

**Comments on the Project Description for the Near Surface Disposal Facility at Chalk River Laboratories
(CEAA Reference number 80122)**

Submitted by Michael Stephens, concerned Deep River resident

June 12, 2016

General Comments

Good practice in developed countries for disposing of Low-Level Waste (LLW) involves emplacing it in surface or near-surface vaults (e.g., France, Japan, Spain, UK) or in rock cavities (e.g., Sweden, Finland) http://www.iaea.org/inis/collection/NCLCollectionStore/_Public/43/084/43084406.pdf . Did the proponent consider adopting any of these other concepts to deal with its LLW? Why was the proposed near-surface engineered mound concept selected instead?

The NSDF will be a disposal facility, so the proponent will need to conduct an assessment of the long-term safety of the closed facility following CNSC Regulatory Guidance document G-320: *Assessing the Long Term Safety of Radioactive Waste Management*. That assessment will be critical in assessing the potential long-term safety and risks to the environment and public. That assessment should be completed, show that no unacceptable risks will remain on the site, and be discussed with the public before this project is allowed to proceed.

To my knowledge, the proponent has not proactively sought two-way direct interactions with members of the public about this project. The proponent should begin such activities as soon as possible to avoid the appearance of having adopted a “Decide-Announce-Defend” approach to public engagement.

Detailed Comments

Section 2.3 – It is indicated that during 2015 September to December, communication activities by CNL have provided “a brief overview of the proposed NSDF within the context of a larger vision of the company” to various groups of local elected officials and industry groups.

There is no mention of any information provided directly to the members of the public. I do not recall any previous proactive substantive notification and information provided by the proponent, nor any invitation to comment on the proposed approach, the alternatives to it, and the rationale for adopting the proposed approach.

Section 2.4 – The CNL public information program is described as having the overriding objective, “to build public awareness, understanding, and a supportive appreciation of the Laboratories’ value and relevance to Canadians”. There is no indication that CNL seeks to listen to the public and consider accommodating its concerns and preferences in its program. There are many well-informed local members of the public in the Upper Ottawa Valley who might lend their support to proposals if their views were sought and responded to before key decisions are made. The vital importance of direct early two-way engagement with the public was a lesson learned the hard way by the United States Department of Energy at similar sites in the US.

Will the proponent soon begin direct, open, detailed, two-way communications with members of the public? It is now rather late in the process of defining the project. The proponent risks being perceived as having adopted a “Decide-Announce-Defend” approach to public consultation.

Section 3.1.2 – The stated objective of the project is to build a facility that will accept 1,000,000 m³ of LLW over 50 years. The list of waste includes future waste from “the remediation of soils from the final closure of the CRL site”. How would that be possible, unless the planned final closure of the CRL site is less than 50 years in the future?

The currently unspecified Waste Acceptance Criteria (WAC) are critical to assessing the long-term performance of the facility. Demonstrating that wastes to be emplaced meet the WAC will be challenging because unlike the waste from a power reactor, LLW wastes from research sites like CRL and WL are generated over many decades in quite variable research activities on many different designs of reactor fuel and other nuclear substances. Similarly, mixed wastes will be quite variable. Some hazardous wastes degrade over time, while others will be stable and potentially pose a threat indefinitely.

The NSDF is described as being a near-surface engineered mound resembling the Port Granby facility. The website of the Port Hope Area Initiative (www.phai.ca) describes the Port Granby facility and the Port Hope facility as being “long-term waste management” facilities (i.e., not disposal facilities - with no intention of retrieval of the waste). The proponent mentions US facilities, but they are subject to a different regulatory regime than that in Canada. A properly performing closed disposal repository will not require eternal monitoring and leachate treatment.

During the operational phase, is it planned to place temporary covers over open cells so that they do not collect large quantities of precipitation that will need to be treated? Detailed designs of the base liner and final cover systems are not available for comment.

Section 3.4 – The third phase of the Project, “Post-closure and monitoring”, will nominally last from 2070 to 2400, some 330 years. It is indicated that during this time the systems for leachate collection and removal, leak detection, and gas collection will be monitored and maintained. This is a huge commitment that is being proposed by a proponent which AECL has only engaged to manage the CRL site for up to ten years. AECL and the federal government must therefore also firmly underwrite this proposition. If the waste were better treated and emplaced in a better containment this commitment would be much less problematic to propose and meet.

Section 4.1 – Figure 4-1 indicates that whichever site is chosen, the facility will cover approximately 30 ha (i.e., about 42 soccer fields). Heavy disruption of this enormous area will certainly have a large effect on the existing local surface and subsurface environments.

Section 5 – It is noted that CNSC licences to construct and operate may be required. Will further CNSC licences be required to decommission the interim surface facilities, and to close (and eventually to “abandon”) the disposal facility itself in the third phase of the project?

The project description does not mention that because the NSDF will be a disposal facility, the proponent will need to conduct an assessment of the long-term safety of the facility, following CNSC Regulatory Guidance document G-320: *Assessing the Long Term Safety of Radioactive Waste Management*. That assessment will be critical in assessing the potential risks to the environment and public. Accordingly, that assessment should be completed, show that no unacceptable risks will remain on the site, and be discussed with the public before this project is allowed to proceed.