

May 6, 2021

**ATTACHMENT: Federal Authority Advice Record**

**Response due by May 26, 2021**

**Coalspur Mines Ltd. – Phase I Vista Test Underground Mine and Vista Mine Phase II Expansion Projects**

Registry number: 80731

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1. Is it probable that your department or agency may be required to exercise a power or perform a duty or function related to the Projects to enable it to proceed?

If yes, specify the Act of Parliament and that power, duty or function.

**Species at Risk Act permits**

For species listed in Schedule 1 of the *Species at Risk Act* (SARA) as Extirpated, Endangered or Threatened, a permit may be required from ECCC (section 73 of SARA) for activities that affect a listed terrestrial wildlife species, any part of its critical habitat, or the residences of its individuals, where those prohibitions are in place. Such permits may only be issued: if all reasonable alternatives to the activity that would reduce the impact on the species have been considered and the best solution has been adopted; if all feasible measures will be taken to minimize the impact of the activity on the species or its critical habitat or the residences of its individuals; and if the activity will not jeopardize the survival or recovery of the species. Permits are also required by those persons conducting activities that contravene the critical habitat destruction prohibitions (subsection 58(1)).

Prohibitions are in place for individuals and residences on federal lands in a province, reserve or any other lands under the *Indian Act*, or lands under the authority of the Minister of the Environment, and for birds listed under the *Migratory Birds Convention Act, 1994* wherever they occur regardless of land tenure.

Furthermore, prohibitions may be in force on land other than federal land pursuant to other orders or regulations under SARA. It is possible that further prohibitions may come into force in the future through orders in Council for individuals, residences and critical habitat on non-federal lands and / or through ministerial order for critical habitat on federal lands. It is also possible that, over the course of the assessment or after the assessment, additional species could be listed under SARA; permits may be required for project activities that affect these additional species. Proponents are advised to monitor for such developments on the SARA Registry <https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>.

Examples of activities that could require a *Species at Risk Act* permit include:

- Species surveys that would affect individuals or residences;
- Site preparation (clearing, grubbing, site access, staging, blasting);
- Construction and operation of temporary and permanent works and infrastructure;
- Creation of new roads, rail lines, or power lines;
- Infilling of wetlands or watercourses;
- Any monitoring that requires capture/release of individuals; and
- Sensory disturbance effects (artificial lighting, noise, vibration, human activity, vehicular traffic).

ECCC will require detailed information on the potential effects of the project, including locations and/or occurrences of species at risk, their use of habitat and critical habitat within the project area, and specific effects on federal land, before ECCC can determine whether a SARA permit is required

Based on the Initial Project Description, ECCC notes that SARA permits may be required for activities that result in any potential changes to physical habitat components, flow regimes, water quality (including sediment and other chemical contaminants), or to fisheries resource access and utilization on federal lands.

Links to publicly available documents:

- [Guidelines for permitting under Section 73 of Species at Risk Act](https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/policies-guidelines/permitting-under-section-73.html) <https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/policies-guidelines/permitting-under-section-73.html>
- [Species at Risk Permitting Policy](https://species-registry.canada.ca/index-en.html#/consultations/2983) <https://species-registry.canada.ca/index-en.html#/consultations/2983>

ECCC-led Indigenous consultations related to the issuance of a SARA permits will be coordinated with the Crown Consultation Coordinator during the impact assessment where possible.

If a permit is issued, the description of the activity and how SARA's preconditions were met will be posted on the SARA Registry here: <https://species-registry.canada.ca/index-en.html#/permits>

If not fully described in the Initial Project Description, the proponent should provide any anticipated need for species at risk permits during all phases of the project, including for Athabasca rainbow trout and Bull trout in the Detailed Project Description if possible. The proponent is encouraged to collect and submit the information necessary to determine if a SARA permit is required during the impact assessment process, and to submit their application well in advance of the proposed activities to avoid delays.

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2. Is your department or agency in possession of specialist or expert information or knowledge that may be relevant to the conduct of an impact assessment of the Projects?

Specify as appropriate.

ECCC has specialist or expert information that may be relevant to the impact assessment in the areas listed below. In each of these subject areas we have expertise related to establishing an adequate baseline, assessing potential effects to biophysical valued components, effectiveness of mitigation measures, methods for monitoring and follow-up, as well as information regarding federal policies, standards, and regulations that may be relevant to the assessment. Once the scope of the project and of the assessment are established by the Agency, this list may change if additional project activities or components should come into scope.

**Air quality:** ambient air quality; sources of emissions; emissions estimation and measurement; dispersion modelling; and follow-up monitoring.

**Greenhouse gas emissions and climate change:** estimations of greenhouse gas (GHG) emissions (net and upstream); carbon sinks; GHG mitigation measures and determination of Best Available Technologies/Best Environmental practices (BAT/BEP); credible plans to achieve net-zero GHG emissions by 2050; climate change science to inform evaluation of potential changes to the environment and project resilience to effects of climate change; climate change policies; and national GHG projections.

**Water quality and quantity:** surface water quality; water quality predictions and modelling; management of contaminated soils or sediments; hydrology (streamflow rates data and modelling, flooding and extreme events management, drainage control, water levels, water balances); geochemistry; fate and transport of contaminants in wastewater, seepage and runoff; water treatment options specific to nitrate and selenium, including new technologies; follow-up and monitoring.

**Fish and fish habitat:** estimations of the release of harmful substances in effluent, seepage and runoff, and reviews of mitigation and monitoring measures to inform evaluation of potential effects to fish and fish habitat.

**Wildlife, species at risk, and habitat:** priority species and places as outlined in the Pan-Canadian Approach to transforming species at risk conservation in Canada; migratory birds, their nests, eggs, and habitat; COSEWIC assessed species, species at risk, individuals, their residences, habitat and critical habitat including recovery strategies, action plans and management plans; ecological function of wetlands; ecotoxicology.

**Environmental emergencies:** emergency management planning and guidance; atmospheric transport and dispersion modelling of contaminants in air; fate and behaviour, hydrologic trajectory modelling of contaminants in water.

**Climate and meteorology:** long-term climate patterns and norms;

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3. Has your department or agency considered the Projects; exercised a power or performed a duty or function under any Act of Parliament in relation to the Projects; or taken any course of action that would allow the Projects to proceed in whole or in part?

Specify as appropriate.

ECCC has not considered, exercised a power or performed a duty, or taken any course of action as part of the Project.

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4. Has your department or agency had previous contact or involvement with the proponent or other party in relation to the Projects? (for example, enquiry about methodology, guidance, or data; introduction to the project)

Provide an overview of the information or advice exchanged.

Based on information readily available, ECCC has not had any involvement with the proponent or other parties that would be relevant to the assessment of this project. ECCC has previously provided advice to the Agency with respect to Designation of the Proposed Project in September 2019 and June 2020.

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5. Does your department or agency have additional information or knowledge not specified, above?

Specify as appropriate.

Not at this time.

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6. From the perspective of the mandate and area(s) of expertise of your department or agency, what are the issues that should be addressed in the impact assessment of the Projects, should the Agency determine that an impact assessment is required?

For each issue discussed, provide a concise, plain-language summary that is appropriate for inclusion in the Summary of Issues.

### **Air Quality**

The construction, operation, and decommissioning of mines can result in adverse effects on air quality. Mining operations, processing (crushing and milling), and activities associated with combustion (including transportation) can result in the emission of contaminants such as sulfur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOCs), and particulate matter (PM<sub>2.5</sub>, PM<sub>10</sub> and PM). Activities that cause a physical disturbance to land and ore material, such as earth moving, land clearing, blasting, crushing, and transportation, can also introduce particulate matter (e.g., dust and

soot) to the surrounding region. The emission of these air contaminants can result in local or regional degradation of ambient air quality, with potential impacts on human health and sensitive ecosystem receptors. Furthermore, emissions of air contaminants resulting from this project may add cumulatively to the emissions from other activities, contributing to degradation of air quality in the region.

When contaminants settle out of the air in the surrounding environment, their deposition may result in adverse impacts to terrestrial and aquatic ecosystems. For example, emissions of metals and polycyclic aromatic compounds (PAC) from mining activities may result in elevated concentrations of these contaminants in water, soil, flora, and fauna. Emissions of NO<sub>x</sub> and SO<sub>x</sub> may also lead to acidification, soil nutrient imbalances and biodiversity loss if the critical loads of ecosystems are exceeded. Air contaminant emissions can result in contamination of nearby land and waterbodies, and may affect plants, wildlife, and fish and fish habitat.

Detailing the type and quantity of harmful emissions resulting from this project are important to effectively plan and implement mitigation measures that can reduce emissions.

## **Greenhouse Gas Emissions and Climate Change**

The construction, operation, and decommissioning of the proposed project may result in greenhouse gas (GHG) emissions, and may hinder or contribute to the Government of Canada's ability to meet its commitments in respect of climate change. Furthermore, the project has the potential to be affected by future climate change, possibly resulting in impacts to the environment. Climate change may alter the likelihood or magnitude of sudden weather events, such as extreme precipitation that can contribute to flooding, and contribute to longer-term changes such as sea level rise, permafrost thaw and changes to migration patterns. Changes related to warming are already evident in many parts of Canada, and are projected to continue in the future with further warming. If not properly considered, such changes may cause issues such as equipment failures that can threaten the environment and human health and safety, interrupt essential services, disrupt economic activity, and incur high costs for recovery and replacement.

The Strategic Assessment of Climate Change (SACC) (revised October 2020) provides guidance related to climate change throughout the impact assessment process. The SACC outlines information that the proponent should provide during the impact assessment process on GHG emissions including: the impact of the project on carbon sinks; impact of the project on federal emissions reduction efforts and on global GHG emissions; GHG mitigation measures; climate change resilience; the circumstances in which an upstream GHG assessment would be required; and the circumstances in which a credible plan to achieve net-zero emissions by 2050 will be required.

More details will be provided in the *Technical Guide Related to the Strategic Assessment of Climate Change: Guidance on quantification of net GHG emissions and impacts on carbon sinks, mitigation measures, and net-zero plan, and upstream GHG Assessment* when published in its draft form in spring 2021.

The Strategic Assessment of Thermal Coal Mining (SATCM), announced in December 2019, will guide decision-makers on how new thermal coal mine projects will be considered under the Impact Assessment Act. The draft Terms of Reference were published on July 30, 2020 for a 30-day public comment period. The SATCM will be conducted by a committee of government officials, led by Environment and Climate Change Canada in collaboration with other federal departments, such as the Impact Assessment Agency of Canada, Natural Resources Canada and Global Affairs Canada. More details on the scope of the assessment, timelines, and engagement plan will be provided in the final Terms of Reference. The Final Terms of Reference are expected to be published on June 8, 2021. .

### Net GHG Emissions

The proponent provided a maximum annual estimate of the GHG emissions for Phase II and VTUM in section E.23.4 of the Initial Project Description. These GHG emissions are 354 kt CO<sub>2e</sub> /y and 34 kt/y CO<sub>2e</sub> respectively.

- ECCC recommends the proponent provide an estimate of the maximum annual net GHG emissions for each phase of the project, including a breakdown of each term of Equation 1 of the SACC (direct and acquired GHG emissions must be provided) and the methodology, data, emission factors and assumptions used (as stated in section 4.1.1 of the SACC);

If the proponent is required to conduct an Impact Statement, further information on GHG emissions would be required through the tailored impact statement guidelines (TISG), as per section 5.1.1 of the SACC.

### Upstream GHG Emissions

This project will likely not be required to complete an upstream GHG emissions assessment. If the proponent is required to conduct an Impact Statement, this will be confirmed through the TISG.

### Carbon Sinks

In section D.18.2, the proponent indicates the project will have an impact on carbon sinks, impacting a cumulative area of 636.5 ha over the course of the project lifetime.

ECCC recommends the proponent include in the Detailed Project Description the following information related to impacts of the project on carbon sinks, as outlined in Section 4.1.2 of the SACC:

- a description of the activities that would result in an impact on carbon sinks; and
- land areas expected to be impacted by the project, by ecosystem type (forests, cropland, grassland, wetlands, and built-up land) over the course of the project lifetime, including any areas of restored or reclaimed ecosystems.

If the proponent is required to conduct an Impact Statement, further information on impacts to carbon sinks would be required through the TISG, as per section 5.1.2 of the SACC.

### Alternative means of carrying out the project, mitigation measures, and net-zero emissions by 2050

In the Detailed Project Description, as outlined in Section 4.1.3 of the SACC, the proponent

- should discuss the potential impacts of the alternative means of carrying out the project on GHG emissions and how GHG emissions were considered as a criterion in the alternatives selection; and
- are encouraged to provide information on the mitigation measures being considered to reduce the project's GHG emissions on an ongoing basis, including technologies and practices measures (including best available technologies and best environmental practices).

In the upcoming Tailored Impact Statement Guidelines (TISG) (or equivalent document), proponents will be required to provide details regarding mitigation measures including their BAT/BEP determination.

### Climate Change Resilience

Given projected changes in future climate for the project area, climate change considerations are relevant to the project review. The potential for climate change to affect the project, which, in turn, may have impacts on the surrounding environment (e.g. through accidents or malfunctions). Climate changes in the project area, such as possible changes in mean and extreme precipitation and temperature and related environmental conditions, may alter baseline conditions, with implications for climate sensitive aspects of project design and associated effects on the environment.

For example, project components and activities for which climate change resilience could be important for this project include the efficacy of Athabasca rainbow trout offsets. The proponent will be required via the Tailored Impact Statement Guidelines, to provide information in the Impact Statement on how the project is resilient to and at risk from both the current and future impacts of a changing climate.

### **Water Quality and Quantity**

The activities linked to the construction, operation, and decommissioning of mining projects can have adverse effects on the quality of groundwater and surface water, as well as on the hydrological regimes of watercourses and water bodies. The effectiveness of closure plans for mines can affect long-term surface water quality and quantity.

Mining projects may result in adverse effects to surface water quality by reducing the volume of inflows into nearby lakes and rivers. Surface flows can be altered through site re-contouring, surface water management (e.g., diversions of clean water around project areas), or other means. The "drawdown" of the water table – that is, lowering the elevation of subsurface water – can result from the construction and dewatering of open pits and underground mines. Drawdown can also result from the withdrawal of water from constructed wells for water-intensive operational processes at the mine. Reducing the quantity of surface and groundwater available to recharge surface water bodies could reduce the total volumes of water in nearby lakes or rivers and potentially increase the concentration of contaminants and natural elements in those water bodies.

Cumulative effects of the project in combination with other developments (past and present) and foreseeable developments must be identified and assessed for all aspects of the proposed development. There may be cumulative effects of loadings of coal mining-associated contaminants and substances in the watershed and downstream environment.

Adverse effects to water quality could, in turn, result in adverse effects to other parts of the environment, such as human health, fish and fish habitat, migratory birds, plants and wildlife.

### Fish and Fish Habitat

Mining projects often include the following activities: blasting, operating heavy equipment, ore processing, land clearing, etc. These activities could result in adverse effects to fish and fish habitat through the release of suspended solids, ammonia, nitrate, hydrocarbons, and other contaminants to surrounding waters through erosion, sedimentation or runoff processes. Project activities may also produce airborne particulate matter, which could be a source of surface water contamination upon deposition.

Contact water (including but not limited to: wastewater, effluents, runoff, seepage, discharges and spills) contains contaminants that could potentially effect fish and fish habitat at all mining stages, including post-closure. Fish and fish habitat could also be impacted by other mine-related releases, including sewage, chemicals, and other wastes.

The construction, operation, and decommissioning of mines can result in adverse effects on fish and fish habitat from the potential exposure of acid-generating rock to air and water. Through the natural process of sulphide oxidation, water draining from areas of this exposed rock could acidify the aquatic receiving environment and thus have adverse effects on fish and fish habitat. Interaction between water, air and the exposed acid-generating rock could increase the leaching of metals and selenium into the aquatic receiving environment, resulting in adverse effects to fish and fish habitat.

Mining operations can expose rock that contain soluble minerals. When water passes over or through them, these minerals can dissolve in water and result in mineral deposition (e.g., calcium carbonate) and highly saline runoff; this runoff could be released to aquatic receiving environment thereby altering streambed composition and/or salinity levels, which may result in adverse effects to fish and fish habitat.

Surface water quality may also be degraded by interactions between groundwater and surface waters in the project area. The use of water in mine production has the potential for contaminants to enter groundwater through seepage from the tailings disposal areas or other water impoundments. These contaminants could then be transported to aquatic receiving environments, resulting in possible adverse effects to fish and fish habitat. