Summary of Issues

Deep Geological Repository (DGR) for Canada's Used Nuclear Fuel Project

The Summary of Issues (SOI) outlines the key issues that the Impact Assessment Agency of Canada (IAAC), with input from the Canadian Nuclear Safety Commission (CNSC), considers relevant for the federal integrated impact assessment process for the Deep Geological Repository (DGR) for Canada's Used Nuclear Fuel Project (the project), as proposed by the Nuclear Waste Management Organization (NWMO) (the proponent). The proponent's response to the SOI will support decision-making by IAAC on whether an impact assessment is required under section 16 of the *Impact Assessment Act*. If an impact assessment is required, the key issues outlined below and the proponent's response will inform the scope of the impact assessment, and the continued development and finalization of the Integrated Tailored Impact Statement Guidelines (Integrated Guidelines) and plans, as appropriate.

Given the project is a federal work or undertaking (*Canadian Environmental Protection Act, 1999*), consideration of adverse federal effects includes non-negligible adverse changes resulting from the project to the environment or to health, social or economic conditions.

IAAC was informed by input from federal and provincial authorities, Indigenous Nations and communities and organizations, and the public received to date on the proponent's Summary of the Initial Project Description. The key issues identified below were raised during the public comment period, on the Summary of the Initial Project Description, from January 5 to February 4, 2026. Throughout the SOI, key issues raised have been summarized to provide a succinct description. The expectation is that the proponent review all submissions on the Canadian Impact Assessment Registry Internet site (the Registry) for the project (Reference Number #88774) where the original submissions are available for its review.

The proponent is required to provide a response that sets out how it intends to address the key issues identified in the SOI as part of the development of its project, including those related to potential adverse impacts the project may have on the rights of Indigenous Peoples in accordance with section 15 of the *Impact Assessment Act*. A high-level description is sufficient. Where relevant, the proponent is encouraged to identify if the key issues will be addressed through existing legislative and regulatory frameworks (i.e. legislation or regulation), by proponent commitments to best practices, policies or standards, or both. During engagement with Indigenous Nations, communities and organizations, additional issues may arise. IAAC request that the proponent consider issues that may not have been captured by the SOI or other submissions on the Registry, as appropriate.

The key issues raised in the submissions from Indigenous Nations, communities and organizations are reflected in the Indigenous Peoples section of the SOI. IAAC encourages continued engagement between NWMO and Indigenous Nations and communities to better understand and address these key issues through the integrated assessment process.

Annex B: Submissions from Indigenous Nations and communities provides direct links to registry submissions received from Indigenous Nations, communities and organizations. The proponent is expected to respond directly to the key issues raised by each Indigenous Nation and community in "Section 1 Submissions identifying issues and concerns in the immediate vicinity of the DGR project site" and "Section 2 Submissions identifying DGR project issues and concerns across the broader region" when developing their response to the summary of issues. The proponent is expected to consider the key issues identified in Section 3 "Submissions identifying issues and concerns regarding the transportation of used nuclear fuel" and "Section 4- Submissions identifying the issues and concerns of National, Provincial

and Territorial Indigenous organizations and governments" when developing their response to the summary of issues.

Key Issues

Physical and Biological Environment

Geology, geochemistry, and geological hazards

- **Suitability of host rock for long-term containment:** Need for a detailed understanding of the rock formation at the proposed project site to determine if it is technically suitable to contain waste over the long term, based on its geological characteristics (e.g., rock type, permeability, structural stability, presence of faults and fractures).
- **Destabilization of geology and induced geological hazards:** Concerns that destabilization of geology from project activities and components could cause induced disasters like earthquakes, landslides, slope failure, liquefaction, or volcanoes, and affect long-term containment of waste.
- **Geochemical behaviour of rock material:** Concern regarding the potential for excavated or exposed rock, or rock used for project-related purposes, to cause environmental effects through geochemical reactions such as acid rock drainage and metal leaching.

Radiological Conditions

- **Radiological effects to the environment:** Concern regarding potential radiological effects to the terrestrial, aquatic and atmospheric environment.
- **Radiological contamination of water:** Concern regarding potential radiological effects to water, including contamination of local watersheds, drinking water, groundwater systems, and aquifers. as well as possible transboundary effects to shared water bodies.
- **Radiological effects on health:** Concern regarding potential worker and public exposures to radiation for all project phases. This includes radiation exposures to nearby communities and sensitive populations.
- **Duration of radioactivity:** Concern regarding the types and amounts of radiological releases, and the duration fuel will remain radioactive.
- **Radiological effects to wildlife:** Concern regarding potential radiological effects on wildlife, including impacts related to bioaccumulation and migration.

Groundwater and Surface Water

- **Water usage:** Concerns regarding potential effects of project-related water usage during project construction and operation on local groundwater and surface water systems, including uncertainties about water sourcing, effects to watercourses and local drinking water sources, and overall environmental impacts.
- **Potential and cumulative effects on water:** Concern regarding how potential and cumulative project effects may impact water quality and quantity, including discharge rates and water levels, hydrological regimes, and associated ecosystem components such as migratory bird habitat and fish habitat within the project area.

Terrestrial, riparian and wetland environments

- **Construction effects to terrestrial, riparian and wetland environments:** Concern for potential adverse effects on terrestrial vegetation, riparian areas, and wetland environments from construction activities (e.g., site clearing, in water works, altered drainage, runoff, water withdrawals, and treated effluent discharge).

- **Reclamation:** Concern regarding how the area will be reclaimed after the DGR is sealed and decommissioned.

Terrestrial Wildlife and their Habitat

- **Wildlife:** Concerns regarding potential adverse effects of the project on local wildlife and habitat (including amphibians and reptiles). Need more information on levels of disturbance, displacement, or harm.

Species at risk and their habitat

- **Species at risk:** Concern regarding insufficient information on species at risk and their habitats in the area surrounding the project, including information on direct and indirect pathways of effects.

Fish and Fish Habitat

- **Fish and Fish Habitat:** Concerns regarding potential effects of the project on fish and fish habitat, including resulting from changes in water quality and quantity to groundwater and surface water flows.

Birds (Including Migratory Birds) and Their Habitat

- **Birds and their habitat:** Concerns regarding potential effects of the project on birds (migratory and non-migratory) and bird habitat, including resulting from changes to groundwater and surface water flows.

Health, Social, and Economic Conditions

Human Health and Well-Being:

- **Cumulative effects on health in the region:** Concerns regarding cumulative health effects in the region, particularly related to legacy industrial contamination, including the intergenerational health implications of historic mercury releases from Dryden Mill.
- **Psychosocial health impacts:** Concerns about the public perception and psychosocial impacts associated with living near the nuclear project, including impacts on mental health.

Infrastructure and Services:

- **Effects of temporary workers on services and infrastructure:** Concerns regarding the effects of an influx of temporary workers on local services and infrastructure, such as potential increases in the cost of living, and increased risks to vulnerable populations, including potential increases in gender-based violence. Concerns regarding the adequacy of mitigation measures for these effects.
- **Future service & infrastructure planning:** Concerns regarding the difficulties of long-term planning for services and infrastructure given the multi-generational timeframe of the DGR.

Socio-Economic Conditions:

- **Socio-economic effects of the project:** Concerns regarding socio-economic effects to local communities and Indigenous communities for all phases of the project and the need for community-led baseline data collection.
- **Economic impact on property value:** Concerns regarding the project's potential economic impacts on property and property value (e.g. land, homes, and businesses) of

nearby residents, and how project activities may impact local properties and further affect property values.

- **Socio-economic impacts to land use:** Need for information on how the project may affect the region's land use and access including recreation, tourism, fishing, hunting, forestry, plant harvesting, trapping, bear management area operations, bait harvesters and existing roads that are used by these land users.
- **Distribution of economic benefits for all regional communities:** Concerns that project-related economic benefits may not be equitably shared among all affected regional communities, including those outside hosting agreement areas.
- **Local economic "boom and bust" cycle:** Concerns that the project may create a short-term increase in employment during early phases that is not sustained over the long term, and that local communities may experience disproportionate and limited economic benefits if a large portion of the workforce is temporary or resides outside the community.
- **Economic impacts from public perception:** Concerns that negative public perceptions associated with nuclear waste could impact local businesses, including their ability to attract customers and recruit or retain staff.
- **Long-term labour force, skills, and employment, and economic prosperity:** Concerns regarding how the project may affect local employment, education, and training opportunities, including long-term job creation, sustainable economic benefits, skills development, business and procurement opportunities, and job security, as well as the need to understand the types, number, and duration of jobs across all project phases to assess economic impacts.
- **Social cohesion and community wellbeing:** Concerns regarding potential impacts to community cohesion, wellbeing and lifestyle, food security, and safety due to influx of workers and division about the town hosting the project.
- **Environmental justice:** Concerns regarding disproportionate impacts to marginalized and/or racialized communities.

