



Government of Canada

Final Written Submissions

*For the Reconsideration Process of Agnico Eagle Mines
Limited's "Meliadine Extension" Project Proposal*

Date: July 26, 2023

Canada 

Executive Summary

The Government of Canada has participated in the Nunavut Impact Review Board's reconsideration process for Agnico Eagle Mines Limited's (Agnico, or the Proponent) Meliadine Extension Project Proposal (the Project). The proposed Project is a modification of the existing Project Certificate 006, Amendment 02. The following departments undertook a review of the Final Environmental Impact Statement Addendum as well as additional documents provided by Agnico:

- Crown-Indigenous Relations and Northern Affairs Canada
- Environment and Climate Change Canada
- Fisheries and Oceans Canada
- Health Canada
- Natural Resources Canada
- Transport Canada

The participating Government of Canada departments provide technical expertise to support the Nunavut Impact Review Board in making its recommendations; a summary of the departments' review and key recommendations to the Nunavut Impact Review Board follows. It should be noted that comments from federal departments do not relieve the Proponent of its obligation to respect all applicable federal legislation.

Once the Nunavut Impact Review Board has concluded its assessment, it would send a report summarizing what was heard from all parties and its recommendations to the responsible federal Ministers to make a decision on the proposed Project. The responsible Ministers for the Project are the Minister of Northern Affairs; the Minister of Environment and Climate Change; the Minister of Fisheries, Oceans and the Canadian Coast Guard; the Minister of Natural Resources; and the Minister of Transport.

The Government of Canada appreciates the opportunity to participate in the Nunavut Impact Review Board's assessment and looks forward to the next steps in the process.

Crown-Indigenous Relations and Northern Affairs Canada

Crown-Indigenous Relations and Northern Affairs Canada's review process consisted of the assessment of biophysical aspects of the proposed Project under its mandate and areas of jurisdiction. This included participation in the Nunavut Impact Review Board information sessions, Information Requests, and technical review comments submissions, both of which received responses from Agnico. In addition, Crown-Indigenous Relations and Northern Affairs Canada participated in several formal Nunavut Impact Review Board meetings which included a Technical Meeting, a Community Roundtable, and two Pre-Hearing Conferences.

Crown-Indigenous Relations and Northern Affairs Canada's review of the proposed Project resulted in seven technical review comments with relevant recommendations for consideration by the Nunavut Impact Review Board and Agnico. Following Agnico's responses to technical review comments, Crown-Indigenous Relations and Northern Affairs Canada had two bilateral meetings with Agnico with a view to resolving outstanding issues. Upon receiving additional information

from Agnico, three of the technical review comments were resolved completely and four were resolved with commitments from Agnico. All seven technical review comments with their current status are described in detail later in this submission and summarized below as final comments:

CIRNAC-TRC-01 - Discovery Waterline: In response to Crown-Indigenous Relations and Northern Affairs Canada's request for detailed information regarding the design, operation, and associated environmental impacts and mitigation measures of the Discovery waterline, Agnico provided the required clarifications. Crown-Indigenous Relations and Northern Affairs Canada considers this issue to be resolved based on Agnico's support for Crown-Indigenous Relations and Northern Affairs Canada's recommendation that any approval issued for the Project include modifications to relevant terms and conditions (#119, 124, 125 and 134) of Project Certificate 006 Amendment 02, requiring that the Discovery waterline be designed, constructed, and operated in a fashion that implements the same environmental impact controls as are required for the approved waterline from the Meliadine Mine to Itivia Harbour.

CIRNAC-TRC-02 - In-Pit Disposal of Tailings and/or Waste Rock: The Final Environmental Impact Statement Addendum provides limited information on the proposed deposition of tailings and/or waste rock in exhausted pits. Additional information and analysis should be provided before in-pit disposal at the Meliadine Mine is authorized to proceed. To address the concerns expressed by Crown-Indigenous Relations and Northern Affairs Canada, Agnico agreed to the inclusion of a proposed Term and Condition in the amended Project Certificate 006 that specifies the information that must be provided to the Nunavut Water Board for review and approval in accordance with the process set out in the terms and conditions of the Type "A" Water Licence issued under the *Nunavut Waters and Surface Rights Tribunal Act*. Based on this, CIRNAC-TRC-02 is to be conditionally resolved for the purposes of the Nunavut Impact Review Board's current assessment.

