

FEDERAL COURT

B E T W E E N:

**CONCERNED CITIZENS OF RENFREW COUNTY AND AREA, CANADIAN
COALITION FOR NUCLEAR RESPONSIBILITY and RALLIEMENT CONTRE LA
POLLUTION RADIOACTIVE**



Applicants

-and-

ATTORNEY GENERAL OF CANADA and CANADIAN NUCLEAR LABORATORIES

Respondents

NOTICE OF APPLICATION

TO THE RESPONDENT:

A PROCEEDING HAS BEEN COMMENCED by the Applicant. The relief claimed by the Applicant appears on the following pages.

THIS APPLICATION will be heard by the Court at a time and place to be fixed by the Judicial Administrator. Unless the Court orders otherwise, the place of the hearing will be as requested by the Applicant. The Applicant requests that this application be heard at Ottawa.

IF YOU WISH TO OPPOSE THIS APPLICATION, to receive notice of any step in the application or to be served with any documents in the application, you or a solicitor acting for you must prepare a notice of appearance in Form 305 prescribed by the *Federal Courts Rules* and serve it on the Applicant's solicitor, or where the Applicant is self-represented, on the Applicant, WITHIN 10 DAYS after being served with this notice of application.

Copies of the *Federal Courts Rules*, information concerning the local offices of the Court and other necessary information may be obtained on request to the Administrator of this Court at Ottawa (telephone 613-992-4238) or at any local office.

IF YOU FAIL TO OPPOSE THIS APPLICATION, JUDGMENT MAY BE GIVEN
IN YOUR ABSENCE AND WITHOUT FURTHER NOTICE TO YOU.

February 7, 2024

Issued by:

Kadara Thompson
(Registry Officer)

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APPLICATION

This is an application, pursuant to sections 18 and 18.1 of the *Federal Courts Act*, RSC, 1985, c F-7, for judicial review of the decision of the Canadian Nuclear Safety Commission (“**Commission**”) dated January 8, 2024, approving Canadian Nuclear Laboratories’ application to amend the Nuclear Research and Test Establishment Operating Licence for the Chalk River Laboratories site to authorize the construction of a Near Surface Disposal Facility (“**Licence Amendment**”) under s. 5 of the *Canadian Environmental Assessment Act, 2012*, SC 2012, c 19, s 52 (“**CEAA, 2012**”), and s. 24 of the *Nuclear Safety and Control Act*, SC 1997, c 9 (“**NSCA**”) (“**Decision**”).

The Applicants received the decision by email on January 9, 2024.

A. Licence Application

Canadian Nuclear Laboratories (“**CNL**”) applied for an amendment of its operating licence for Chalk River Laboratories, located on the Ottawa River in Renfrew County about 200 km upstream from Ottawa, to authorize the construction of a Near Surface Disposal Facility (“**NSDF**”). The NSDF is considered a new Class IB Nuclear Facility, per s. 19(a) of the *General Nuclear Safety and Control Regulations*, SOR/2000-202 (“**GNSCR**”), and its construction was not authorized under the current licence.

The NSDF would be a nuclear waste disposal facility designed to contain up to 1 million cubic metres of radioactive waste in a mound with a base liner. The NSDF’s lifespan would consist of five phases: a 3-year construction phase, a 50-year operation phase, a 30-year-closure phase, a 300-year institutional control period, and an

indefinite post-institutional control period. During the closure phase, a cover would be placed on the mound, but prior to that, during the 50-year operation phase, rainwater could enter and allow radioactive materials to leach into the environment. In an attempt to mitigate this, the NSDF project includes a waste-water treatment plant that would release treated water either into the groundwater or directly into Perch Lake. Perch Lake drains into the Ottawa River. The mound is designed to last 550 years before it erodes and its contents are released into the environment.