Other Key Issues Related to the Federal Undertaking

Project description, purpose, need and alternatives considered

- **Future modifications for accepted waste in the DGR:** Need more information on the type of waste that would be accepted in the DGR, the length of time it would remain radioactive and the potential for future project scope modifications that could change the types or volumes of waste managed in the DGR.
- **Monitoring and institutional control:** Concerns regarding monitoring methods, requirements, criteria for project modification, suspension and reversal and transparency in reporting monitoring results. Concerns regarding adequate consideration of intergenerational rolling stewardship, institutional control mechanisms and long-term access conditions.
- **Alternative means:** Concern regarding the lack of options considered as alternative means for project activities and components, including alternatives related to the vertical shafts, used fuel processing plant, used fuel containers and storage of intermediate and low-level waste.

Accidents and Malfunctions

- **High uncertainty novel project potential for accidents and malfunctions:** Concerns regarding the novel project design, the high uncertainty, unanticipated problems, and limited international case studies to confirm long-term facility performance to avoid potential effects or accidents and malfunctions.

- **Failure of any critical DGR component:** Concerns regarding potential accident and malfunction scenarios that could lead to DGR failure and radiological release into the environment, and the need for information on whether the used fuel containers could be retrieved under such circumstances.
- **Used Fuel Packaging Plant:** Concerns about potential accidents in the Used Fuel Packaging Plant (UFPP), their potential effects, and associated mitigation measures to address them.
- **Emergency preparedness:** Concerns regarding the ability of local services and infrastructure to respond to potential emergencies, and the need for adequate development, funding, and communication of emergency response plans, procedures, and program exercises in rural settings to potentially impacted communities.
- **Security Risks and Safeguards:** Concerns that the project could increase risks of nuclear proliferation and targeted malevolent acts (e.g., terrorist activity) throughout the entire project lifecycle, including security risks during transportation of used nuclear fuel and potential future retrieval from the DGR after institutional control is released from the NWMO.

Transportation

The following statements apply to all transportation activities throughout the project lifecycle. This includes the movement of workers, construction materials, and used nuclear fuel, as concerns surrounding traffic, accidents, and increased infrastructure demands are common across all transportation activities:

- **Accidents during transportation of waste:** Concerns related to accidents and effects to the Indigenous and local communities and the environment along the general transportation corridor and public communication mechanisms including emergency preparedness.
- **Transportation in scope of impact assessment:** Concerns related to exclusion of transportation from the scope of this project and impact assessment.
- **Transportation damage to transport package:** Concerns regarding the transportation package integrity include the potential for damage during transport, the degradation of package performance and integrity over prolonged use, and the need for proper end-of-life disposal to ensure continued safety.
- **Radiological effects from transportation:** Concerns regarding the environment and the health of Indigenous and local communities along the transportation route and workers that may be exposed to radiation.
- **Transportation method:** Concerns regarding the preferred method, including fuel packaging methods for transporting used nuclear fuel to the project site, including the uncertainty about whether transport would occur by road, rail, or a combination of both.
- **Wildlife-vehicle collisions:** Concerns regarding project-related transportation activities increasing the potential for wildlife–vehicle collisions over the operational lifespan.
- **Transportation service and infrastructure preparedness and demand:** Concerns relating to emergency preparedness of communities along the transportation route, and the capacity, existing by-laws/regulation and demands on existing infrastructure (e.g., roads and bridges) and emergency services (e.g., hospitals, fire, police, and first responders), given concerns related to increased local transportation and transportation-related accidents.

- **Socio-economic impacts of transport accidents:** Concerns regarding economic impacts resulting from accident-induced disruptions to the transportation corridors for communities along the transportation route.
- **Transportation and engagement:** Concerns regarding the lack of meaningful engagement or consultation, and consent from Indigenous and local communities along the transportation corridor, including how their knowledge and expertise is considered.
- **Cumulative Transportation Effects:** Concerns regarding potential cumulative effects along the transportation corridor.
- **Climate change effects on transportation:** Concerns that climate change may increase the frequency or severity of accidents due to deteriorating road conditions, or require detours to avoid extreme events (e.g. flooding or wildfires).
- **Length of transportation corridor**: Concerns regarding the potential length of the transportation route for used nuclear fuel and associated number of communities

Effects of the environment on the project

- **Seismicity:** Concerns that seismic activity (e.g. earthquakes) in the proposed project location could affect the structural stability of design features to contain radioactive waste. **Long-term containment of waste:** Concerns regarding natural events or disasters affecting the structural stability of design features to contain radioactive waste for millions of years e.g. earthquakes, glaciation.

Cumulative Effects

- **Long-term sustainability:** Concerns regarding the ability to communicate hazards to future generations, and to the long-term effects of radioactive waste on future generations.
- **Cumulative environmental effects:** Concern regarding additional regional land disturbance from the project, the combined pressures of past and existing mining and forestry activities, and the potential for further project-related changes to contribute to environmental degradation.
- **Acceptable Risk**: Concerns regarding intergenerational changes to acceptable risk related to the project.

Indigenous Peoples

Indigenous engagement

- **Adequacy of Indigenous engagement:** Concerns related to the timing, clarity, accessibility, and transparency of project information and whether engagement activities are meaningful, ongoing, and sufficient to ensure Indigenous Peoples' concerns are identified and addressed throughout the project lifecycle, including opportunities for Indigenous-led assessments and the meaningful consideration of their findings.
- **Consideration of Indigenous Knowledge:** Concerns regarding how Indigenous Knowledge, culture, practices, and protocols are considered, incorporated, and reflected in project planning, assessment, and decision-making.
- **Capacity and support for participation:** Concerns regarding the availability, adequacy, and equitable distribution of capacity support and resources to enable effective Indigenous participation in engagement and review processes.

Physical and cultural heritage

- **Impacts to culturally and historically significant sites:** Concerns that the project may adversely affect physical sites, landscapes, structures, or artifacts of cultural, spiritual, or historical importance.
- **Impacts to cultural practices and transmission:** Concerns that the project may disrupt cultural practices, traditions, or the intergenerational transmission of culture, language, or Indigenous Knowledge.
- **Long-term or cumulative effects on cultural heritage:** Concerns regarding potential long-term or cumulative impacts of the project on physical and cultural heritage.

Current use of lands and resources

- **Changes to land and resource use:** Concerns related to reduced access to, or availability of, lands, waters, or resources used for traditional, cultural, or subsistence purposes.
- **Impacts to harvesting and travel:** Concerns that the project may affect hunting, fishing, trapping, gathering, harvesting, or travel routes used by Indigenous Peoples.
- **Uncertainty related to project effects:** Concerns regarding the novel nature of the project, high levels of uncertainty, and limited, inaccurate, or missing baseline data available to accurately predict effects on Indigenous land and resource use.
- **Cumulative effects on current use:** Concerns that the project, in combination with other activities, may further constrain the continued use of lands and resources.

Health, social and economic conditions

- **Health effects:** Concerns that the project may adversely affect physical, mental, or emotional health, including exposure to contaminants, changes in air, water, food quality, noise, light, stress, or perceived health risks, including uncertainty due to limited or inadequate baseline health data.
- **Community and social well-being:** Concerns related to potential effects on community well-being, food security, safety, social cohesion, health outcomes, daily life, population changes, workforce influx, or pressure on housing, services, and infrastructure including uncertainty due to limited or inadequate baseline data.
- **Economic opportunities and impacts:** Concerns related to project-related employment, training, skill development, business and procurement opportunities, revenue sharing, and job security for Indigenous Peoples, including the adequacy of employment initiatives and measures.
- **Distribution of benefits and burdens:** Concerns that economic and social benefits and impacts of the project may not be equitably distributed and could result in economic, social, and health hardships.

Rights of Indigenous Peoples

- **Interference with the exercise of Indigenous rights:** Concerns that the project may interfere with the ability to exercise Indigenous and Treaty rights, including harvesting, cultural practices, governance, or caretaker/stewardship responsibilities.

- **Impacts of environmental change on rights:** Concerns that environmental effects of the project, including contamination of land or waterways, may adversely affect the exercise of Indigenous and Treaty rights and that such impacts may not be adequately avoided, mitigated, or accommodated.
- **Respect for Indigenous authority and jurisdiction:** Concerns regarding adequate and appropriate recognition and respect of Indigenous governance, self-determination, authority, jurisdiction, and decision-making on their territories and whether their participation and consent are adequately respected.
- **Long-term implications for rights:** Concerns regarding legacy, long-term or irreversible impacts of the project on the continued exercise of Indigenous and Treaty rights.

Annex A: Additional Comments, Guidance and Recommendations

The following list provides additional comments, guidance and recommendations by IAAC for information purposes only. The proponent is encouraged to consult the Canadian Impact Assessment Registry Internet site for the project (Reference Number #88774) where the original submissions are available for review.

- **Project purpose:** Concerns whether the project considers the future value of used nuclear fuel and options for its retrieval should reuse or recycle technologies emerge or better solutions identified.
- **Project need:** Concerns regarding whether the project is sufficiently justified given perceived risks and uncertainties or whether interim storage is a better option until risk and uncertainties are reduced.
- **Project description:** Concerns about the adequacy, clarity, and transparency of the Project Description, including how uncertainty, risk, and the effectiveness of proposed mitigation measures are characterized and whether the requirements of the *Information and Management of Time Limits Regulations* were met.
- **Indigenous Engagement and the United Nations Declaration on the Rights of Indigenous Peoples:** Need for assessment to include consideration of the United Nations Declaration on the Rights of Indigenous Peoples including the pursuit of free, prior and informed consent.
- **Public Engagement and Communication:** Concerns regarding the transparency of historic engagement and the need for ongoing, public engagement to ensure public concerns, including those proximate and downstream of the project are meaningfully addressed. Need for additional information on planned public engagement, with plans for clear, accessible, plain-language, and inclusive communications, particularly regarding safety, project scope, risks, and long-term impacts.
- **Monitoring health impacts:** Need more information on who would be monitoring the health impacts of the DGR to be consistent with CNSC regulatory expectations for radiation protection and environmental health oversight.
- **Radiation exposure limits:** Concerns that current exposure limits for radiation are unsafe.
- **Monitoring of effects during construction and operation:** Concerns regarding effects of the project to communities close by and request for monitoring of effects during construction and operations on air, water, soil and from blasting.

Annex B: Submissions from Indigenous Nations and Communities

Note: Indigenous Nations, communities and organizations are listed in alphabetical order per section.

Section 1- **Submissions identifying issues and concerns in the immediate vicinity of the DGR project site**

Eagle Lake First Nation (CIAR # 28, 202, 220)

Lac Des Mille Lacs First Nation (CIAR # 546)

Northwestern Ontario Métis Community (CIAR # 698)

Ojibway Nation of Saugeen (CIAR # 482)

Section 2- **Submissions identifying DGR project issues and concerns across the broader region**

Grassy Narrows First Nation (CIAR # 345)

Iskatewizaagegan No. 39 Independent First Nation (CIAR # 624)

Nigigoonsiminikaaning First Nation (CIAR # 578)

Ojibways of Onigaming First Nation (CIAR # 504)

Rainy River First Nations (CIAR # 364)

Section 3- **Submissions identifying issues and concerns regarding the transportation of used nuclear fuel**

Biigtigong Nishnaabeg (CIAR # 328)

Curve Lake First Nation (CIAR # 438)

Fort William First Nation, Long Lake 58 First Nation, Red Rock Indian Band, Animbiigoo Zaagi'igan Anishinaabek, Michipicoten First Nation, Biinjitiwaabik Zaaging Anishinaabek, Whitesand First Nation (Joint Submission) (CIAR # 366)

Kebaowek First Nation (CIAR # 492)

Mississaugas of Scugog Island First Nation (CIAR # 627)

Nipissing First Nation (CIAR # 417)

Peskotomuhkati Nation (CIAR # 468)

Wasauksing First Nation (CIAR # 692)

Section **4- Submissions identifying the issues and concerns of National, Provincial and Territorial Indigenous organizations and governments**

The Anishinabek Nation (CIAR # 431)

The Assembly of First Nations (CIAR # 97)

Chiefs of Ontario (CIAR # 694)

Grand Council Treaty #3 (CIAR # 660)

Manitoba Métis Federation (CIAR # 517)

Matawa First Nations (CIAR # 481)

Nishnawbe Aski Nation (CIAR # 485)

Section **5- Submissions from self-identifying Indigenous individuals**

IAAC would like to acknowledge the number of submissions received from individuals that self-identified as members of Indigenous Nations in Canada, whose key issues and concerns have been reflected in the Summary of Issues (CIAR # 170, 244, 279, 284, 350, 389, 402, 449, 466, 477, 542, 564, 576, 598, 592, 603, 605, 608, 634, 669, 681).