Enclosure 1: Federal Authority Advice Record – Ontario Pumped Storage Hydropower Project

Please submit the completed form by April 6, 2026, via email to Nottawasaga@iaac-aeic.gc.ca.[1]

Department/Agency Contact Information

Submission Date	April 07, 2026
Department/Agency	Natural Resources Canada
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Review the Initial Project Description and answer the following questions:

1. Will your department or agency exercise a **power, perform a duty or function**, or provide **financial assistance**, related to the project to enable it to be carried out in whole or in part?

   As relevant,

   a) Specify the power, duty or function, or financial assistance, and the likelihood that it will be required to construct the project, as either Required, Potential, Likely, Unlikely or Not Required

      Yes, NRCan is responsible for administering the *Explosives Act* and Regulations. The Initial Project Description indicates that the proponent will require storage of explosives and that a Magazine License will come from the Explosives Regulatory Division within NRCan's Explosives Regulatory and Business Services Branch.

   b) Describe any associated Indigenous or public consultation, including timelines, and elaborate on any potential opportunities for consultation coordination with the impact assessment process, if an impact assessment is required

      The licencing by NRCan under the *Explosives Act* would likely not trigger additional Indigenous or public consultation.

   c) Describe any associated information requirements (e.g., alternative means assessment, habitat offsetting), and specify those that may be coordinated with the impact assessment process, if an impact assessment is required

      Not applicable.

   d) Identify any associated project-specific guidance or issues of which the proponent should be aware, or information the proponent should provide

      Furthermore, the Proponent should be made aware of the Open Science and Data Platform (OSDP), a centralized data hub led by Natural Resources Canada that provides access to diverse science, data and regulatory information to support the assessment. The OSDP can help guide the Proponent in early planning and align project proposals with regulatory expectations to contribute

[1] Please note that advice provided to IAAC may be posted on the Canadian Impact Assessment Registry Internet Site or otherwise made available to the public.

to more efficient reviews. For example, the dataset Critical Habitat for Aquatic Species at Risk – Canada (Fisheries and Oceans Canada) may be of interest to the Proponent. NRCan is available to meet and provide more details about what the OSDP has to offer and can be contacted at osdp-psdo@nrcan-rncan.gc.ca.

e) Indicate whether your department or agency has identified any power that it will be unable, or may be unable, to exercise to allow the project to proceed, in whole or in part as currently planned, with reasons; if unsure, explain what must be resolved to increase confidence

Not applicable.

2. **Using Table 1**, identify project- and context-specific **key issues** based on the expertise within your mandate[2] and the information in your possession. Available information may include your access to databases and corporate knowledge, the Initial Project Description, any exchanges with the proponent or others related to the project and known means to address the effects.

For each key issue:
a) Specify the key issue (e.g., specific species and location)
b) Specify the project component or activity linked to the key issue
c) Explain why it is a key issue based on:
   i. biophysical effect pathway(s) from the specific project component or activity
   ii. concerns unique to the project or a priority within your mandate
   iii. the issue being material[3] to decision-making under the *Impact Assessment Act*
d) Identify how the issue could be resolved, including through other means than an impact assessment (e.g., other regulatory oversight)
e) Identify additional information the proponent could provide to build confidence about how the issue could be addressed through other means

IAAC has prepared a preliminary list of potential effects that are either likely or unlikely to be key issues for the impact assessment.[4] While completing **Table 1**, IAAC requests that, as appropriate based on your department or agency's mandate and expertise, you validate this list, add precision or rationale where appropriate, and recommend any additional key issues for consideration. For project activities on federal lands (e.g., reservoir, powerhouse, water conveyance structures, switchyard, etc.), per section 2 of the IAA, a broader range of effects are within federal jurisdiction, including socio-economic effects.

