

August 22, 2017

From: Dr. John Hilborn

To: Nicole Frigault, Environmental Assessment Specialist  
Canadian Nuclear Safety Commission

By email: [cncs.ea-ee.ccsn@canada.ca](mailto:cncs.ea-ee.ccsn@canada.ca)

CNSC NSDF Comment

CEAA Reference number: 80122

Dear Ms. Frigault:

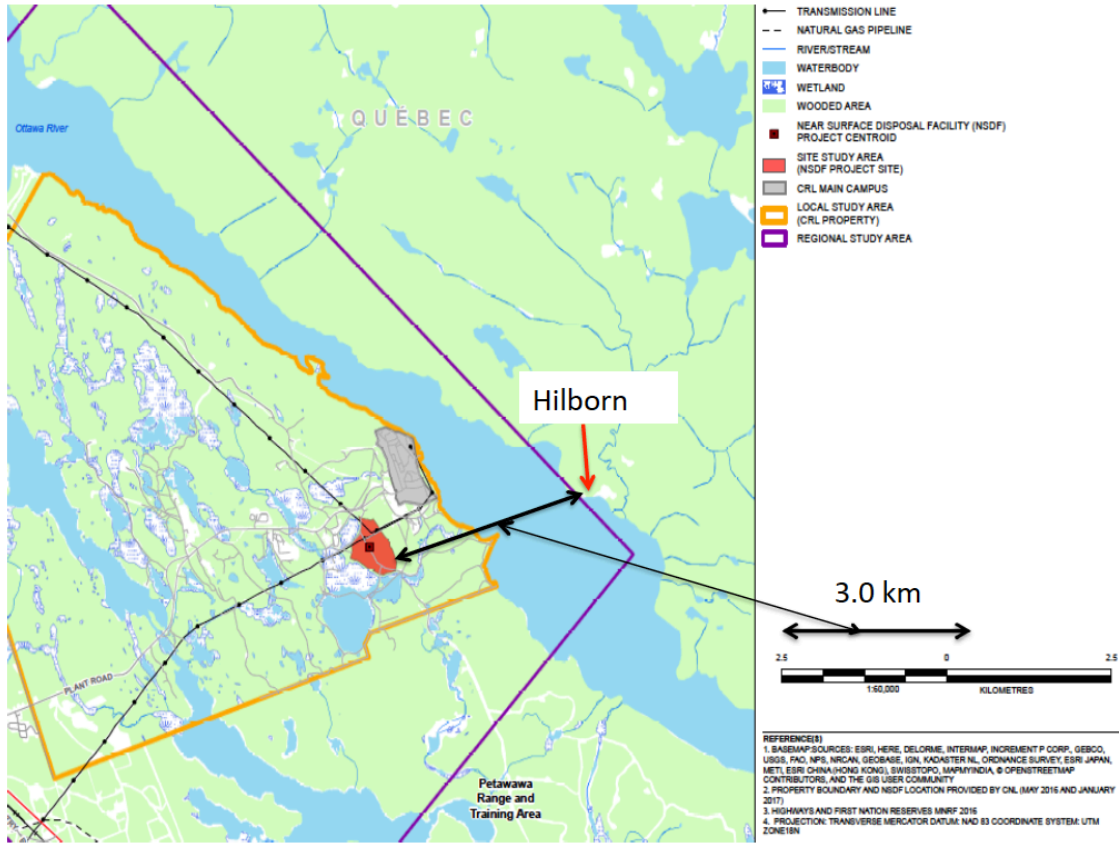
I am a resident of Deep River, and having just seen the submission from the Mayor of Deep River, Joan Lougheed, I thought it important to inform you that I own a property in Quebec 3 km from the NSDF.

Consequently my son Cameron Hilborn is the nearest full-time resident. He manages our family business Oiseau Bay Resort. (info at Google).

Please acknowledge,

Dr. John Hilborn.

1. Distance is about 3 km using Figure 5.2.1-1 from the EIS, see below.



2. Quote from the EIS Section 6.4.4.2 gives correct distance of 3 km, but notes only a cottage residence, not the Hilborn business.