For the Commission to approve the licence amendment, it had to decide three matters. First it had to conduct an environmental assessment under *CEAA, 2012*, and determine whether the NSDF would be likely to cause significant adverse environmental effects, taking into account the entire lifecycle of the project. Second, it had to determine whether to grant the licence under s. 24 of the *NSCA*, which requires, among other things, that CNL provide all the information prescribed in s. 3 of the *GNSCR* and that the Commission determine whether CNL is qualified to carry on the activity and would adequately protect the environment, health and safety of persons, and would have measures required to implement international obligations, under s. 24(4) of the *NSCA*. Third, it had to determine whether the Crown's duty to consult Indigenous nations was met.

CNL provided the Commission with a variety of documents in support of its application. Some of the key documents were

- a) A Waste Acceptance Criteria, which specified the requirements for substances to be placed in the NSDF;

- b) A Reference Inventory Report, which provides an estimate of the total radiological inventory to be placed in the NSDF, used to inform safety assessments;
- c) A Safety Case (also called a Safety Assessment Report), which presents an argument for the NSDF's safety and includes predictions about the NSDF's environmental, health, and safety impacts;
- d) An Environmental Impact Statement, which describes the analysis of alternatives, public and Indigenous engagement, studies of baseline conditions, and assessment of project activities during all phases of the NSDF project.

The Commission invited interventions from the public and held a two-part public hearing. The Commission received written submissions and heard oral presentations from CNL, Commission staff, and many intervenors.

B. Intervenors

The Applicant Concerned Citizens of Renfrew County and Area (“**CCRCA**”) was one of the intervenors. CCRCA is an organization of people who live near the proposed NSDF site and are concerned about the impacts of radioactive pollution. CCRCA is incorporated under the *Canada Not-for-Profit Corporations Act*, SC 2009, c 23.

The Applicant Canadian Coalition for Nuclear Responsibility (“**CCNR**”) was another intervenor. CCNR is a federally incorporated non-profit organization that conducts education and research on issues related to nuclear energy.

The Applicant Ralliement contre la pollution radioactive (“**Ralliement**”) was another intervenor. Ralliement is an unincorporated association that promotes responsible solutions for managing radioactive waste to reduce risks to the environment and to public health.

Dr. James R. Walker was another intervenor. He is the former Director of Safety Engineering & Licensing for Atomic Energy of Canada Limited (“**AECL**”) (CNL’s former parent company, which owns the proposed NSDF site). In this role, he was responsible for safely managing the nuclear waste at Chalk River Laboratories.

Kebaowek First Nation (“**KFN**”) was another intervenor. KFN is one of 9 recognized communities that make up the Algonquin Nation in present day Quebec. The proposed NSDF site is located within Algonquin Nation traditional territory, and adjacent to KFN’s title territory.

C. Submissions by Intervenors

The intervenors made written and oral submissions about the proposed licence amendment.

The Applicants and Dr. Walker submitted that CNL’s own Environmental Impact Statement confirmed that the NSDF would expose members of the public to radiation doses that exceed the limits set by Canadian regulation and international standards. The Environmental Impact Statement and Safety Case concluded that in a normal

evolution scenario, the maximum dose to the public after the NSDF has been released from regulatory control would be 15 $\mu\text{Sv}/\text{y}$, and in the case of a disruptive event, 140 $\mu\text{Sv}/\text{y}$. Canadian regulations and international guidelines only allow for radioactive substances to be disposed of and released from regulatory controls if the maximum dose to the public would be less than 10 $\mu\text{Sv}/\text{y}$. Going above these limits will result in an increased risk of cancer and genetic defects to members of the public.

The Applicants also submitted that the CNL had not provided the information required under s. 3(1)(c) and (j) of the *GNSCR*, specifically the name, maximum quantity, and form of any nuclear substance to be encompassed by the licence, and the name, quantity, form, origin, and volume of any radioactive or hazardous waste that may be placed in the NSDF for disposal. The Waste Acceptance Criteria and Reference Inventory Report only provided partial lists of the substances to be encompassed by the licence, and they did not specify all the substances that would actually be disposed. There was also no indication of the origin or contents of packaged waste. Specifically, there was no indication of whether waste originating from accidents, fuel reprocessing, or, most importantly, nuclear reactors would be placed in the NSDF.

Additionally, the Applicants submitted that the Waste Acceptance Criteria contained a section entitled “6.4 Infrequently Performed Operations” which allowed waste that does not meet the Waste Acceptance Criteria to be placed in the NSDF on a case-by-case basis. This effectively nullified any guarantees about what would be placed in the NSDF, contrary to the requirements of s. 3(1)(c) and (j). It also makes the results of the Safety Case a fiction, since its calculations were based on the Waste Acceptance

Criteria.

The Applicants also submitted that CNL had not provided any information about certain other activities at Chalk River Laboratories, which was required for the Commission to consider the cumulative environmental effects under s. 19(1)(a) of *CEAA, 2012*. The Applicants listed six projects that the Canadian Environmental Assessment Registry Archives stated were occurring at Chalk River Laboratories, for which CNL provided no information. The Applicants noted another nine waste-related projects that were posted to the federal Impact Assessment Registry from November 2020 to March 2021, for which CNL provided no information.

The Applicants also submitted that the process for verifying that waste placed in the NSDF complies with the Waste Acceptance Criteria was inadequate.

The Applicants also submitted that building a pipeline to release wastewater directly into Perch Lake as an alternative to releasing it into the groundwater would create its own adverse effects, which were not considered in the Environmental Assessment. Tritium, the radioactive form of hydrogen, cannot be removed from the wastewater by leachate treatment; it needs to decay over time. Disposing of it directly into Perch Lake would reduce the time it takes to reach the Ottawa River, and the Environmental Assessment report did not consider the environmental impacts of this pipeline; it only considered the effects of the wastewater being released into the groundwater.

The Applicants also submitted that there are residences and habitat of protected species on the proposed NSDF site, and that these residences and habitat would be

damaged or destroyed by the NSDF site preparation and construction. The Applicants submitted evidence that there are active bear dens at the proposed NSDF site, and Eastern Wolves feed there.

D. Decision

The Commission did not meaningfully grapple with any of these submissions in its reasons for the Decision. The Commission decided that the radiation doses of 15 $\mu\text{Sv}/\text{y}$ and 140 $\mu\text{Sv}/\text{y}$ for a normal evolution and disruptive event scenario respectively would not be a significant adverse environmental impact nor be an inadequate protection of the health and safety of persons since these predicted dosages during the post-institutional control period are less than the 1000 $\mu\text{Sv}/\text{y}$ (1 mSv/y) dose limit for projects under institutional control. In doing so, the Commission failed to account for the evidence and meaningfully grapple with Dr. Walker's submission that the dose limit for materials released from regulatory control is 10 $\mu\text{Sv}/\text{y}$, and the 1 mSv/y limit only applies to the first 300 years post-closure, when the materials are still under regulatory control.

The Commission did not meaningfully grapple with the argument that s. 3(1)(c) and (j) of the *GNSCR* were not complied with. The Commission noted this argument, but simply stated that these requirements were satisfied in the NSDF Safety Case, NSDF Safety Analysis Report, and NSDF Post-Closure Safety Assessment, none of which contain the required information, and all of which are predicated on the Waste Acceptance Criteria with its override provision, section 6.4. The Commission did not mention the arguments about section 6.4's capability to allow waste that does not meet

the Waste Acceptance Criteria to be placed in the NSDF.

The Commission did not meaningfully grapple with the argument that it did not consider all cumulative effects. The Commission did not consider many of the projects identified by the Applicants nor did it mention why it did not consider the cumulative effects of the identified projects.

The Commission did not address the argument that the verification methods were inadequate.

The Commission did not address the argument that the pipeline into Perch Lake would cause adverse environmental impacts that were not taken into account.