IAAC has identified the following topics as **potential key issues** for the impact assessment:

- Effects to fish and fish habitat
  - during operations from interactions with the inlet/outlet structure such as impingement and entrainment, changes in lake flow patterns, and turbidity, which may require special attention in ongoing project design
  - during construction of the inlet/outlet structure from lake-bed disturbance and turbidity, unless this is easily managed with well understood mitigation
- Effects to the environment on federal lands

[2] Refer to the Memoranda of Understanding with IAAC.
[3] An issue is material to decision making if its analysis is anticipated to affect the conclusions on (1) whether adverse effects within federal jurisdiction or direct and incidental adverse effects (collectively adverse federal effects) are likely not significant, or of low, medium or high significance; (2) appropriate mitigation measures for significant adverse federal effects; or (3) justification in the public interest.
[4] IAAC has prepared this list based on limited information prior to receipt of the Initial Project Description. It may change based on input received from federal and provincial authorities, Indigenous communities, and the public.

  - including federally listed species at risk, wetlands, and riparian environments that provide special habitat or functions, from construction activities and footprint location, some of which could require offsetting and special attention in ongoing project design
  - if soil contaminants are identified in overburden materials to be disturbed and/or relocated, potential changes to groundwater and surface runoff quality, to inform site specific stormwater management strategies
- Impacts to the physical and cultural heritage of Indigenous peoples and sites of archaeological importance, with a focus on potential archaeological resources on land or water, and species of cultural importance (e.g., black bear)
- Impacts to the economic conditions of Indigenous Peoples
- Effects to people from activities on federal lands, such as dust and noise interactions with base personnel, to help DND identify suitable mitigation and monitoring for any conditions it may place on a land use decision
- Positive effects of the project, including
  - economic benefits for Indigenous groups
  - contributions to Canada's ability to meet its climate change commitments for long-term targets (i.e., 2050) and displace greenhouse gas emissions in the energy sector
  - contributions to sustainability including local socio-economic benefits and Indigenous economic reconciliation

IAAC has identified the following topics as **unlikely key issues** for the impact assessment because the effects are either immaterial to decision-making, effectively managed by other regulatory mechanisms, or have well understood mitigation measures:

- Effects to fish and fish habitat from
  - loss of habitat from lake-bed footprint, which is expected to be routinely managed through an authorization under the *Fisheries Act*, if needed
  - changes to water levels in the Georgian Bay, which are anticipated to be negligible based on the volume of water taken relative to the volume in the lake
  - changes to water quality in the Georgian Bay from reservoir outflow, because the reservoir will be lined with an impermeable layer and water will not be held in the reservoir for prolonged periods
- Effects to migratory birds from construction activities due to well-understood mitigations measures, and regulations under the *Migratory Birds Convention Act*
- Effects to the environment on federal lands, including wildlife and vegetation that are not federally listed species at risk, as population-level effects are unlikely
- Effects on Indigenous peoples':
  - ability to access lands and resources for traditional purposes (harvesting, navigation), as IAAC understands that access to the surrounding land and water is already restricted by DND (apart from any land use near the potential transmission lines outside of the restricted use areas)
  - use of fish for traditional or commercial purposes because population-level changes to fish in the Georgian Bay are not anticipated; should fish population changes be a concern, effects to fishing would be considered
- Effects to the health, social and economic conditions of non-Indigenous peoples resulting from activities carried out on federal lands, including
  - changes to commercial and recreational use of water in the Georgian Bay as public access to the surrounding water is already restricted
  - changes to the visual environment as the project is primarily obscured from view
  - changes to drinking water quality from reservoir outflow because bay water will move in and out without alteration and an impermeable layer in the reservoir will prevent seepage
  - non-Indigenous cultural heritage resources due to well established protocols set by provincial standards, and regulatory oversight off-federal lands

