



**Oral presentation**

**Exposé oral**

**Written submission from  
Ipsos Custodes**

**Mémoire d'  
Ipsos Custodes**

In the Matter of the

À l'égard des

**Canadian Nuclear Laboratories (CNL)**

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**Laboratoires Nucléaires Canadiens (LNC)**

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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**

Filed on April 10, 2022

Ipsos Custodes formally petitions to address the Canadian Nuclear Safety Commission (the court) regarding the licence application for the Near Surface Disposal Facility (NSDF) project by the Canadian Nuclear Laboratories (the applicant). The includes a request for oral arguments.

Ipsos Custodes is a new entity that has expertise in health physics, nuclear engineering, and regulatory compliance. Ipsos Custodes has previously provided comments on Discussion Paper DIS-21-02 and REGDOC-2.9.2, Controlling Releases to the Environment.

Ipsos Custodes has important unique information to provide to the court. This information can be grouped into two related themes. First, the licence to construct cannot be granted as proposed in the Environmental Impact Statement (EIS) due to surface water contamination post-closure. Second, the licence to construct cannot be granted because the Honour of the Crown has not been satisfied.

The applicant used a 300 microsieverts per annum dose criterion as an acceptable limit on radiation exposure for “the Normal Evolution Scenario” (sic). This is not consistent with current regulations. The Nuclear Substances and Radiation Devices Regulations uses, exemption quantities, conditional clearance levels, and unconditional clearance levels based on a maximum dose of 10 microsieverts per annum. Since there are no licensed disposal facilities in Canada at this time, 10 microsieverts per annum is effectively the current legal disposal limit in Canada at this time. The court’s own guidance, REGDOC-2.7.1 Radiation Protection, sets up a limit for surface contamination also based on 10 microsieverts to the most exposed person. Allowing NSDF to expose individuals to radioactive nuclear substance to a level thirty (30) times the current legal disposal option is incongruous and more than a little absurd.

Simultaneously, the applicant used a 1000 microsieverts per annum dose criterion as an acceptable limit on radiation exposure for “Disruptive Event Scenarios” (sic). This level of dose is completely unacceptable given that it would leave no margin for other dose accumulated in a year. The 1000 microsievert per annum quantity is the value the Court has set in the Radiation Protection Regulations as the value that separates nuclear energy workers from other members of the public. The de minimis value of 10 microsieverts per annum was derived as allowing up to one hundred (100) similar dose events during the same year. Even the incongruous value of 300 microsieverts per annum, mentioned supra, was derived as providing for the kind of margin for other sources of radiation dose exposing the affected population.

It is unreasonable for the Court to allow any disposal facility that has any design basis evolution that exposes a member of the public to more than 10 microsieverts per annum, let alone 300 or 1000 as the safety case shows. REGDOC-2.11.1 III states that the ‘applicant shall ensure that the post-closure safety assessment demonstrates their understanding of the disposal system through a well-structured, transparent and traceable methodology.’ This has not been performed. The model used by the applicant has two fatal flaws: the inputs and the model itself. The information provided to the public cannot be independently verified due to the opaque inputs and the non-public nature of the model. For models, incorrect inputs lead to

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meaningless results. Since the committed effective dose to receptors is significantly impacted by the surface water velocity and soil porosity Ipsos Custodes wishes to validate the model for surface water as presented in the EIS. The values used for these key inputs to the proponent's models must be conservative values, not based on current site values, since the conditions post-closure, 100 to 400 years in the future may be reasonably be seen to differ from current conditions. Ipsos Custodes expects that the models the proponent to use be as conservative as those used to generate the unconditional clearance levels now in use by the Court.

Ipsos Custodes formally requests the all information and models from the Court to recreate the surface water models performed by the applicant prior to the date of oral hearings. The proponent's Near Surface Disposal Facility Safety Case, 232-03610-SAR-001, contains a possible scenario for the future evolution of the project called 'H.I. Well Case (shallow contaminated well)'. This is the limiting scenario for radiation dose purposes. There is no reason, a priori, to believe this is the most conservative design basis scenario possible.

Ipsos Custodes formally requests the all the information and models from the Court to recreate the expected dose calculated for the shallow contaminated well scenario, supra, prior to the date of oral hearings.

The second key argument of Ipsos Custodes is that the court has not satisfied the Honour of the Crown as described in Daniels v. Canada (Indian Affairs and Northern Development). In this ruling from the General Court of Appeal for Canada, it was found that 'Métis and non-status Indians are included in what is meant by "Indians" in s. 91(24)' of the Constitution Act, 1867.

Therefore as a corollary, 'non-status Indians have the right to be consulted and negotiated with, in good faith, by the federal government on a collective basis through representatives of their choice, respecting all their rights, interests and needs as Aboriginal peoples.' The Court has shown no attempt to consult with non-status Indians, therefore they have prima facie failed to consult with with non-status Indians.

Ipsos Custodes represents non-status Indians and requests consultation regarding the radiation dose to potentially exposed future generations that may occupy the NSDF location. Note that the duty to consult is a duty of Her Majesty, and not an obligation of the applicant. Ipsos Custodes also advances the case that the consultation that has been conducted to date with §91(24) Indians is incomplete, and therefore does not satisfy the Honour of the Crown. The nature of this incompleteness is due to the surface water radionuclide content and subsequent potential dose (and their derivation) being lacking to the public. It is settled law 'that the Crown must inform itself of the impact the project will have on [Indians] of their rights... and communicate its findings to them', Grassy Narrows First Nation v. Ontario (Natural Resources).

Since this potential surface water dose is not of a de minimis amount, this consequential omission or error cannot be ignored. Finally, Ipsos Custodes requests that the NSDF not receive approval from the Court unless the highest possible dose to any exposed individual is less than or equal to 10 microsieverts per annum. Any approval above this de minimis amount is

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inconsistent with the existing regulatory framework, international guidance, and would require consultation from non-status Indians that has not taken place. Ipsos Custodes cannot support the operation of NSDF as a disposal facility based on the surface water contamination levels predicted post-closure. NSDF, like its sister projects in the Port Hope area, can only be licensed as a storage facility as currently presented to the Court.

Mr. Curtis Russell

Ipsos Custodes