The Commission did not meaningfully grapple with the argument that residences and habitat of protected species would be damaged or destroyed by the NSDF site preparation and construction. The Commission mentioned the concerns about species at risk generally and merely stated that CNL had proposed adequate mitigation measures to ensure the protection of these species, without providing any justification for the conclusion.

THE APPLICANTS MAKE APPLICATION FOR:

- a) An order pursuant to section 18.1 of the *Federal Courts Act* quashing the January 8, 2024, decision to approve the Licence Amendment and remitting the matter to the Commission for redetermination;
- b) The costs of this application; and
- c) Such further and other relief as counsel may request and this Honourable Court may permit.

THE GROUNDS FOR THE APPLICATION ARE:

1. The Decision is unreasonable because it is not transparent, intelligible, or justified.
2. The Decision is unreasonable because fails to meaningfully grapple with the submissions that
 - a. After institutional control ends, the public will be exposed to radiation doses that exceed the limit of 10 $\mu\text{Sv/y}$ prescribed by Canadian regulations and international standards;
 - b. The Licence Application does not contain all the information required by ss. 3(1)(c) and (j) of the *GNSCR*, and this failure renders the Safety Case unreliable;
 - c. The Commission could not assess the cumulative effects of all related projects since CNL did not provide information about all projects;
 - d. The processes set out for verifying the Waste Acceptance Criteria are followed are inadequate;
 - e. The pipeline into Perch Lake would cause adverse impacts that were not considered; and
 - f. Residences and habitat of protected species will be damaged or destroyed by site preparation and construction.

3. The Decision is unreasonable because it fails to account for evidence that
 - a. The maximum dose limit for radioactive materials to be released from regulatory control is 10 µSv/y;
 - b. Other projects, which were not included in the assessment of cumulative effects, are planned for the Chalk River Laboratories site; and
 - c. Residences of bears, Eastern Wolves, and other protected species are located at the proposed NSDF site.
4. The Decision is unreasonable because it strays beyond the limits of
 - a. Paragraph 24(2)(b) of the *NSCA* by approving the Licence Application without receiving all the information prescribed in ss. 3(1)(c) and (j) of the *GNSCR*; and
 - b. Paragraph 19(1)(a) of *CEAA, 2012* by approving the Licence Application without considering the cumulative effects of all related projects.
5. The Decision is unreasonable because the Commission granted CNL a licence to construct the NSDF when CNL does not have a licence to prepare the site and the Commission had not conducted the required assessment under s. 24(4) of the *NSCA* in relation to site preparation.
6. Sections 3, 9, 24, and 26 of the *Nuclear Safety and Control Act*, SC 1997, c 9.
7. Paragraphs 3(1)(c) and (j) of the *General Nuclear Safety and Control Regulations*, SOR/2000-202.
8. Section 1 of the *Nuclear Substances and Radiation Devices Regulations*, SOR/2000-207.
9. Sections 4, 5, 15(a) and 19(1) of the *Canadian Environmental Assessment Act, 2012*, SC 2012, c 19, s 52.
10. Sections 18 and 18.1 of the *Federal Courts Act*.
11. *Federal Courts Rules*, SOR/98-106.

12. Such further and other grounds as counsel may advise and this Honourable Court may permit.

THE APPLICATION WILL BE SUPPORTED BY THE FOLLOWING MATERIAL


- a) A supporting affidavit and exhibits attached thereto; and
- b) Such further and other materials as counsel may advise and this Honourable Court may permit.

RULE 317 REQUEST

The applicants request the Canadian Nuclear Safety Commission to send a certified copy of the following material that is not in the possession of the applicants but is in the possession of the Commission to the applicants and to the Registry:

- a) All information before the Commission that was available for consideration in reaching its decision of January 8, 2024.

February 7, 2024



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I HEREBY CERTIFY that the above document is a true copy of the original filed in the Court./

JE CERTIFIE que le document ci-dessus est une copie conforme À l'original déposé au dossier de la Cour fédérale.

Filing Date
 Date de dépôt : Feb 7 2024

Dated
 Fait le : Feb 7 2024