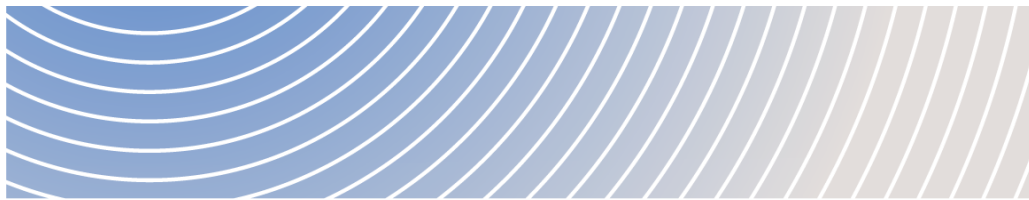


Summary of the Integrated Guidelines



DEEP GEOLOGICAL REPOSITORY (DGR) FOR CANADA'S USED NUCLEAR
FUEL PROJECT

August 11, 2026



Impact Assessment
Agency of Canada

Agence d'évaluation
d'impact du Canada

Canada



Disclaimer

This document is a summary of the requirements found in the Integrated Tailored Impact Statement Guidelines (the Guidelines) for the Deep Geological Repository for Canada's Used Nuclear Fuel Project (the project), proposed by the Nuclear Waste Management Organization (the proponent). This document outlines, at a high level, the information that the proponent must provide in their Impact Statement. The purpose of this document is to serve as an engagement tool for participants to support their understanding of the requirements.

For the complete list of requirements, please refer to the [Guidelines](#) on the Canadian Impact Assessment Registry

Introductory information

Nuclear projects that are considered “designated physical activities”, as described in the [Physical Activities Regulations](#) (see Sections 26-29), must be assessed by an integrated review panel that addresses the requirements of both the [Impact Assessment Act](#) and the requirements for an initial license under the [Nuclear Safety and Control Act](#).

Nuclear projects are “federal works or undertaking”, which means that the impact assessment considers a broader scope of effects. This broad scope includes changes to the environment and to health, social and economic conditions, and the positive and negative consequences of those changes that are likely to be caused by the carrying out of the project.

The Guidelines, which this document serves as a short summary of, outlines the information that must be provided in an Impact Statement in order to assess the potential effects of the project.

The Impact Statement must be built around Valued Components (VCs), which are the important elements of the physical, biological and human environment to be assessed. The Impact Statement must provide an assessment of how all project-related components and activities, during all phases of the project, may interact (either directly or indirectly) with the important VCs in the area of the project. Based on the information provided in the [Initial Project Description](#) and the feedback received during the Planning Phase, the preliminary list of VCs in the Guidelines has been provided in **Appendix A**.

The Impact Statement must provide detailed descriptions of the project components and activities that must be considered in the impact assessment, including locations, timing, and the methods used to carry them out. The purpose and need for the project, including alternative means of carrying it out, must be described in the Impact Statement.



Indigenous engagement

The Impact Statement must describe the proponent's engagement activities with Indigenous Nations and communities to understand potential impacts of the project on Indigenous Peoples and their rights. The results of those engagement activities are important inputs into project planning and the Impact Statement. The term "Indigenous Nations and communities" refers specifically to those Nations and communities listed in the Indigenous Engagement and Partnership Plan.

For the Indigenous Nations and communities, the Impact Statement must describe approaches for consensus seeking, commitments and agreements related to engagement, plans to consider and incorporate Indigenous knowledge and Indigenous perspectives and support capacity needs.

The Impact Statement must detail the questions, comments and issues raised during engagement activities with Indigenous Nations and communities. How these matters have been addressed, or plans to address them in the future, must be provided, including how they have been incorporated into project planning.

Public participation

The Impact Statement must describe the proponent's engagement activities with the public that have been undertaken to date and provide a summary of key issues raised and how they were included in the Impact Statement. The results of those public participation opportunities are important inputs into project planning and the Impact Statement.

Assessment methodology

This section outlines the requirements for standard areas of the assessment that must be applied to each VC, particularly with respect to:

- Spatial and temporal boundaries;
- Baseline conditions;
- Effects assessment considerations;
- Mitigation measures;
- Residual and cumulative effects;
- Extent that effects are significant;
- Follow-up and monitoring; and,
- Uncertainty and bias.

For each VC, the Impact Statement must describe the baseline conditions and how they were established, predict the effects associated with the various project components and activities on those VCs, propose measures to mitigate effects (or enhance positive effects, if applicable), assess cumulative effects and monitor and follow-up on them in the future during the project's life cycle.