#### **6.4.4.2 Fire in Temporary Waste Accumulation Area**

In the event of a fire at the NSDF Project site during the operations phase, there is a reasonable probability of it to occur in a temporary waste accumulation area (located within the ECM), thereby releasing radionuclides to the environment. The following accident scenario was developed for the assessment:

- 500 packages of radiological waste are involved in the postulated fire in the temporary waste accumulation area;
- the fire lasts for one hour; and,
- the **nearest** public receptors are assumed to be 3,000 metres (m) away from the scene, which is the distance from the proposed NSDF Project site to the closest cottage residents.

3. Quote from the EIS Section 5.8.6.1.1.1 quotes only seasonal cottages at 3 km.

**5.8.6.1.1.1 Receptor Selection**

Human receptors are represented by Potential Critical Groups (PCGs). Potential Critical Groups are an identifiable, relatively homogeneous group of members of the public who, as a result of their location, age, diet, and habits, are representative of those people expected to receive the highest radiation doses as a result of radionuclide emissions from a given source. The Potential Critical Groups which have been identified for the CRL site survey are shown in Table 5.8.6-1, along with their distance to the NSDF. Potential Critical Groups were selected based on CNL's Derived Release Limits (DRL) report (AECL 2011). The critical groups listed in Table 5.8.6-1 are those that are likely to receive the highest radiation doses as a result of CRL operations. The groups identified for the air effluent pathway are located upstream of the Ottawa River and will not be exposed to waterborne releases, however, they are more likely to be exposed to higher levels of releases to air due to proximity to the source of releases to atmosphere. Liquid Effluent PCG may be exposed to both liquid and atmospheric releases. It is noted that some of these PCG locations (e.g., Petawawa, Pembroke) are outside of the RSA, as defined in Section 5.8.3.1.

**Table 5.8.6-1: Potential Critical Groups for Chalk River Laboratories**

| Air Effluent PCGs |                       | Liquid Effluent PCGs |                       |
|-------------------|-----------------------|----------------------|-----------------------|
| Location          | Distance to NSDF (km) | Location             | Distance to NSDF (km) |
| Cottager          | 3                     | Cottager             | 3                     |
| Mountain View     | 8                     | Laurentian Valley    | 36                    |
| Balmer Bay        | 7                     | Pembroke             | 30                    |
| Chalk River       | 5                     | Petawawa             | 25                    |
| Deep River        | 12                    |                      |                       |

km = kilometres.

Based on the PCGs identified above, the following two types of PCGs were considered in the analysis of dose to human receptors:

- residential (homes established on the shore of the Ottawa River and communities that are serviced with water drawn from the Ottawa River); and,
- seasonal (cottages on the shore of the Ottawa River).

4. Quote from Section 5.8.6.1.1 of the EIS states, incorrectly, that the nearest cottages on the Quebec side of the Ottawa river are shown on Figure 5.10.3-1.

Noise-level changes often considered in an environmental assessment include noise-induced sleep disturbance, noise complaints, long-term high annoyance. For the NSDF Project, a qualitative assessment of the acoustic environment was carried out based on the separation distance between the NSDF site and the nearest sensitive locations. In accordance with MOECC guideline NPC 300 (MOECC 2013), sensitive locations include permanent and/or seasonal dwellings. Communities in the vicinity of the NSDF site are shown on Figure 5.10.3-1, which includes the nearest cottages on the Quebec side of the Ottawa River, approximately 4 km from the NSDF site. Based on this separation distance, a detailed assessment is not typically required by the MOECC. In addition, based on the Health Canada guidance (Health Canada 2016), a less extensive

March 17, 2017  
Project No. 1547525

5-634



232-509220-REPT-004  
UNRESTRICTED



**CNL NEAR SURFACE DISPOSAL FACILITY PROJECT EIS  
SECTION 5.10 SOCIO-ECONOMIC ENVIRONMENT  
REVISION 0**

assessment may be warranted if noise levels at all receptors are not expected to result in a change in %HA exceeding 6.5%.

