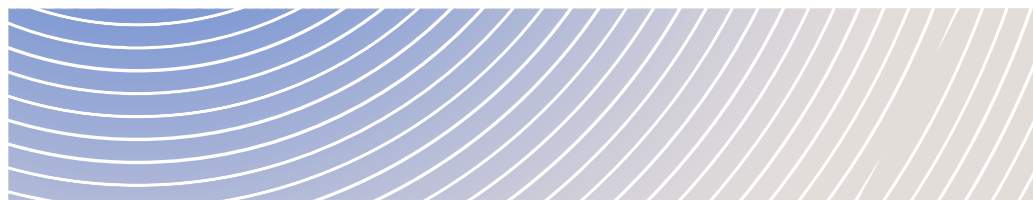


Analysis Report



WHETHER TO DESIGNATE THE **PATTERSON LAKE SOUTH MINE PROJECT** IN SASKATCHEWAN PURSUANT TO THE *IMPACT ASSESSMENT ACT*

September 2022



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Purpose

The Impact Assessment Agency of Canada (the Agency) prepared this report for consideration by the Minister of Environment and Climate Change (the Minister) in responding to a request to designate the Patterson Lake South Mine Project (the physical activities referred to as the Project) pursuant to section 9 of the *Impact Assessment Act* (the IAA).

Context of Request

On August 5, 2022, the Minister received a request to designate the Project from Cassels Brock & Blackwell LLP on behalf of Métis Nation Saskatchewan (MN-S), in respect of the seven Métis Locals of MN-S Northern Region 2 – Clearwater Clear Lake. The requester raised concerns regarding the potential effect of the Project on the environment including impacts to fish and fish habitat, species at risk, and the rights of Indigenous peoples. The Agency focused its assessment on the potential effects within federal jurisdiction as outlined in subsection 9(1) of the IAA for the purposes of the designation request and followed the Agency's Operational Guide: Designating a Project under the *Impact Assessment Act*¹.

The Agency sought input from Fission Uranium Corp. (the Proponent), federal authorities, the Government of Saskatchewan, and nine potentially affected Indigenous groups: Athabasca Chipewyan First Nation, Black Lake Denesuline First Nation, Fond du Lac Denesuline First Nation, Clearwater River Dene, Buffalo River Dene Nation, Birch Narrows First Nation, English River First Nation, Ya 'thi Nene Lands Resources Offices and Meadow Lake Tribal Council. Input was received from two Indigenous groups: Clearwater River Dene Nation and Athabasca Chipewyan First Nation.

The Proponent responded to the Agency on September 2, 2022, with information about the Project, a response to the requester's concerns, and its view that the Project should not be designated.

The Government of Saskatchewan notified the Proponent on December 13, 2021, that an environmental impact assessment (EIA) for the Project is required pursuant to *The Environmental Assessment Act*. The Terms of Reference were submitted to the Government of Saskatchewan in July 2022². Additionally, the Project requires a license under the *Nuclear Safety and Control Act* issued by the Canadian Nuclear Safety Commission (CNSC).

Advice on potential effects due to the Project, and applicable legislative frameworks, was received from CNSC, Fisheries and Oceans Canada (DFO), Environment and Climate Change Canada (ECCC), Natural Resources Canada (NRCan), Health Canada (HC), Transport Canada (TC), Indigenous Services Canada (ISC), Women and Gender Equality Canada (WAGE) and the Government of Saskatchewan.

¹ [Designating a Project under the Impact Assessment Act - Canada.ca](https://www.canada.ca/en/impact-assessment-act)

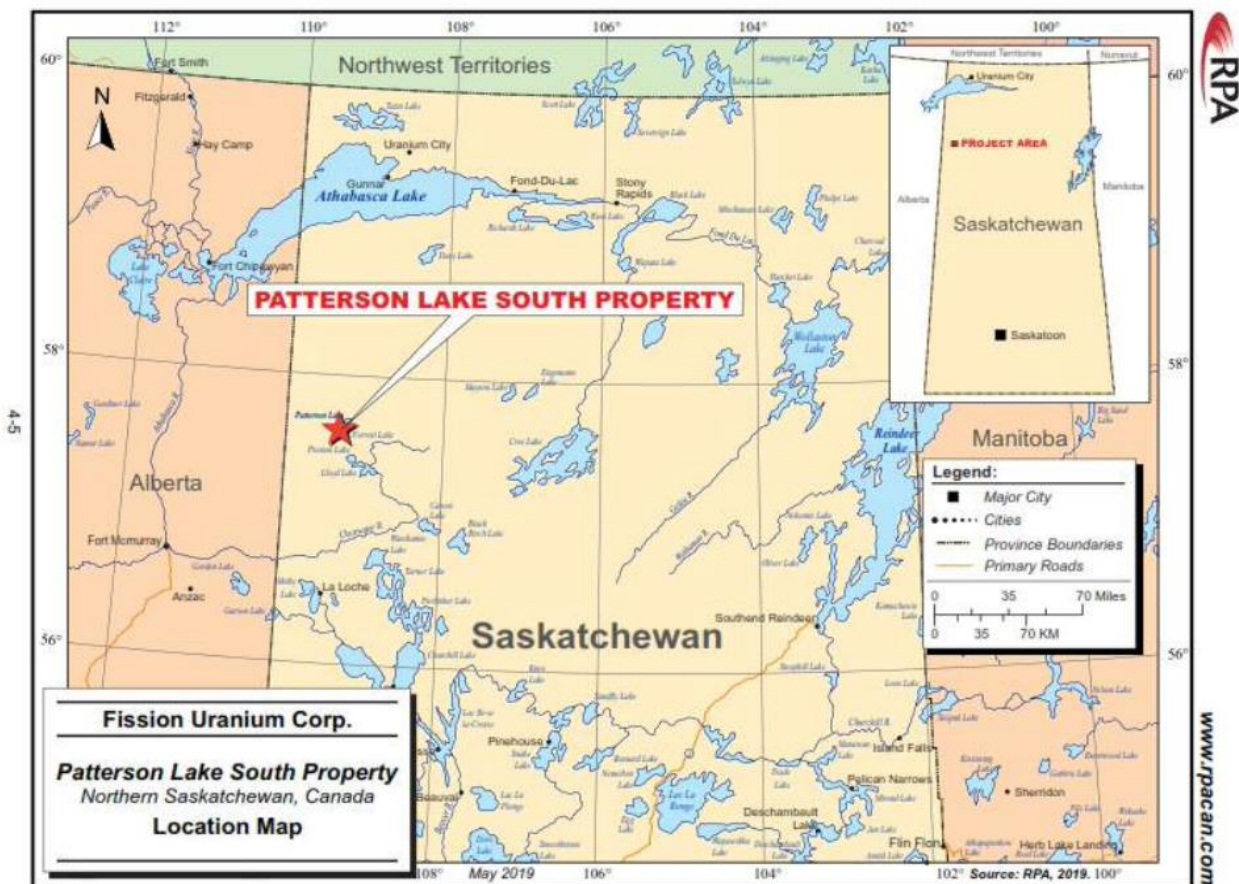
² <https://publications.saskatchewan.ca/#/products/118449>

Project Context

Project Overview

The Proponent is proposing the construction, operation, decommissioning and abandonment of an underground uranium mine, located approximately 160 kilometres north of La Loche, Saskatchewan. As proposed, the Project would include a mill, tailings management facility, ore and waste stockpiles and a work camp. The mine and mill would have an ore input and ore production capacity of about 1,000 tonnes per day. The Proponent plans a three-year construction period followed by seven years of production.

Figure 1: Location of the Project



Source: Fission Uranium Corp., Project Description, November 2021

Figure Description: The Patterson Lake South Mine Project is located in northwest Saskatchewan, east of Highway 955 and on the west side of Patterson Lake.



Project components and activities

Construction of the Project will include site clearing and grading, water management, blasting, material storage, transportation and housing of employees and storage of hazardous materials. During production, the operation of the Project will include mining (recovery and transportation of ore, stockpiling ore overburden and waste rock, backfill preparation and distribution, ventilation and heating) and milling (sorting or blending of ore, crushing and grinding, leaching, decanting, extraction, washing, drying and packaging). Additional project activities include contaminated water collection, treatment and discharge, tailings management, radiation and environmental monitoring, and infrastructure management.

Main project components include:

- underground mine with access from multiple shafts and a ramp;
- processing plant (mill);
- power generation infrastructure;
- tailings management facility;
- water management facilities, including a storm water runoff pond and processing ponds;
- roads, including an access road from Highway 955;
- buildings such as offices, maintenance, warehouse and security;
- worker camp; and
- ancillary services such as shops, power lines, fuel storage and storage.

The Proponent will develop a Preliminary Decommissioning Plan as part of the provincial EIA, which will require approval from CNSC as part of its licensing process. Progressive decommissioning during the operational life of the mine will be used to lower close-out liabilities.

Analysis of Designation Request

Authority to designate the Project

The *Physical Activities Regulations* (the Regulations) of the IAA identify the physical activities that constitute designated projects.

The items of the Regulations most applicable to the Project are:



- (20) The construction, operation and decommissioning, outside the licensed boundaries of an existing uranium mine, of a new uranium mine with an ore production capacity of 2 500 t/day or more;
- (22) The construction, operation and decommissioning, outside the licensed boundaries of an existing uranium mill, of a new uranium mill with an ore input capacity of 2 500 t/day or more; and
- (30) The construction, operation, decommissioning and abandonment of a new fossil fuel-fired power generating facility with a production capacity of 200 MW or more.

The Project, as described in the information prepared by the Proponent, is not included in the Regulations because:

- the new uranium mine has an ore production capacity of 1,000 tonnes per day, which is below the threshold described in item 20;
- the new uranium mill has an ore input capacity of 1,000 tonnes per day, which is below the threshold described in item 22; and
- the new fossil-fuel fired power generating facility has a production capacity of 20 megawatts, which is below the threshold described in item 30.