When assessing the effects and providing supporting evidence for the effectiveness of mitigation measures, the Impact Statement must consider sources of uncertainty or bias, including data limitations and other relevant factors. Where applicable, the Impact Statement should follow applicable guidance documents and standards.

The proponent is encouraged to leverage existing information, where possible, to support the development of their Impact Statement. This could include information from technical studies that were completed for the site selection process and other work carried out by the proponent prior to the start of the impact assessment process.

Physical environment

The physical environment consists of the weather, rocks, soil, radiological conditions, air, noise, the land and water. Changes to the physical environment from project components and activities throughout the project's lifecycle must be assessed and provided. Emphasis should be placed on waters, lands and areas of cultural significance, those that are sensitive to change, and those identified during engagement activities.

The Impact Statement must describe the changes the project could cause to radiation and radioactivity in the terrestrial and aquatic environment, the atmosphere, and to workers or nearby communities.

The Impact Statement must describe the regional geology relevant to the project and where future drilling or other site characterization activities are planned. It must also describe the potential effects of the project on geological formations, the potential effects of the project on the environment when bedrock is excavated, stockpiled and used for construction purposes, and the potential effects to receptors such as groundwater, surface water and sediment quality resulting from acid rock drainage, neutral mine draining and/or metal(loid) leaching.

Biological environment

The biological environment consists of vegetation, fish, birds, wildlife and species at risk and their habitats (it excludes humans, which are covered under the Human Environment section), including how they interact and depend on each other. With respect to biological environment, the Impact Statement must provide baseline conditions for the applicable VCs, which include important factors relevant to them such as biodiversity, sensitive and protected areas, nesting and migration, and others.

Changes to wildlife and their habitat from project components and activities throughout the project's lifecycle must be provided. Emphasis should be placed on species of cultural significance, species at risk, and those identified during engagement activities.



Human environment

The human environment consists of the health, social and economic conditions and factors which determine the overall state and quality of life of people in an area. Changes to health, social and economic conditions from all project components and activities throughout the project's lifecycle must be provided. Emphasis must be placed on vulnerable populations, currently stressed services and infrastructure, and working with communities to ensure their input is reflected in how their community is characterized.

Indigenous Nations and communities

The Impact Statement must demonstrate how impacts on Indigenous Peoples and their rights were considered and assessed.

As is the case with the physical, biological and human environment sections, a key component of the integrated assessment is establishing baseline conditions. However, an important difference is that the proponent must work directly with Indigenous Nations and communities to determine the baseline and historical conditions which form the foundation of the assessment.

Impacts from all project components and activities throughout the project's lifecycle must be provided. Indigenous Peoples are best placed to understand how a project may impact them, and the assessment must be done in collaboration with Indigenous Nations and communities. Where appropriate, the proponent must collaborate with Indigenous Nations and communities to incorporate information from or about them into the assessment of all VCs (i.e., including those found in the physical environment, biological environment, and human environment sections).

Measures to avoid, minimize or manage impacts to Indigenous Nations and communities must be provided. The proponent should work directly with potentially impacted Indigenous Nations and communities to identify solutions to the issues they've raised.

Accidents and malfunctions

Adverse effects could be caused by the failure of certain works resulting from accidents (i.e., human error) and malfunctions (i.e., something not functioning as intended). Accidents and malfunctions that may occur in connection with the project must be described, and their potential effects on applicable VCs assessed.

For the project, accident scenarios could include those associated with the improper operation of equipment. Malfunction scenarios could include various degrees of barrier loss (e.g., container breach or failure, groundwater intrusion, corrosion, transportation package failure, etc.), and shaft, ventilation or hoist failure.



The Impact Statement must identify and describe realistic scenarios, estimate their likelihood and consequences, and assess the impacts to applicable VCs if a scenario were to occur. An emergency management plan must be provided which describes response plans and systems in the event of an occurrence, including employee training, and communication and notification protocols.

Planning for Transportation

Transportation activities related to this project are considered as two distinct components for the purposes of the Guidelines: 1) the transportation of used nuclear fuel, and 2) the transportation of materials and people.

The transportation of used nuclear fuel related to the project was a common concern raised by Indigenous Peoples, the public, government representatives, non-governmental organizations and other stakeholder groups during both the first comment period on the [Summary of the Initial Project Description](#) and the second comment period on the Integrated Guidelines.