CIRNAC-TRC-03 - Temporary Storage of Saline and Surface Contact Water in Pits: The Final Environmental Impact Statement Addendum indicates that exhausted open pits may be used as an alternative for temporary saline and surface contact water storage. The quantity of water to be stored, the duration of storage, and the analyses of interactions of stored water with the groundwater regime were not presented. The issue is considered to be resolved conditionally, provided that Agnico commits to submitting this information as evidence to the Nunavut Water Board's ongoing Meliadine Extension Water Licence Amendment process.

CIRNAC-TRC-04 - Minimizing Discharges to Meliadine Lake: The Final Environmental Impact Statement Addendum indicates that discharges to Meliadine Lake will increase substantially relative to current levels. However, Crown-Indigenous Relations and Northern Affairs Canada reviewed the 2014 Meliadine Project Final Environmental Impact Statement and confirmed that the increased discharges are within the limits that were assessed and approved under the original Meliadine environmental assessment. Therefore, from a technical point of view, Crown-Indigenous Relations and Northern Affairs Canada classifies this issue as resolved as the volumetric discharges to Meliadine Lake under the extension are within the limits that were assessed under the 2014 Final Environmental Impact Statement. Nonetheless, Crown-Indigenous Relations and Northern Affairs Canada strongly encourages Agnico to take actions to address the Kivalliq Inuit Association's requests to minimize or eliminate discharges to Meliadine Lake.

CIRNAC-TRC-05 - Total Dissolved Solids Concentrations in Collection Pond 1: Crown-Indigenous Relations and Northern Affairs Canada requested that Agnico present a detailed

quantitative description of the factors that resulted in predicted Total Dissolved Solid concentrations in Collection Pond 1 reducing by more than 70% under the proposed Project. Agnico provided the requested information and Crown-Indigenous Relations and Northern Affairs Canada considers this issue to be resolved for the purposes of the current assessment.

CIRNAC-TRC-06 - Post-Closure Arsenic Loadings from Saline Pond B7 to Tiri Pit Lake: Crown-Indigenous Relations and Northern Affairs Canada requested that Agnico submit an updated Water Quality and Water Balance Model and present the sensitivity analyses to confirm that post-closure arsenic concentrations in the Tiri Pit Lake and other water bodies will not be substantially greater than predicted. Agnico provided the requested information and Crown-Indigenous Relations and Northern Affairs Canada considers this issue to be resolved for the purposes of the current assessment.

CIRNAC-TRC-07 - Post-Closure Seepage Quality from Reclaimed Areas: Crown-Indigenous Relations and Northern Affairs Canada requested that Agnico develop an appropriate source-term for reclaimed areas of the site and update the water quality models to provide evidence that the seepage from reclaimed areas will revert to background water quality at closure. Crown-Indigenous Relations and Northern Affairs Canada considers this issue to be sufficiently resolved for the purposes of the current assessment and will pursue the issue during the review of future iterations of the Interim Closure and Reclamation Plan for the site.

Environment and Climate Change Canada

Environment and Climate Change Canada provides specialist expert information or knowledge to the Nunavut Impact Review Board as required under Article 12 of the Nunavut Agreement and Section 197 of the *Nunavut Planning and Project Assessment Act*. This includes advice about project assessments, climate change, air quality, water quality, biodiversity, environmental preparedness, and emergencies. We review proponent characterization of environmental effects and mitigation measures and advise decision-makers on both.

Environment and Climate Change Canada has participated in all phases of the Meliadine Extension review thus far.

This Final Written Submission consists of Environment and Climate Change Canada's advice regarding the Proponent's assessment of the Project's environmental effects and proposed mitigations. All Environment and Climate Change Canada comments and recommendations are currently considered resolved.

