Summary of the Draft Integrated Guidelines

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

April 10, 2026

Impact Assessment Agency of Canada
Agence d'évaluation d'impact du Canada

Canada

Disclaimer

This document is a summary of the requirements expected to be found in the draft Integrated Tailored Impact Statement Guidelines (the draft 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 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 and review of the requirements.

For the full list of requirements, please refer to the complete Draft Integrated Tailored Impact Statement 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, outline the information requirements that must be provided in an Impact Statement in order for the review panel to assess the potential effects of the project.

The Impact Statement must be built around valued components, 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 valued components in the area of the project. Based on the information provided in the Initial Project Description and the feedback received thus far during the Planning Phase, the preliminary list of valued components in the draft 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. Engagement must be carried out in good faith,

support meaningful participation, and should be consistent with the Government of Canada's commitment to implement the United Nations Declaration on the Rights of Indigenous Peoples. The results of these engagement activities are important inputs into project planning and the Impact Statement. Indigenous Knowledge must be considered on equal footing with scientific and technical information, collected in a culturally appropriate manner, and protected where confidential. All engagement activities, feedback, and how the concerns of Indigenous Nations and communities were addressed must be documented in the Impact Statement.

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

For each valued component, 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 valued components, 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.

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 valued components, which include important factors relevant to them such as biodiversity, sensitive and protected areas, nesting and migration.

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 assessed, including effects on physical and cultural heritage, current use of lands and resources for traditional purposes, and health, social and economic conditions. In assessing the impacts on Indigenous rights, the proponent must also consider how the project may affect access to resources, and relationships with the land, and describe mitigation measures developed in collaboration with Indigenous Nations and communities.

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, respect their preferred approaches, and present Nation-specific assessments that reflect their perspectives**.**

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

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 valued components 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, etc.), as well as failures of the shaft, ventilation system or hoist.

The Impact Statement must identify and describe realistic scenarios, estimate their likelihood and consequences, and assess the impacts to applicable valued components 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

The transportation of nuclear materials related to the project was a common concern raised by Indigenous Nations and communities, the public, government representatives, non-governmental organizations and other stakeholder groups during the comment period on the Summary of the Initial Project Description.

The Impact Statement must assess potential adverse effects of project-related transportation on the applicable valued components within an area surrounding the project site, along with the intersections along Highway 17 that will be required for site access.

Potential impacts to valued components include, but are not limited to wildlife collisions (specified in section 6.4.2 of the Tailored Impact Statement Guidelines), strain on local and regional services and infrastructure such as emergency services and road infrastructure, traffic and safety, with particular consideration for school transportation routes and intersections along Highway 17 between Ignace and Dryden (Section 7.3), impacts on Indigenous Nations and communities and their rights (Section 8), accidents and malfunctions (Section 9), and GHG emissions (Section 11.1.2). 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.

The proponent must provide an updated Preliminary Transportation Plan that builds on the information published on their website in 2021. This plan will describe the processes and measures that the proponent would use anywhere transportation activities take place, such as the route planning framework (including mode, logistics considerations, and principles and criteria for selecting routes), as well as other measures to reduce effects as much as possible. The proponent must also provide an emergency response plan which would describe what would happen if an accident or malfunction occurs during the transportation of nuclear materials.

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

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. 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.

Studies of these scenarios and their potential effects on the project began during the site selection process and will be expanded in more detail within the Impact Statement. If the project moves forward to subsequent CNSC licensing phases, the studies will continue and the project design will be updated based on the findings. This would happen before used nuclear fuel is stored at the site, as part of the CNSC's licensing process. This body of work is called the "safety case". The safety case is updated throughout the life of the project using data collected at the project site, along with lessons learned from research and similar projects around the world.

The Impact Statement must include a risk assessment of these scenarios with enough detail to show that the proponent has considered how the environment could affect the project and is prepared and qualified to carry out the additional work needed to further develop the safety case.

Sustainability and Canada's environmental commitments

At the end of an impact assessment, a decision is made which determines whether the project's effects are likely to be significant. If they are likely to be, the decision maker must determine if the effects are in the public interest. To do this, the decision maker considers a variety of factors that include Canada's environmental obligations and climate change 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.

1.3 Selection of Valued Components

Category	Valued Component	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 perceptions of risk associated with radioactive materials, health 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 Nations and communities	
	Impacts on rights of Indigenous Peoples	