this application down, or at the very least ,allow for an independent scientific, social and environmental review before proceedings go further.

Gracia Janes

Background :

1.The Provincial Council of Women was an Intervenor at the Seaborn Nuclear Fuel Waste Management and Disposal Concept panel hearings in 1997-98. We were cited at page 52 {Safety and Acceptability} of the Panel’s 1959 report .” The public at the end of the phase 11 {technical hearings} was left with the feeling of grave unease.”

PCWO was also an Intervener at the Ontario Energy Board’s 2008 Ontario Power Authority Integrated Power System Plan (IPSP) hearing, with the OEB–delegated responsibility to deal with waste management. PCWO was an intervenor as well in the Bruce Power Deep Geologic Repository on Lake Huron hearing, the Pickering and Darlington Nuclear life extension hearings and others.

2 Mitchikanbikok. Brief # CMD 22-139 “ We the Mitchikanbikok are extremely concerned about the proposed project’s potential impacts on our lands, waterways, rights, and way of life””We do not consent to the project”... “Operations will last hundreds of years” “ We are concerned with ground water, fish habitat, human exposure; waters, species at risk, impacts from potential accidents and malfunctions ..”

3. CNL Project Description SECTION 5.3 GEOLOGICAL AND HYDROLOGICAL ENVIRONMENT 5.3.1.4.2.2 . Map Figure 5.3.1.5 Descriptive “ Two main fracture or faulting zones are present in the CRL property; the Mattawa Fault , which lies below the Ottawa river and consists of the northeast boundary of the property, and; the Maskinonge Lake lineament in the southwest area of the property. Within the Perch Lake basin a moderate probable fracture zone extends from approximately east to west through the upper portion of the basin. “

4. Personal communication ** “*These are known to be active and have been for thousands and thousands of years* “ .J.Robert Janes B.Sc, M.Eng, author Geology and the New Global Tectonics. Macmillan Publishing 22/02/22

5. “All Landfills Leak “ Conservation Law Foundation 07/23/2018 <https://www.clf.org>

6. Submission Concerned Citizens of Refrew County. .page 9 “Degradation of the mound’. April 10th 2022.

7. Personal Communication.. Dennis Leneveu Independent Academia. –Study ; From Laboratory Experiments to a Geological Disposal Vault: Calculation of Used Nuclear Fuel Dissolution Rates. 1997.