Under subsection 9(1) of the IAA the Minister may, by order, designate a physical activity that is not prescribed in the Regulations. The Minister may do this, if, in the Minister's opinion, the physical activity may cause adverse effects within federal jurisdiction or adverse direct or incidental effects, or public concerns related to those effects warrant the designation.

The carrying out of the Project has not substantially begun and no federal authority has exercised a power or performed a duty or function that would permit the Project to be carried out, in whole or in part.³

Given this understanding, the Agency is of the view that the Minister may consider designating the Project pursuant to subsection 9(1) of the IAA.

³ The Minister cannot designate a physical activity if the carrying out of the physical activity has substantially begun, or a federal authority has exercised a power or performed a duty or function in relation to the physical activity (subsection 9(7) of the IAA).



Legislative Context

Federal

Nuclear Safety and Control Act

The Project would require a license under the *Nuclear Safety and Control Act* issued by the CNSC. The Project will also be subject to the *Uranium Mine and Mills Regulations* under the *Nuclear Safety and Control Act*, which outlines license applications, timelines, obligations of licensees, and records to be kept and made available.

When a project requires an EIA (federal or provincial), the CNSC cannot issue a license related to that project until a decision has been issued that allows the project to proceed.

Once the Proponent applies for a licence from the CNSC for the Project, the CNSC will initiate its consultation and engagement activities, including the development of Indigenous community-specific consultation plans and arrangements, the completion of community-specific rights-impact assessments, meetings, gathering and consideration of Indigenous Knowledge, workshops and funding support through the CNSC's Participant Funding Program.

The CNSC environmental protection requirements will consider impacts to Indigenous peoples and lands, species at risk, fish and fish habitats, and risk to human health of Métis and other Indigenous peoples. CNSC licences can, and often do, include conditions for the licensee in relation to any matter deemed necessary under the CNSC mandate. CNSC requires licensees to have environmental protection programs that consist of control and mitigation measures and monitoring for releases to the environment, which are informed by an iterative 5-year environmental risk assessment cycle.

Fisheries Act

The Fish and Fish Habitat Protection Program of DFO reviews projects for their impacts to fish and fish habitat by ensuring compliance with the *Fisheries Act* and *Species at Risk Act* (SARA). Through this program, DFO may provide information to the Proponent in order to avoid and mitigate the negative impacts of the Project.

A *Fisheries Act* Authorization would be required if the Project is likely to cause the harmful alteration, disruption, or destruction to fish habitat and/or is likely to result in the death of fish. The *Fisheries Act* also prohibits the deposit of deleterious substances into waters frequented by fish, unless authorized by regulations or other federal legislation. Consideration of the issuance of a *Fisheries Act* Authorization includes consultation with Indigenous groups. If granted, a *Fisheries Act* Authorization would include legally-binding conditions for avoidance, mitigation, and offsetting requirements commensurate with project impacts. Monitoring to validate impacts, and verify efficacy of mitigation measures and offsetting are also part of Authorization conditions.



Species at Risk Act

For non-aquatic species listed in Schedule 1 of SARA as Extirpated, Endangered, or Threatened, a permit may be required from ECCC (e.g., under section 73 of SARA) for activities that affect a listed terrestrial wildlife species, any part of its critical habitat, or the residences of its individuals, where those prohibitions are in place. Such permits may only be issued if: all reasonable alternatives to the activity that would reduce the impact on the species have been considered and the best solution has been adopted; all feasible measures will be taken to minimize the impact of the activity on the species or its critical habitat or the residences of its individuals; and if the activity will not jeopardize the survival or recovery of the species.

It is unlikely that a SARA permit would be required for the Project; however, it is possible that prohibitions may come into force in the future through Orders in Council for individuals, residences, and critical habitat on Project-implicated, non-federal lands.

Canadian Environmental Protection Act, 1999

The Project may require greenhouse gas (GHG) emissions reporting if ten kilotonnes or more of GHGs are emitted in carbon dioxide equivalent units per year.

Explosives Act

The Proponent may require a permit or license related to the storage and safety of explosives under the *Explosives Act*.

Migratory Birds Convention Act, 1994

The *Migratory Birds Convention Act, 1994* protects migratory birds and their eggs and nests, wherever they occur, regardless of land tenure. A permit would be required if construction and clearing activities are scheduled within the migratory bird nesting season.

Provincial

The Environmental Assessment Act

The Environmental Assessment Act requires the proponent of a development to conduct an EIA and to submit an Environmental Impact Statement (EIS) for review and approval by the Minister of Environment. When the Minister grants approval, the proponent may proceed with obtaining all other required regulatory permits or licences. Proponents are required to comply with the terms and conditions of an approval as outlined in the Act.

Technical review of the Project will be completed by subject matter experts and where significant environmental impacts are identified that cannot be adequately managed through existing regulations or standards, the Saskatchewan Minister of Environment may include terms and conditions to address those impacts including conditions to protect woodland caribou, boreal population (referred to as woodland caribou) in accordance with the Saskatchewan Woodland Caribou Range Plan. The environmental standards and benchmarks to which projects are held are informed by current best management practices, precedence set



by similar projects and widely accepted scientific knowledge. Consultation will be carried out as per the Government of Saskatchewan's *First Nation and Métis Consultation Policy Framework*.