Environment and Climate Change Canada's comments and recommendations pertain to:

- Considering the proposed airstrip as a new primary pathway for the Project;
- Considering purchasing equipment that meets Tier 4 emission standards;
- Performing particulate matter modelling to facilitate the assessment of locations that will experience a net increase in fugitive emissions;
- Updating the reference for the Canadian Ambient Air Quality Standards;
- Following the guidance in the Strategic Assessment of Climate Change and the draft Technical Guide to:
 - Estimate direct and indirect greenhouse gas emissions associated with all phases of the Project;

- Incorporate the guidance for mitigation measure principles and the Best Available Technologies/Best Environmental Practices determination process;
 - Develop a net-zero plan for the Project; and
 - Perform an assessment of the Project's impact on carbon sinks, if applicable.
- Including individual vehicles and engines descriptions, assumptions with activity data and the emissions factors referenced for the emissions estimates, and providing the methods along with the sample calculations used;
- Completing a full assessment of the proposed in-pit disposal;
- Identifying and implementing additional groundwater monitoring in support of the assessment of impacts associated with in-pit disposal of mine wastes;
- Providing clarification with regard to:
 - Final configuration of saline pond B7 at closure, including inflows and outflows;
 - Identification of contaminant inputs to saline pond B7 during post-closure;
 - How saline pond B7 residual salinity in the lake sediments will be attenuated; and
 - Mitigation for arsenic levels in saline pond B7 during the post-closure stage.
- Considering an ensemble of climate projections from a range of future emission scenarios (low to high forcing) and models in the evaluation of potential climate change effects on relevant aspects of the Project;
- Conducting additional bird baseline surveys that encompass the full footprint of the windfarm;
- Conducting additional bird baseline surveys during the spring and fall migration period;
- Clarifying what bird monitoring programs will be completed, in addition to mortality surveys, during the operation of the windfarm and airstrip;
- If the airstrip is implemented, updating the Terrestrial Environment Monitoring and Mitigations Plan, the Windfarm Management Plan, and the Airstrip Management Plan to incorporate additional survey and monitoring efforts to assess any cumulative impacts to birds;
- Including a "weather" or "visibility" aspect when conducting migratory bird surveys and conducting migratory bird surveys in various weather conditions; and
- Ensuring that the Proponent has identified and assessed adverse effects of the Project on species at risk listed under the *Species at Risk Act* and assessed by the Committee on the Status of Endangered Wildlife in Canada that are likely to be affected by the Project and ensuring that measures are taken to avoid or lessen those adverse effects and monitoring them to inform adaptive management.

Fisheries and Oceans Canada

Fisheries and Oceans Canada's Fish and Fish Habitat Protection Program administers and ensures compliance for development projects taking place in and around fish habitat. Fisheries and Oceans Canada has identified concerns during the review of the Final Environmental Impact Statement Addendum and additional documents.

Scope

The new *Fisheries Act* 2019 includes reinforced provisions for the protection of fish and fish habitat, which were not considered in the original project. As such, the Proponent needs to provide information on all projected impacts on fish and fish habitat in order for the reconsideration to be considered meaningful and ensure adequate consultation on all components that might affect fish

and fish habitat. The following factors, as described in section 34.1 (1) of the Act, were missing from the scope of this reconsideration:

- the contribution to the productivity of relevant fisheries by the fish or fish habitat that is likely to be affected;
- whether there are measures and standards to avoid and mitigate the harmful alteration, disruption or destruction of fish habitat; and
- the cumulative effects of the carrying on of the work, undertaking or activity in combination with other works, undertakings or activities that have been or are being carried on, on fish and fish habitat.

Changes to Project

Changes were made to the 2014 initial project including an increase in the number of waterbodies proposed to be drained and significant changes to in-water work and structures to be constructed. These changes result in additional impacts on fish and fish habitat within and downstream of the project footprint but the Proponent did not update Final Environmental Impact Statement addendums to reflect this situation.

Baseline Information on Fish and Fish Habitat

Fisheries and Oceans Canada requires information on fish populations and their habitat in order to assess the impact and provide informed recommendations to the Nunavut Impact Review Board. The Proponent relied heavily on the information provided in 2014 under the provisions of the old *Fisheries Act*, which did not consider the importance of small-bodied fish as part of the aquatic ecosystem.