  - impacts to the operations of the Canadian Armed Forces from construction and operation logistics, as DND can manage these in parallel through its Operational Impact Assessment
  - changes to socio-economic conditions in Meaford from the construction workforce as the proponent will focus on local and regional workers, where possible, and is working closely with the municipal government and community service providers
  - changes in energy pricing as this will be managed by Ontario's energy contracting policies and decisions
- Contributions to Canada's ability to meet its climate change commitments for short-term targets (i.e., 2035) because the project will cause greenhouse gas emissions during construction and no further information is required to conclude the project does not contribute to Canada's short-term targets
- Contributions to Canada's ability to meet its environmental obligations as no further information is required to conclude the project does not contribute to Canada's ability to meet its environmental obligations

Vikash Narine, Senior Impact Assessment Officer, Natural Resources Canada

Name and title of Departmental / Agency Responder

April 07, 2026

Date

Table 1: Key Issues to inform the impact assessment process

This table should outline key issues to inform the impact assessment process, including whether an impact assessment is required and, if so, the scope of the assessment and tailoring of the Tailored Impact Statement Guidelines.
Key issues are the major concerns directly related to a project component or activity, the analysis of which is anticipated to be material to decision-making under the *Impact Assessment Act*.
Federal authorities' advice should be guided by the identification and resolution of key issues. If an impact assessment is required, it will be focused on key issues.

Comment ID	a) Key issue	b) Project component or activity	c)(i) Biophysical effect pathway(s)	c)(ii) Concern unique to the project or a priority within your mandate	c)(iii) Material to federal decision-making	d) Means for issue resolution	e) Additional information from the proponent
Identify each comment by your organization's acronym and a sequential comment number. *e.g.: IAAC-01*	*Specify each key issue (e.g., specific species and location).*	*Identify the project component or activity linked to the key issue.* *Be specific about the nature, scale, novelty and complexity of the component or activity.*	*Identify the specific effect pathway between the project component or activity and the affected environmental or human receptor (including Indigenous Peoples).*	*Describe why it's a key issue within the mandate of your department or agency, including in terms of priorities of the federal government and in terms of anticipated likelihood, severity or uncertainty of effects.* *Identify if the key issue is common for project activities of this nature or in this sector, or whether it is unique to this project due to the project's complexity, size or novelty; a sensitive or rare receiving environment; and/or proximity of sensitive environmental or human receptors (including Indigenous Peoples).*	*Describe why the key issue is material to decision-making as either:* • *an adverse effect within federal jurisdiction, or a direct or incidental adverse effect, that may be significant based on available evidence including:* ○ *federal experts' knowledge and experience with past project assessments;* ○ *presence of sensitive species, habitats or human receptors (including Indigenous Peoples);* ○ *novel or complex project activities, components or technologies;* ○ *high uncertainties in effects or in the effectiveness of mitigation measures;* ○ *unknown or unproven mitigation; or* • *a factor for the justification in the public interest anticipated to be material to decision-making such as a likely positive effect contributing to sustainability, to Canada's environmental obligations or climate change commitments or in supporting governmental priorities, such as reconciliation with Indigenous Peoples.*	*Describe how the key issue could be resolved or addressed by:* • *Any means, including powers, duties, functions, frameworks, policies or guidance for which your department or agency is responsible;* • *Any means, including powers, duties, functions, frameworks, policies or guidance from another jurisdiction, including the province;* • *Common, proven, well-understood or standard mitigation measures to mitigate the effect or effect pathway(s); or* • *Commitments made by the proponent (e.g., in the Initial Project Description).*	*Describe information the proponent could provide, or commitments the proponent could make, that would provide confidence that the issue can be resolved by existing means (to be considered for the final Initial Project Description, future Summary of Issues and response, or (potential) Tailored Impact Statement Guidelines.* *Consider whether information, studies, analyses or collaborative work with other authorities would be required to address the issue beyond existing means.*
NRCAN-01	Groundwater Quantity	The project involves the construction of a water reservoir capable of holding approximately 26 million m^3 of water on surface. A ring dam will be constructed to create the reservoir. During operation, water from Georgian Bay will be stored and released from this reservoir.	While the plan is to construct the reservoir by removing overburden and near surface weathered bedrock to reach competent bedrock, there remains the potential for stored surface water to infiltrate to the subsurface and interact with the groundwater flow system, changing groundwater quantity.	Changes to groundwater quantity is a potential adverse effect within federal jurisdiction as groundwater quantity could also directly affect surface water flow and fish habitat.	Changes to groundwater quantity is a potential adverse effect within federal jurisdiction as groundwater quantity could also directly affect surface water flow and fish habitat.	The IPD includes common, proven and well-understood approaches to collecting baseline information, and modelling support for decision making. Common mitigation methods may be available to address the key issues depending on the results of the baseline studies.	NRCan suggests the proponent provide hydrogeological information that supports hydrogeologic parameterization of the competent bedrock underlying the planned reservoir. This may include, but not be limited to, hydraulic conductivity testing of the competent bedrock, mapping and testing of faults and fractures within the competent bedrock, details

