



CMD 25-H9.10

Date: 2025-10-24

**Written Submission from
Catherine Vakil, M.D.**

**Mémoire de
Catherine Vakil, M.D.**

In the matter of

À l'égard de

Denison Mines Corporation

Licence Application to Prepare Site and
Construct for Denison Mines' Wheeler
River Mine and Mill Project

Denison Mines Corporation

Demande de permis pour la préparation de
l'emplacement et la construction du projet
de mine et d'usine de concentration
d'uranium Wheeler River de Denison Mines

Commission Public Hearing

Audience publique de la Commission

December 2025

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Submission to Canadian Nuclear Safety Commission (CNSC) on the Wheeler River Project, Denison Mines, Saskatchewan

Submitted by Catherine Vakil, Oct. 24, 2025

Thank you for the opportunity to comment on the Denison Mine application to prepare a site and construct its Wheeler River uranium mine and mill project in Northern Saskatchewan approximately 600 km north of Saskatoon. This falls within Treaty 10 territory, the homeland of the Métis, and within the traditional territories of the Dene, Cree, and Métis peoples.

The environmental assessment done by the CNSC concludes that “the Project is not likely to cause significant adverse environmental effects”. However all mines cause significant adverse environmental effects, and the significance is a function of how much environmental degradation we are willing to tolerate. The CNSC has determined that the environmental degradation that will be caused by this mine is outweighed by the economic benefit derived from the uranium extraction. This decision should consider the people who are most affected by the environmental degradation the mine will cause, and how much they themselves will benefit economically.

The method of uranium extraction will be done by in situ leaching (ISL), a first for any mine in Canada. Because this has never been done in Canada the CNSC has no experience with this method and therefore should be consulting other countries in depth as to the correct processes, risks and benefits of this procedure, especially with respect to the geology of the area in question, the Athabaska Basin. The site is surrounded by lakes and is on the Canadian Shield.

The CNSC has not demanded that Denison Mines provide a formal source of financial assurance stating that any clean up costs incurred during the construction and operation of the mine be covered by the applicant, so that taxpayers should not be left with any liability. The absence of this requirement means that in the event of environmental contamination, taxpayers will foot the bill for the clean up.

There is significant potential for contamination of groundwater, as the ISL method causes the release of a number of toxic heavy metals as well as long lived radionuclides in the case of uranium mining. Many studies of other mines have shown groundwater contamination caused by ISL. Denison Mines proposes using a freeze wall to contain any contamination. This would need to be a permanent wall for the life of the mine, introducing a real potential of contamination should the freeze wall fail even for a short time. Freeze walls rely on electricity for their refrigeration, so in the event of a power failure, expensive and polluting diesel back up would be required for the length of time of the power outage. Close monitoring of the freeze wall would be required at all times.

In the event of contamination of groundwater, which has been documented many times with the use of ISL, taxpayers would pay for the remediation. There are many lakes in the region of the proposed mine, so contamination would be widespread and cause significant environmental damage, and risks to the health of people living in the area as well as significant cost.

The drill holes used in ISL would cause release of radon, one of the decay products of uranium. Radon emits alpha radiation and is the second most common cause of lung cancer after smoking. As well, the drill hole waste would contain radionuclides which are harmful to all living things. This would cause ongoing cumulative toxic radioactive build up in the area, which would be radioactive for millennia. The CNSC should address where the radioactive drill hole waste will be stored and how it would be contained. Milling of the uranium at the site and conversion into yellowcake would further introduce radioactive emissions into the environment.

The CNSC's conclusion that "the Project is not likely to cause significant adverse environmental effects" is not based on previous experience with ISL (as this has never been done in Canada) and considering there are numerous well documented examples of contamination due to ISL methods of ore extraction, this is not an accurate statement for this completely novel method of uranium extraction in Canada.

It must be remembered that the only use for uranium is for nuclear power and to make nuclear weapons. It is clear from past experience that nuclear reactors take many years, sometimes decades, to produce electricity once construction begins, making nuclear power irrelevant to our present climate

crisis. Nuclear reactors are unreliable, sometimes being offline for months or years at a time. They are extremely expensive, costing severalfold per kilowatt hour than renewable electricity sources and there are always cost overruns. They carry the risk of catastrophic accident with massive release of radioactive products which can spread worldwide, as happened at Fukushima in Japan in 2011. They emit radioactive pollution on an ongoing basis during normal operations. They are targets for terrorist attacks, such as is the continuing case at the Zaporizhzhia nuclear power plant in Ukraine. They produce nuclear waste which is radioactive for millions of years, and for which there is no known method of long term containment and storage. This waste contains radioactive products such as plutonium which can be used to make nuclear weapons, increasing the chance of nuclear weapons falling into the hands of terrorists or governments unfriendly to our own and other democracies.

Because of the above serious issues with Denison Mines' application for site preparation and construction of the Wheeler River uranium mine and mill project, I strongly recommend that the CNSC deny a licence to Denison Mines.

Catherine Vakil MD