Information on Downstream Effect

The limited information that the Proponent provided on the impact to the aquatic ecosystem downstream of the Project was a concern to Fisheries and Oceans Canada. The fact that the Proponent had not updated the water balance model despite changes to the Project combined with the limitation to water discharged to Meliadine Lake led to uncertainty. Fisheries and Oceans Canada worked with Agnico, and it was determined that the effects will be local and would not lead to significant water level changes for Arctic Char populations in the Diane and Meliadine rivers.

Fisheries and Oceans Canada has worked with the Proponent and considers that Agnico has provided the information necessary to properly understand the magnitude of the impacts of the Project for the purpose of this reconsideration.

Fisheries and Oceans Canada considers however that more measures should be implemented to avoid impacts to fish habitat specifically to water levels in watersheds A and B.

Fisheries and Oceans Canada considers that the current designs for water crossings are likely to create barriers to fish passage.

Fisheries and Oceans Canada recommends adding or varying Terms and Conditions to include monitoring for aquatic invasive species and underwater noise from shipping as well as adding Fish and Fish Habitat monitoring and reporting provisions.

Health Canada

Health Canada is a federal department responsible for helping Canadians maintain and improve their health. One of the ways this is accomplished is through participation in the environmental impact review of major resource and infrastructure projects. Specifically, Health Canada provides its expertise, information, or knowledge on human health issues related to the potential environmental impacts of a proposed project. Note that Health Canada only provides recommendations to help prevent, reduce, and mitigate the potential effects of any change to the environment on the health of Indigenous peoples; the department does not approve or issue licenses or permits to enforce its recommendations.

During the conformity and technical review processes, Health Canada's review resulted in six conformity review requests and eighteen technical review comments. The conformity review requests submitted by Health Canada related to two key topics: project assessment scope, and the air quality assessment. The technical review comments submitted by Health Canada were divided into five topic areas: air quality, noise, water quality, human health risk assessment, and country foods. In general, Health Canada sought to better understand how the existing mine operations had been accounted for in the assessment of potential impacts of the proposed extension project and how monitoring data had been used to validate the conclusions of the original Final Environmental Impact Statement upon which the 2022 Addendum relied. Additional rationale and information were also requested to support a fulsome understanding of the methods and data used to assess potential human health risks of the project.

Through information requests, technical comment responses, and commitments made by the Proponent, the department received additional rationale for the assumptions and calculations made in the human health risk assessment, additional details regarding future monitoring plans, and confirmation that the noise monitoring and complaint resolution protocol would remain in place. Health Canada's technical comments regarding the assessment of potential air quality and other topics related to the airstrip were not given further consideration due to its removal from the project scope by the Proponent in December 2022.

With regard to the Project, Health Canada is presenting recommendations in areas related to air quality, noise, country foods, and the human health risk assessment methodology and monitoring in support of its refinement.

Below is a summary of Health Canada's comments and recommendations regarding the Proposal.

Health Canada recommends to the Nunavut Impact Review Board that the Proponent:

Air Quality (Atmospheric Environment)

- Continue to monitor air quality contaminants (including but not limited to fine particulate matter, sulphur dioxide, nitrogen dioxide, cadmium, and iron) for all phases of the Project.
- Continue to implement all economically and technologically feasible mitigation measures to limit emissions of non-threshold air quality contaminants to the extent possible.

- Compare measured air quality contaminants to their respective Canadian Ambient Air Quality Standards in effect at the time of the monitoring in future air quality monitoring reports and implement strategies to avoid future data loss or missing samples.

Noise (Acoustic Environment)

- Continue to monitor noise levels over the course of the mine life as described in the Proponent's response to Commitment 30.
- Maintain the public complaint response mechanism along with additional monitoring and/or mitigation activities in the event of public complaints.

Human Health Risk Assessment, Water Quality and Country Foods

- Continue monitoring arsenic in soils and other relevant environmental media (e.g., surface water) during all project phases.
- Provide details on how the results of the monitoring program will inform adaptive management measures in all phases of the Project.
- If monitored concentrations of arsenic are shown to be increasing over time in the environmental media:
 - Update inputs into the human health risk assessment to incorporate the most recent arsenic monitoring data;
 - Monitor relevant country foods harvested by potentially affected communities; and,
 - Implement any necessary additional mitigation or adaptive management activities.