The Fisheries Act (Saskatchewan)

Fish Collection and Salvage Permits under *The Fisheries Act* (Saskatchewan) and *The Fisheries Regulations* may be required, and would include conditions to mitigate concerns related to collection methods, release, aquatic invasive species and disease, species at risk, and data collection and reporting.

The Environmental Management and Protection Act, 2010

An Aquatic Habitat Protection Permit would be required under Saskatchewan's *The Environmental Management and Protection Act, 2010*, and would include conditions to address erosion, deposition of deleterious substances, sedimentation, sanitation, and secondary containment.

A permit would be required under *The Hazardous Substances and Waste Dangerous Goods Regulations*, *The Environmental Management and Protection Act, 2010*, and The Saskatchewan Environmental Code, with conditions related to the type and quantity of hazardous substances and how they are stored.

An approval to construct and operate the Project would be required under the *Mineral Industry Environmental Protection Regulations, 1996*. The approval may include conditions imposing monitoring requirements and require decommissioning and reclamation planning as well as financial assurance.

The Heritage Property Act

A heritage clearance permit will be required with conditions to ensure heritage resources are protected.

Potential adverse effects within federal jurisdiction

The Agency's analysis identified the potential for adverse effects within federal jurisdiction that may result from carrying out the Project. The Agency is of the view that the potential adverse effects within federal jurisdiction would be limited and managed through project design, mitigation measures, and existing legislative frameworks.

Federal and provincial legislative mechanisms relevant to the Project described above were considered in the Agency's analysis of potential adverse effects or public concerns within federal jurisdiction in relation to subsection 9(1) of the IAA.

Fish and fish habitat

The Agency considered information provided by the Proponent, DFO, ECCC, the Government of Saskatchewan, the requester and Indigenous groups. The Agency is of the view that the potential for a change to fish and fish habitat, as defined in subsection 2(1) of the *Fisheries Act*, is limited and that the Proponent has proposed appropriate project design and mitigation. In addition, existing legislation provides a framework to address any potential adverse effects.



Concerns expressed by the requester and Indigenous groups included:

- changes to water quality due to mining discharges (i.e. release of uranium to the environment, the uranium ore body itself lies across the mid-point of the lake, and ore will be extracted through facilities extending under the lake);
- impacts to fish and fish habitat; and
- impacts to aquatic species at risk.

DFO stated that the Project has the potential to result in the harmful alteration, disruption or destruction of fish habitat and/or the death of fish and may require authorization under the *Fisheries Act*. It is unlikely that a permit will be required under SARA for aquatic species at risk because there are currently no aquatic species at risk mapped for the project area. DFO notes that indirect effects could include watershed area alterations, vibration and noise from blasting, and effects from groundwater drawdown.

ECCC advised that the Project may adversely affect air quality through the introduction of particulate matter through activities which cause a physical disturbance to land, such as earth moving, land clearing and transportation. Air contaminant emissions can result in contamination of nearby waterbodies and may affect fish and fish habitat. ECCC also noted that mining activities can adversely affect water quality via the potential release of suspended solids, ammonia, nitrate, hydrocarbons and other contaminants through erosion, sedimentation, or runoff processes. Additionally, mining activities can potentially expose acid-generating rock or rock with soluble minerals to air and water, resulting in acidification of the receiving aquatic environment and mineral depositions. Alteration of surface flows is also possible through site re-contouring and surface water management, potentially resulting in adverse effects to surface water quality by reducing the volume of inflows into nearby lakes and rivers.

The CNSC considers all areas of environmental protection and radiation protections under the *Nuclear Safety and Control Act* including impacts on species at risk and fish and fish habitat.

The Proponent indicated that the Project will have little impact on fish and fish habitat in and around Patterson Lake. The Proponent specified that the CNSC licensing will require pathway modelling to examine the fate of materials emitted from the Project into the environment and assess the potential impact to biota and land users and that this assessment will be included in the provincial EIA submission. Mitigation strategies for aquatic impacts will be developed through ongoing engagement with Indigenous groups, provincial and federal regulators and the public. The Proponent will develop and implement an Erosion and Sediment Control Management Plan for the provincial *The Environmental Assessment Act* approval and will implement offsetting measures required by DFO which will also be detailed in the provincial EIA. The Proponent indicated that potential impacts to fish and fish habitat would be mitigated through:

- mining underground only, as this option will minimize impacts to Patterson Lake compared to the alternate open pit/underground option that was considered;
- project design, including:
 - minimizing the project footprint;
 - maintaining work area boundaries during construction;
 - avoidance of fish spawning zones identified during baseline studies;

- limiting infrastructure near water to a freshwater intake pump, one or two docks, and a treated effluent outflow point;
- treatment of contact water prior to release to the receiving environment;
- all work near or in waterbodies will be conducted in accordance with provincial Aquatic Habitat Protection Permit requirements; and
- avoidance of construction activities during restricted activity periods.

The Proponent does not expect an authorization under the *Fisheries Act* will be required but plans to submit project plans to the Fish and Fish Habitat Protection Program to ensure compliance with the *Fisheries Act*.

Potential effects of the Project to fish, fish habitat, water quality and quantity are being assessed through the federal *Nuclear Safety and Control Act*, SARA and *Fisheries Act*, as well as the provincial EIA process under *The Environmental Assessment Act*, *The Environmental Management and Protection Act*, and *The Fisheries Act* (Saskatchewan).

Aquatic species

The Project will not result in a change to aquatic species, as defined in subsection 2(1) of the SARA as it will not affect the marine environment or marine plants.

See the section “Fish and fish habitat” for fish species at risk.

Migratory birds and species at risk

The Agency considered information provided by the Proponent, ECCC, the Government of Saskatchewan, the requester, and Indigenous groups. The Agency is of the view that existing legislation provides a framework to address changes to migratory birds, as defined in subsection 2(1) of the *Migratory Birds Convention Act, 1994*, and effects on federally listed species at risk under the SARA.

Concerns expressed by the requester and Indigenous groups included:

- risk to boreal shield woodland caribou; and
- risk to species of concern observed by the Proponent in the Project Description submitted to the Government of Saskatchewan.
 - The Proponent identified eight SARA-listed species within the project area:
 - Common nighthawk (threatened);
 - Olive-sided flycatcher (threatened);
 - Rusty blackbird (special concern);
 - Horned grebe (special concern);
 - Wolverine (special concern);
 - Little brown myotis (endangered);
 - Northern myotis (endangered); and
 - Woodland caribou, boreal population (threatened).

ECCC does not expect that it will be required to exercise a power or perform a duty or function related to the Project to enable it to proceed. ECCC clarified that the Project is located within the Boreal Plain (SK2)

Woodland Caribou range and not within the territory of the Boreal Shield Woodland Caribou as indicated by the requester. ECCC also advised that the Project is proposed within the SK2 caribou range and in close proximity to the SK1 caribou range and will likely affect critical habitat for the federal SK2 boreal caribou range as identified in the Federal Recovery Strategy for Woodland Caribou Boreal population. The proposed mine site is entirely located within Tier 1 Caribou Management Habitat Area. The Project could adversely affect the achievement of management goals identified in Saskatchewan's 2022 SK2 West Range Plan and could negatively impact the province's ability to meet their commitments under the Canada-Saskatchewan Conservation Agreement for the Conservation of the Woodland Caribou, Boreal Population in Saskatchewan per SARA Section 11 without appropriate caribou habitat mitigation and monitoring.

ECCC also advised that mining activities during all phases of the Project could result in individual mortality and the destruction of nests and eggs or structures necessary for the survival of species at risk. Birds that land on and/or frequent waste water have the potential to contact toxic substances, and migratory birds and species at risk could be affected by sensory disturbances during the Project such as noise, vibrations and light and can lead to avoidance of use. Changes to water quality and quantity can also affect migratory birds, wildlife and their habitat.

ECCC noted that the Project is not located on federal lands and there are no SARA orders in place for the proposed project location; only the SARA prohibitions pertaining to migratory birds would apply and would not apply to critical habitat unless an order is put in place or if additional activities or components are included in the project scope. ECCC identified five species with critical habitat and/or reported occurrence in or near the project area: two threatened (boreal woodland caribou and common nighthawk), two endangered (little brown myotis and northern myotis) and one of special concern (wolverine), and 10 species on Schedule 1 of the SARA with ranges that intersect the project area: three threatened (bank swallow, barn swallow and olive-sided flycatcher), three endangered (horned grebe (western population), whooping crane and gypsy cuckoo bumble bee), and four of special concern (rusty blackbird, short-eared owl, yellow rail, yellow-banded bumble bee). ECCC also noted two species with ranges that intersect the project area listed by the Committee on the Status of Endangered Wildlife in Canada as endangered (nine-spotted lady beetle) and of special concern (transverse lady beetle). All of the bird species except the rusty blackbird and the short-eared owl are protected under the *Migratory Birds Convention Act, 1994*.

The CNSC considers all areas of environmental protection and radiation protections under the *Nuclear Safety and Control Act* including those with links to impacts on species at risk.

The Government of Saskatchewan considers species at risk, including woodland caribou, as part of the EIA under *The Environmental Assessment Act* and conditions of any approval would be issued to protect woodland caribou in accordance with the woodland caribou range plan. A condition would be included in the ministerial decision to require a caribou mitigation and offsetting plan should the Project be approved. The plan must align with Saskatchewan's range plan. Avoidance of Tier 1 habitats is recommended, but where this is not possible, the Proponent must propose measures to minimize their impacts, and offset for any residual impacts to woodland caribou habitat that remain after mitigation. Consultation would be carried out with potentially-impacted Indigenous groups as per Saskatchewan's *First Nation and Métis Consultation Policy Framework*.

The Proponent identified several potential impacts to terrestrial wildlife species, including the direct loss and fragmentation of wildlife habitat, and sensory disturbance to wildlife and species at risk from Project construction and operation. Increased traffic in the area may lead to increased collisions with wildlife; dust deposition may impact local vegetation; and accidental spills could potentially impact wildlife. The Proponent will develop and implement an Environmental Protection Plan, Species at Risk Management Plan, Sediment and Erosion Control Management Plan, Wildlife Management Plan, Emergency Response Plan and Waste Management Plan for the provincial *The Environmental Assessment Act* approval; and will comply with all federal and provincial legislation that protect sensitive species, including SARA and the provincial *Wildlife Act*. A Caribou Management Plan will also be developed for the provincial *The Environmental Assessment Act* approval to address offsetting and Tier 1 critical habitat concerns. The Proponent also indicated that potential impacts to wildlife and species at risk will be minimized through mitigation measures including:

- maintaining a project footprint that is as small as possible;
- maintaining work area boundaries throughout construction;
- avoiding construction during restricted activity periods;
- enforcing on-site speed limits; and
- proper hazardous materials and fuel storage in designed and licensed facilities.

The Project is not located in or near a migratory bird sanctuary as defined in the *Migratory Bird Sanctuary Regulations*. The Proponent will conduct avian risk assessments prior to project activities with the potential to impact migratory birds, and mitigation measures will be applied where risk is identified. These assessments are not required by federal or provincial legislation, but were developed from feedback from potentially-impacted communities during the project design process. The Proponent has committed to complying with the *Migratory Birds Convention Act, 1994*.

Potential effects to species at risk will be considered in the assessment under the federal *Nuclear Safety and Control Act* and as part of the provincial EIA required under *The Environmental Assessment Act*. The Proponent will also be required to adhere to applicable federal legislation, such as the *Migratory Birds Convention Act, 1994* and SARA. With respect to woodland caribou, the Canada-Saskatchewan Conservation Agreement for the Conservation of the Woodland Caribou, Boreal Population in Saskatchewan per SARA Section 11, Federal Recovery Strategy for Woodland Caribou Boreal population, and the Saskatchewan SK2 West Range Plan will apply.

Indigenous peoples of Canada

The Agency considered information provided by the requester, the Proponent, Indigenous groups, the Government of Saskatchewan, ECCC, ISC, HC, DFO and WAGE. The Agency is of the view that existing legislation will provide a framework to address the potential that the Project has to cause a change occurring in Canada on the health, social, or economic conditions of the Indigenous peoples of Canada or an impact occurring in Canada and resulting from any change to the environment on physical and cultural heritage, the current use of lands and resources for traditional purposes, or on any structure, site, or thing that is of historical, archaeological, paleontological or architectural significance to the Indigenous peoples of Canada. The Agency sought views from nine potentially impacted Indigenous groups and received input from Athabasca Chipewyan First Nation and Clearwater River Dene Nation. Clearwater River Dene Nation



indicated that they are pleased with the collaborative approach the Proponent has taken with them and does not see a need for an additional federal assessment of the Project.

The requester and Indigenous groups expressed concerns regarding Project impacts to:

- the integrity of the Métis of Northwest Saskatchewan Land Claim (court file #002A0029);
- human health and socio-economic health of Métis and other Indigenous peoples (e.g. impacts of transportation of triuranium octoxide (U_3O_8), commonly known as yellowcake, through communities);
- species of cultural importance (e.g. moose, caribou and fish);
- socio-economic pressures on Métis communities that may have disproportionate impacts on vulnerable Métis populations;
- the ability to exercise section 35 rights such as hunting, trapping, gathering and fishing within the vicinity of the proposed project area;
- harvest sites, trap lines and traditional use sites;
- groundwater and surface water quantity and quality (e.g. impacts to critical waterways within Lake Athabasca and the watershed); and
- the connection to the land and loss of traditional resources.

ISC indicated that effects to traditional and current land use/access, access to traditional foods, and the ability for Indigenous peoples to practise their culture should be considered during the Project assessment. ISC also noted the Project may cause changes in the physical environment (e.g. soil, surface and groundwater quality) and changes to health and socio-economic conditions and community well being due to reduced access to traditional lands (activities), sites of spiritual importance and a displacement of culturally important wildlife.

HC noted that harmful substance spills could negatively affect the quality of water bodies used for traditional purposes, recreational purposes and as potable water sources. HC also noted that adverse impacts to human health via degradation of air quality is possible due to increased exhaust emissions from machinery and fugitive dust. Ambient noise levels may increase due to machinery use, construction activities and increased traffic. The introduction of contaminants into the environment from the Project can also adversely impact country foods. HC indicated that human health receptors must be identified during the EIA process to adequately assess human health impacts from the Project.

ECCC advised that construction of the Project may adversely affect air quality through the combustion of fossil fuels by construction equipment and through physical disturbance of land, introducing particulate matter into the air. Air pollutants as a result of the Project could potentially affect human health and sensitive ecosystem receptors at local and regional extents.

WAGE indicated that a Gender-based Analysis Plus analysis can be applied to anticipate adverse impacts on Indigenous populations in order to mitigate any barriers and identify how the project could be tailored to meet diverse needs of Indigenous peoples.

CNSC advised that it has a duty to consult Indigenous peoples during their decision-making process if there is a potential to affect Indigenous or treaty rights. CNSC considers all areas of environmental protection and radiation protections under the *Nuclear Safety and Control Act*, including those with links to impacts on human health, Indigenous lands, species at risk, and fish and fish habitats.

The Saskatchewan Ministry of Health and the Saskatchewan Health authority provide technical reviews of the Terms of Reference and EIAs, including the assessment of a project's potential health impacts on local communities and potential impacts on components of community well-being (e.g. housing, income, health care access). The Project requires heritage clearance under Saskatchewan's *The Heritage Property Act* and would include conditions to ensure heritage resources are protected. Saskatchewan's *The Environmental Assessment Act* includes consideration of a project's potential impacts to Indigenous peoples and Treaty and Aboriginal rights. Consultation would be carried out with potentially-impacted Indigenous groups as per Saskatchewan's *First Nation and Métis Consultation Policy Framework*.

The Government of Saskatchewan has a duty to consult First Nations and Métis communities in advance of a decision regarding development that could adversely impact Treaty and Aboriginal rights. In order to ensure the duty to consult is met, the Proponent is required to develop mitigation to minimize impacts or offer accommodations to any impacted Indigenous groups. Indigenous groups are provided the opportunity to review the EIS prepared by the Proponent as part of the provincial EIA process prior to the Saskatchewan Minister of Environment's decision. Further consultation opportunities may continue outside of the 30-60 day review period if the duty to consult requires it. The Proponent has been assigned procedural aspects of consultation as part of the provincial EIA process.

The Proponent noted that the Project could have adverse effects on local communities due to increased vehicle traffic, noise, and population. Additionally, the Project could result in a loss of access to traditional hunting, fishing and gathering grounds and could potentially disturb heritage resources during land clearing and construction activities. The Proponent stated that the provincial EIA under *The Environmental Assessment Act* will include assessment of potential impacts, mitigation strategies and a commitment to continued engagement with local stakeholders and Indigenous groups to ensure concerns are heard and adequately addressed. The Proponent is committed to working in collaboration with Indigenous groups throughout the life of the Project, and has developed an engagement plan to ensure meaningful engagement.

The Proponent indicated that mitigation measures include:

- that the Project will be designed to minimize the footprint and ensure that waterways remain navigable;
- a heritage resources impact assessment may be required under Saskatchewan's *The Heritage Property Act*; and
- yellowcake will be transported from the mine by truck in sealed drums, and transportation services will be provided by carriers licensed to carry uranium under applicable provincial and federal laws.

The Proponent also noted that the Project may bring positive socioeconomic benefits to local communities, and training and employment opportunities will occur to the extent possible during construction and operation of the Project. The Proponent indicated that total Project expenditure on northern vendors in 2021 was \$4.04 million and \$1.57 million so far in 2022. Additionally, the Proponent has contributed over \$180,000 in sponsorships and donations to local community organizations supporting education, recreation, wellness, and crisis response initiatives. A socioeconomic assessment will also be completed during the provincial EIA process

Potential effects to Indigenous peoples of Canada will be considered during the federal assessments under the *Nuclear Safety and Control Act*, *Fisheries Act* and the provincial EIA required under *The Environmental*



Assessment Act which all include consultation and/or accommodation on potential impacts to Indigenous peoples of Canada. Additionally, the Project will require clearance under Saskatchewan's *The Heritage Property Act*.

Federal lands

The Proponent noted that the Project is not located on federal lands, and no downstream impacts are expected. The Agency is of the view that there will be no change to the environment that would occur on federal lands.

Transboundary effects

The Agency is of the view that existing legislation will provide a framework to address the potential that the Project has to cause a change to the environment that would occur in a province other than the one in which the Project is being carried out or outside Canada

ECCC noted that project activities may result in GHG emissions, or impact carbon sinks and may hinder the Government of Canada's ability to meet its commitments in respect of climate change. Combustion of fossil fuels during construction can result in the emission of air contaminants such as sulfur oxides, nitrogen oxides, volatile organic compounds, and fine particulate matter.

HC indicated the potential for changes to air quality, but did not comment on the potential extent of such effects.

The Proponent specified that the Project was designed specifically to contain any environmental impacts within the province of Saskatchewan. The Proponent does not anticipate any downstream impacts. Full greenhouse calculations are not yet completed for the Project, but will be included in the EIS. The provincial EIA process requires complete characterization of air emissions, including GHGs. The CNSC also provides guidance to proponents in developing emissions control and monitoring measures. The Proponent has committed to using liquefied natural gas over diesel fuel to generate power for the Project, and will use the best available technology to maximize efficiency of the mine, mill and supporting infrastructure. The Proponent is currently evaluating the use of electric vehicles where possible and will conduct monitoring to ensure air quality standards are met.

The Project will be subject to federal GHG emissions reporting requirements, pursuant to the *Canadian Environmental Protection Act, 1999*, if ten kilotonnes or more of GHGs are emitted in carbon dioxide equivalent units per year.

