

ATTACHMENT August 17, 2022

Federal Authority Advice Record: Designation Request under IAA

Response due by September 7, 2022

Patterson Lake South Mine Project

Department/Agency	Health Canada
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1. Has your department or agency considered whether it has an interest in the Project; exercised a power or performed a duty or function under any Act of Parliament in relation to the Project; or taken any course of action (including provision of financial assistance) that would allow the Project to proceed in whole or in part?

No

Specify as appropriate.

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2. Is it probable that your department or agency may be required to exercise a power or perform a duty or function related to the Project to enable it to proceed?

No

If yes, specify that power, duty or function and its legislative source.

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3. If your department or agency will exercise a power or perform a duty or function under any Act of Parliament in relation to the Project, will it involve public and Indigenous consultation?

Not applicable

Specify as appropriate.

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4. Is your department or agency in possession of specialist or expert information or knowledge that may be relevant to any potential adverse effects within federal jurisdiction caused by the Project or adverse direct or incidental effects stemming from the Project?

Yes

Specify as appropriate.

As a federal authority, Health Canada will provide specialist or expert information and knowledge in the Department's possession (expertise) to support the assessment of impacts on human health from projects considered individually or cumulatively under the Impact Assessment Act (IAA). It should also be noted that expertise related to assessing human health that is relevant to impact assessment (IA) may be held by other federal, provincial, and municipal partners, reflecting the shared jurisdiction for environmental and human health within Canada. For example, the Public Health Agency of Canada (PHAC) has expertise in social determinants of health and health equity, and may provide that expertise through Health Canada, upon request from the reviewing body or bodies. How the expertise provided by Health Canada and PHAC will be used in the IA process will ultimately be determined by the reviewing body or bodies.

Health Canada can provide human health expertise in the following areas:

- Air quality health effects;
- Contamination of country foods (e.g. fish, wild game, garden produce, berries, etc.);
- Drinking and recreational water quality;
- Radiological effects;
- Electric and magnetic fields;
- Noise impacts;
- Methodological expertise in human health risk assessment;
- Methodological expertise in conducting Health Impact Assessment (HIA); and
- Public health emergency management of toxic exposure events.

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5. Has your department or agency had previous contact or involvement with the proponent or other parties in relation to the Project?

No

Provide an overview of the information or advice exchanged.

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6. From the perspective of the mandate and area(s) of expertise of your department or agency, does the Project have the potential to cause adverse effects within federal jurisdiction or adverse direct or incidental effects as described in section 2 of IAA? Could any of those effects be managed through legislative or regulatory mechanisms administered by your department or agency? If a licence, permit, authorization or approval may be issued, could it include conditions in relation to those effects?

Specify as appropriate.

Health Canada has reviewed the following documents:

- Request for Designation under IAA - Letter to Federal Authorities (Notification and Request for Infor.pdf
- Designation Request for Patterson Lake South Project.pdf
- Project Description – Fission Uranium Corporation – Patterson Lake South Project (located at: <https://publications.saskatchewan.ca/#/categories/5605>)
- Terms of Reference – Fission Uranium Corporation – Patterson Lake South Project (located at: <https://publications.saskatchewan.ca/#/categories/5605>)

Air Quality

There is a potential for adverse impacts to human health through degradation of ambient air quality from increased exhaust emissions from machinery, fugitive dust, and fuel combustion by-products during construction and operation phases of the Project. These emissions may include coarse and fine particulate matter (PM₁₀ and PM_{2.5}), nitrogen oxides (NO_x), sulphur dioxide (SO₂), diesel particulate matter (DPM), volatile organic compounds (VOCs), among other air pollutants that may be emitted during the Project. It is noted that the *Terms of Reference* and *Project Description* acknowledge the Project will release some of these air pollutants and there is a plan to conduct follow-up monitoring. Without detailed emissions information provided by the proponent, the location of potential human receptors, and an assessment of the potential effects on the ambient air quality, HC cannot provide additional advice on the potential adverse impact to human health (see response to 9 below for Health Canada guidance). Contaminant-specific isopleth maps with human receptor locations identified

should be provided. Human receptor locations should include traditional/recreational land use areas, seasonal cabins, permanent residences and any particularly sensitive receptors (e.g. schools, hospitals, seniors' residences, etc.).

Noise

Ambient noise levels may increase due to machinery use, construction activities, and increased traffic during the construction and operational phases of the Project. There may be potential adverse impacts to human health from increased noise including but not limited to sleep disturbance, speech comprehension, and an increase in noise complaints measured by the percentage change in highly annoyed particularly for off-duty workers at the worker camp. It is noted that the *Project Description* states the Environmental Impact Assessment (EIA) will quantify the noise effects from the Project and provide mitigation where possible. Without additional information provided by the proponent, the location of potential human receptors (including recreational and traditional land use areas and locations of any seasonal cabins), and a noise assessment, HC cannot provide advice on the potential adverse impact of noise exposure to human health.

Water Quality

Surface water may be impacted by spills of harmful substances (e.g., oils/fuels, waste products, flame retardants, etc.) used for the Project. This has the potential to impact recreational water quality and may impact human health through dermal contact. HC suggests identifying water bodies that are currently used, or may be used in the future, for recreational and traditional purposes (e.g. swimming, fishing) or likely to be consumed, and that may be affected by Project activities.

Local changes to groundwater may also affect the quality of local potable water sources. HC recommends the proponent identify all drinking water sources and water bodies that are used for traditional purposes, and confirm whether any users consume treated or untreated water nearby the Project site.

It is noted that drinking water was included as a valued ecosystem component, but there are few details on how drinking water will be assessed in the EIA. Without additional information provided by the proponent, the location of potential human receptors, and the identification of water sources used by the community and land users, HC cannot provide advice on the potential adverse impact of local water consumption on human health.

Country Foods

Traditional activities such as hunting and gathering of foods and medicines were identified in the *Project Description* as occurring near the Project location. The Project can potentially impact the quality of country foods through the same mechanisms that may impact human health (i.e. changes to water quality and air quality). The emissions of contaminants to the environment may lead to increased concentrations of Project-related contaminants in country foods that are then harvested and consumed. The *Project Description* does note that deposition and uptake of a contaminant may affect plant health, but there is no mention of the potential effect on human health. Without the identification of receptors, contaminants that are emitted to the environment, and the specific country foods harvested from and/or consumed in the area, HC cannot provide advice on the potential for adverse human health impacts associated with the consumption of local country foods.

Radiological Impacts

There is little mention of the potential for radiological uptake into the environment and adverse effects on human health outside of the effect on workers in the *Project Description* or *Terms of Reference*. It is noted that radionuclides are monitored as part of the water quality program. The potential for the release of radioactive material into the environment, and the potential for adverse impacts to human health should be considered. Without an assessment that includes the predicted radionuclide emissions into the atmospheric and aquatic environments, and their uptake into country foods, HC cannot provide advice on the potential adverse impacts to human health associated with radiological materials.

Human Health Setting

While human health is identified in the *Terms of Reference* as a valued ecosystem component, there is little discussion in either the *Terms of Reference* or *Project Description* on how human health will be assessed in the EIA. In order to assess potential risks to human health, it is necessary to identify locations of potential human receptors including residences and sensitive human receptor locations

(i.e. schools, hospitals, retirement complexes or assisted care homes) through maps and diagrams. The distances between human receptor locations and the key components of the Project that may impact these receptors should be identified. A human health risk assessment (HHRA) that contains all relevant contaminants and potential exposure pathways should also be provided. The information provided does not include these details, therefore HC cannot comment on the potential for risks to human health.

Information on how the project would differentially impact diverse groups of people and those groups' relevant health factors is incomplete. For example, the *Project Description* states the Project is anticipated to positively impact socio-economic outcomes however additional details could be provided on how potential employment impacts would affect diverse groups of people (e.g., men vs. women, Indigenous vs. non-Indigenous, skilled vs. unskilled, training opportunities, local resident workers vs. temporary workers or workers from outside the community). Disaggregated information is required to conduct gender-based analysis to understand the differential health impacts of the project on women, children and other vulnerable groups (including from a cumulative effects perspective. For example how changes from the proposed Project will be impacted from existing and future projects in the area).

Health Canada suggests that the assessment of Human Health and Community Well-Being should include a Health Impact Assessment (HIA) with indicators informed through engagement with potentially affected Indigenous communities. The HIA would be in addition to the HHRA that has already been suggested.

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7. Does your department or agency have a program or additional authority that may be relevant and could be considered as a potential solution to concerns expressed about the Project? In particular, the following issues have been raised by the requestor. The Project:
- is located in an environmentally sensitive area including within the territory of the Boreal Shield Woodland Caribou;
 - is anticipated to adversely impact areas within federal jurisdiction, including Indigenous peoples and lands, species at risk, fish and fish habitats;
 - is anticipated to significantly and adversely impact the ability for Métis people to exercise their rights and may compromise the integrity of their Land Claim;
 - presents a risk to the human and socio-economic health of Métis and other Indigenous peoples, both in and around the Project location, and through the transportation corridor which passes through a number of majority-Métis communities;
 - will contribute to the cumulative impacts of other developments in an around Patterson Lake, an area of cultural significance to Metis Nation of Saskatchewan; and
 - will create adverse impacts that will not be adequately or fully addressed through the provincial environmental assessment process.

If yes, please specify the program or authority.

No

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8. Does your department or agency have information about the interests of Indigenous groups in the vicinity of the Project; the exercise of their rights protected by section 35 of the *Constitution Act, 1982*; and/or any consultation and accommodation undertaken, underway, or anticipated to address adverse impacts to the section 35 rights of the Indigenous groups?

If yes, please specify.

No

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9. If your department has guidance material that would be helpful to the proponent or the Agency, please include these as attachments or hyperlinks in your response.

Available Health Canada guidance:

Health Canada has published the following guidance documents for evaluating human health impacts:
Guidance for Evaluating Human Health Impacts in Environmental Assessment:

- Human Health Risk Assessment
- Air Quality
- Water Quality
- Country Foods
- Noise
- Radiological Impacts

Guidance documents are available here upon request:

<https://www.canada.ca/en/services/health/publications/healthy-living.html#a2.5>

David Kitchen

Name of departmental / agency responder

Regional Manager

Title of responder

September 7, 2022

Date