Full details on Health Canada's recommendations and further information on the department's participation in the Nunavut Impact Review Board's review of the Project are provided in this final submission.

Natural Resources Canada

Natural Resources Canada is participating in the environmental assessment of the Project in the context of its role as a federal department with expertise in hydrogeology, permafrost, and mine waste management. Natural Resources Canada conducted a technical review to assess the technical merit of the information presented in the Final Environmental Impact Statement Addendum (2022), responses to technical review comments and additional documents and provided eleven technical review comments for the Nunavut Impact Review Board's consideration.

Natural Resources Canada's hydrogeology review focused on issues related to groundwater flow. Natural Resources Canada submitted Information Requests in September 2022 and technical review comments in October 2022 for further clarification regarding vertical groundwater flow through taliks and their monitoring, tailings and waste rock disposal in exhausted pits, assessment

of closure and post-closure phases, the effects of saline water storage, groundwater flow near the Discovery underground mine and grouting considerations on groundwater inflow estimates.

Natural Resources Canada's permafrost review focused on the permafrost issues and the design of project components for which these aspects of the physical environment are important. Natural Resources Canada submitted technical review comments in October 2022 with recommendations regarding thermal modelling to support the design of mine waste storage facilities and to assess impacts associated with temporary water storage in pits. In February 2023 Natural Resources Canada submitted an updated technical review comment addressing new information on thermal modelling associated with water storage and a new technical review comment on impacts on permafrost associated with in-pit waste disposal in response to new information provided by the Proponent.

Finally, Natural Resources Canada's mine waste management review focused on the geochemistry and in-pit backfill portions of the Final Environmental Impact Statement Addendum. Natural Resources Canada submitted technical review comments in October 2022 and February 2023 discussing the overall proposed approach for mine waste management to minimize the risk associated with materials reporting elevated acid rock drainage and arsenic leaching potential, and in addition, discussed the best practice for in-pit disposal.

Within the context of the department's areas of expertise, Natural Resources Canada considers all the technical review comments resolved for this phase of the project development. With the Final Environmental Impact Statement Addendum documents, the responses to technical review comments and the additional documents, the Proponent has responded to Natural Resource Canada's technical review comments to Natural Resources Canada's satisfaction, using appropriate methods. Natural Resources Canada notes that several of the Proponent's responses indicated that these issues would be further evaluated as part of the Type A Water License Amendment with the Nunavut Water Board. As with most mining projects, further studies and analysis are generally required to support detailed design and construction. Natural Resources Canada supports recommendations for more detailed evaluations as part of the Type A Water License Amendment with the Nunavut Water Board. Natural Resource Canada's technical review comments also include final recommendations to inform and support advanced project stages and can be found summarized in the Summary of Recommendations below for the Nunavut Impact Review Board's consideration.

Transport Canada

Transport Canada is providing the Nunavut Impact Review Board with technical review comments to offer expert advice on potential impacts to aviation and navigation associated with the Project.

Transport Canada's submission summarizes the department's mandate, roles and responsibilities applicable to the Project. Specific details about the requirements of the *Canadian Aviation Regulations* and the *Canadian Navigable Waters Act* that are relevant to the Project and Nunavut Impact Review Board's assessment are provided. As set out in the *Canadian Aviation Regulations*, Agnico will be required to complete an Aeronautics Assessment before building the proposed windfarm.

Transport Canada also recommends Agnico conduct a Glare Analysis Report and adhere to mitigation measures identified to minimize the effect of glare on aircraft. Unless an exemption is

provided by the Governor in Council, the dewatering of or depositing of material in a navigable waterway is prohibited under the *Canadian Navigable Waters Act*.

Transport Canada will continue to work with the Nunavut Impact Review Board, Agnico, Inuit, Dene and Denesųliné communities and organizations, and other interested parties throughout the environmental assessment to provide guidance and advice related to the department's mandate.