Other considerations

Cumulative effects

The Agency considered information provided by the Proponent, ECCC, DFO, ISC, the requester, and Indigenous groups in relation to effects set out in subsection 9(1) of the IAA, and is of the view that existing legislation provides a framework to address cumulative effects.



The requester and Indigenous groups expressed concerns related to cumulative effects to Patterson Lake and the local environment, given the close proximity of the Project to the proposed NexGen Energy Ltd. Rook 1 Project (underground uranium mine and mill).

ECCC noted that the Project will likely contribute to cumulative effects including destruction and fragmentation of critical habitat and sensory disturbance to caribou due to multiple existing and proposed mine developments.

The CNSC advised that the Project is included as a “reasonably foreseeable development” for the consideration of the cumulative effects in the Rook 1 Project EIS, in accordance with *Canadian Environmental Assessment Act, 2012*.

The Proponent acknowledges uranium development near the Project and noted that a cumulative effects assessment will be included as part of the EIA required under *The Environmental Assessment Act*.

Cumulative effects and planned methods to manage these effects will be assessed under the *Nuclear Safety and Control Act* and as part of the provincial EIA required under *The Environmental Assessment Act*. DFO also noted that the *Fisheries Act* provides a framework of considerations to guide ministerial decision-making, including consideration of cumulative effects.

Potential adverse direct or incidental effects

Direct or incidental effects refer to effects that are directly linked or necessarily incidental to a federal authority’s exercise of a power or performance of a duty or function that would permit the carrying out, in whole or in part, of a physical activity, or to a federal authority’s provision of financial assistance for the purpose of enabling that physical activity to be carried out, in whole or in part. The carrying out of the Project has the potential to cause adverse direct or incidental effects; however, the Agency is of the view that existing legislation provides a framework to address them.

The Project may require a *Fisheries Act* authorization from DFO if the Project could cause harmful alteration, disruption, or destruction of fish habitat or death of fish. The Project will also require approvals under the *Nuclear Safety and Control Act*.

The Proponent noted that it is difficult to predict how the exercise of federal jurisdiction will link to specific adverse effects at this early stage of the Project. However, it can reasonably be assumed that potential effects may arise from exercising jurisdiction over fisheries, threatened species, migratory birds, and Indigenous lands and rights. The Proponent indicated that all these issues will be addressed as part of the provincial EIA process and the Project will require a license from CNSC under the *Nuclear Safety and Control Act*.

Public concerns

The Agency is of the view that existing legislation provides a framework to address the concerns within federal jurisdiction and adverse direct or indirect effects and include opportunities for public participation and consideration of public comments. The Agency is not aware of any concerns with the Project aside from those received from the requester.

The public was informed of the Project and the provincial EIA under *The Environmental Assessment Act* in February 2022⁴. The public will be provided with an opportunity to comment on the project EIS prior to the Saskatchewan Minister of Environment's decision on whether to approve the Project.

The CNSC holds public Commission hearings, which gives an opportunity for the public and Indigenous groups and communities to communicate their interests and concerns about any project or licensing application before the CNSC directly to the Commission. This public consultation process occurs through both written and oral interventions as part of the Commission's decision-making process.

Potential adverse impacts on the section 35 rights of Indigenous peoples

The Project is located within Treaty 8 territory and within the MN-S – Northern Region 2. The Agency sought views from nine potentially impacted Indigenous groups and received input from two groups. The Agency considered submissions from the requester, Athabasca Chipewyan First Nation, Clearwater River Dene Nation and relevant advice from federal and provincial authorities. In relation to subsection 9(2) of the IAA, the Agency is of the view that while there is the potential for the Project to cause adverse impacts on rights that are recognized and affirmed by section 35 of the *Constitution Act, 1982* (section 35 rights), existing legislation provides a framework to address such impacts.

Potential adverse impacts on the section 35 rights of Indigenous peoples will be considered in the CNSC process under the *Nuclear Safety and Control Act* which includes consultation with Indigenous groups throughout the regulatory process. The *Fisheries Act* Authorization and provincial EIA process under *The Environmental Assessment Act* will involve consultation and/or accommodation on potential impacts to Indigenous peoples of Canada.

Regional and strategic assessments

There are no regional or strategic assessments pursuant to sections 92, 93, or 95 of the IAA that are relevant to the Project.

⁴ [Publications Centre \(saskatchewan.ca\)](https://www.saskatchewan.ca/publications)



Conclusion

The Agency took into account the information it received as part of the designation request process for the Project to inform its analysis. The Agency is of the view that existing legislation provides a framework to address the potential for adverse effects as described in subsection 9(1) of the IAA. These include the provincial EIA process under *The Environmental Assessment Act*, which can include enforceable terms and conditions to mitigate potential environmental effects for all stages of the development, and federal legislative mechanisms such as the *Nuclear Safety and Control Act* and authorization under the *Fisheries Act* which would include additional Indigenous consultation activities.

While there is the potential for the Project to cause adverse impacts on the section 35 rights of the Indigenous peoples of Canada, existing legislation will provide a framework to address potential impacts to section 35 rights caused by the Project.