			The reservoir could also result in a potential loss of groundwater recharge over 135 Hectares, also changing groundwater quantity. Locally groundwater is a source of drinking water and may contribute to surface water flow, in turn supporting fish habitat.				on planned mitigation for seepage. NRCan suggests that the proponent also provide information on recharge areas within the reservoir footprint, an assessment of whether the reservoir is likely to reduce groundwater recharge, and potential mitigations for groundwater recharge reductions.
NRCan-02	Karst-related terrain instability (e.g. ground subsidence, sinkholes) from reservoir construction and operations. Initial Project description (IPD, February 24, 2026) Section 9.4.4 Project Potential Effects and Proposed Preliminary Mitigations.	The project involves the construction of a water reservoir capable of holding approximately 26 million m^3 of water on surface, with retaining walls 30 m above ground surface. During operation, water from Georgian Bay will be stored and released from this reservoir.	The limestone and dolostone bedrock units identified beneath the reservoir are prone to karstification so could include subsurface voids. These voids can lead to terrain stability hazards such as sinkholes or ground subsidence. Construction and operation of the reservoir could increase the potential of these hazards by: 1) Adjusting the state of stress beneath the reservoir foundation leading to destabilization of sub-surface voids. 2) Increasing the hydraulic head and groundwater flow through the karst-prone bedrock units, creating the formation of new voids or enlargement of pre-existing voids.	Terrain stability is a key issue under federal jurisdiction. Terrain instability from karst-hazards may also affect stability of the reservoir that in turn could have adverse effects on other Project components within federal jurisdiction. Table 9-7 does not indicate the potential impacts to terrain stability from the construction and operations of the reservoir.	Terrain stability is a key issue under federal jurisdiction. Terrain instability from karst-hazards may also affect stability of the reservoir that in turn could have adverse effects on other Project components within federal jurisdiction (e.g., human health, the physical environment, the biological environment).	NRCan recommends that: -Table 9-7 be updated to indicate that the construction and operations of the reservoir could affect the terrain stability. -An assessment be carried out on the potential risks from karst-related hazards to the proposed project and project components. -A plan to mitigate potential karst hazards be developed -It is NRCan's understanding that geologic and geotechnical site investigations will follow the Ontario Geological Survey guidelines for development in Ontario karst terrains (*Ontario Geological Survey. Karst and Hazard Lands Mitigation: Some Guidelines for Geological and Geotechnical Investigations in Ontario Karst Terrains*). NRCan understands that this reservoir was originally proposed to be an impermeable structure, however the term 'impermeable' has been removed from the IPD. NRCan notes that an impermeable reservoir could help mitigate the potential for voids to grow within the founding bedrock.	NRCan suggests that the proponent commit to providing the assessments requested in column d) to mitigate the risks associated with the proposed project.
NRCan-03	Uncertainty in quantity and geochemical characteristics of bedrock to be excavated or disturbed.	Excavation of bedrock for reservoir, underground powerhouse, and associated infrastructure.	Excavation and disturbance of bedrock → exposure to oxygen and water → potential metal leaching and/or acid generation →	Comprehensive characterization of all disturbed materials is necessary to support reliable water quality predictions and	Uncertainty in the volume and nature of materials limits the ability to assess potential changes to groundwater and surface water quality, including effects on fish and fish habitat.	Proponent could estimate the quantity and types of bedrock expected to be excavated or disturbed and conduct geochemical testing on representative rock units to determine ML/ARD potential. The results could be used to	NRCan recommends that the Proponent provide estimates of volumes and types of bedrock to be excavated or disturbed, along with

			transport via groundwater and surface water → potential effects to receiving environment.	mitigation planning within NRCan's mandate. The Project will involve excavation of bedrock; however, the IPD does not quantify the volume or distribution of rock to be disturbed or describe its geochemical characteristics. This information is required to determine whether metal leaching and/or acid rock drainage (ML/ARD) is a potential concern.		identify whether mitigation measures are required.	a representative geochemical testing program and results sufficient to assess ML/ARD potential. NRCan recommends that the proponent follow established guidance (e.g., MEND Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials, 2009) to design geochemical testing programs, including static (e.g., acid-base accounting) and, where warranted, kinetic testing, and demonstrate that sampling and testing are representative of relevant materials.
NRCan-04	Potential use of geochemically reactive materials in construction.	Reuse of excavated materials for construction of Ring Dam and other infrastructure.	Placement of reactive materials → exposure to water and weathering → release of metals and/or acidity → transport to groundwater and surface water.	Comprehensive characterization of all disturbed materials, including material designated for construction is necessary to support reliable water quality predictions and mitigation planning within NRCan's mandate. Excavated materials are proposed for reuse in construction, but it is not demonstrated whether these materials are suitable from a geochemical perspective.	Potential adverse effects within federal jurisdiction due to release of contaminants to groundwater and surface water, including effects on fish and fish habitat.	Proponent could demonstrate that materials used in construction will not generate ML/ARD or will be managed to prevent contaminant release.	NRCan recommends that the Proponent provide ML/ARD-related criteria and a proposed approach for evaluating suitability of materials for construction, including how potentially metal-leaching and/or acid-generating materials will be identified and managed.
NRCan-05	Lack of understanding of geochemical behaviour and linkages to water quality.	Excavation and disturbance of bedrock and overburden, including underground works and surface infrastructure.	Disturbed materials (including underground exposure) → interaction with oxygen and water → generation of drainage → transport via groundwater and surface water → interaction with receiving environments.	Accurate prediction of long-term geochemical behaviour is a priority within NRCan's mandate, particularly for projects with long operational and post-closure timelines.	Uncertainty in predicting water quality and associated effects limits the assessment of potential adverse effects within federal jurisdiction, including fish and fish habitat.	Proponent could develop a conceptual understanding (model) of source–pathway–receptor linkages to support water quality assessment.	NRCan recommends that the Proponent provide a description of how materials, exposure conditions (including underground works), and water pathways are expected to interact, and identify key uncertainties.

				The Project includes both surface and underground excavation, which may create new exposure and groundwater pathways. The IPD does not describe how geochemical conditions may influence water quality or how these pathways are understood.			
NRCan-06	Uncertainty and need for staged assessment.	All project phases.	Limited baseline information → uncertainty in predictions → potential unanticipated effects.	Completing a comprehensive characterization of all disturbed materials is necessary to support reliable water quality predictions and mitigation planning within NRCan's mandate. These accurate prediction of long-term geochemical behaviour is a priority within NRCan's mandate, particularly for projects with long operational and post-closure timelines. The Project is at an early stage with ongoing data collection.	Having a clear understanding of predictions is material to federal decision-making.	Proponent could apply a staged approach where characterization and mitigation are refined as more information on the potential of ML/ARD material becomes available.	NRCan recommends that the Proponent describe how characterization and assessment will be updated as the Project advances.

Please insert additional rows as necessary.