The proponent must provide an updated Transportation Plan that builds on the information published on their website in 2021. The Transportation Plan will describe the regulatory and policy framework for transporting nuclear materials, provide details regarding the packaging and containment strategy, outline the route planning framework (i.e., including mode, logistics considerations, and principles and criteria for selecting routes, etc.), describe the emergency response and security protocols, and all other relevant mitigation measures for ensuring the effects are minimized to the extent possible.

The updated Transportation Plan provided in the Impact Statement will consider input provided by Indigenous Peoples, government experts and the public (as applicable), gathered during the Impact Statement phase.

The Impact Statement must assess potential adverse effects of project-related transportation on the applicable VCs within an area surrounding the project site, along known segments of the transportation corridor (i.e., Highway 17) between Dryden and Ignace, Ontario. Effects will be assessed under a range of scenarios that can be reasonably expected to occur, such as transportation near waterbodies, under poor weather conditions, or other situations that could influence the activity.

Effects of the Environment on the Project

Environmental conditions, including natural hazards and external events, could negatively affect the performance of the DGR and other supporting project components. Without careful management, this could result in effects on various VCs. Similar to the assessment of accidents and malfunctions, the proponent must assess the probability, risk and



potential effects of a wide range of scenarios that could occur. Examples of these scenarios could include climate change and future climate scenarios, earthquakes and seismic activity, glaciation, floods, wildfires, and other types of extreme weather.

Studying these scenarios and the potential for them to impact the project began during the site selection process and will become more detailed during the integrated assessment as part of the Impact Statement. If the project proceeds to future stages of the CNSC's licensing process, these studies would continue to advance, and then project design would be optimized to account for the findings. This would happen before used nuclear fuel is ever stored at the site, as part of the CNSC's licensing process. This body of work is called the "safety case". Updates to the safety case are made progressively throughout the lifecycle of the project by collecting and analyzing data collected from the project site, and incorporating lessons learned based on research and other projects around the world.

The Impact Statement must provide a risk assessment of these scenarios with enough detail at this stage to provide assurance that the proponent has considered the risks of effects of the environment on the project and is qualified to proceed with the additional work required to continue developing the safety case.

Sustainability and Canada's environmental commitments

The Impact Statement must demonstrate how the project contributes to Canada being able to meet its obligations and commitments. This includes considerations such as greenhouse gas emissions, nature and biodiversity targets, and environmental objectives described under other legislation or international agreements.

This part of the Impact Statement will draw from the information required in different sections to provide supporting evidence that the project will (or will not) contribute to Canada's overall obligations and commitments.

Appendix A: Selection of Valued Components

1.3 Selection of Valued Components

Category	Valued Component (VC)	Rationale for inclusion in the impact assessment
Physical environment	Meteorological environment	Project-related activities may alter current climatic and physical properties at the site. Important for understanding impacts to other components of the environment.
	Geology and geochemistry	
	Topography, soil and sediment	
	Radioactivity	Project-related activities may result in changes to air quality from dust, GHGs and the release of chemical and radiological contaminants. Ambient conditions may be impacted due to light, noise and vibrations from the project.
	Atmospheric, acoustic and visual environment	
	Groundwater and surface water	Project-related activities such as site clearing, drilling, in-water and underground works, altered site drainage, runoff, water withdrawal and discharge of treated effluent could result in changes to water quality and quantity and other impacts to the aquatic environment.
Biological environment	Terrestrial, riparian and wetland environments	Project-related activities such as site preparation and construction, blasting, in-water works, water intake, dewatering, effluent discharge, deposition of deleterious substances, and sensory disturbances could result in adverse effects to the biological environment.
	Fish and fish habitat	
	Birds and their habitat	



	Terrestrial wildlife and their habitat	
	Species at risk and their habitat	
Human environment	Human conditions	Project-related activities may result in changes to the local and regional economy, demand on healthcare and other local services, and an influx of temporary workers may alter the health, social and economic conditions of the region. Project-related activities may result in changes to a variety of environmental receptors, which could indirectly result in impacts to human health.
	Social conditions	
	Economic conditions	
Indigenous Peoples	Indigenous physical and cultural heritage, and structures, sites or things of significance	Project-related activities could result in changes to land access and use for cultural purposes, increased potential and/or perceptions of risk associated with radioactive waste, health, safety and wellbeing through impacts to air and water quality, and the social and economic conditions of Indigenous Peoples.
	Current use of lands and resources for traditional purposes	
	Health, social and economic conditions of Indigenous Peoples	Potential impacts from an influx of temporary workers including health, social and public safety risks.
	Impacts on rights of Indigenous Peoples	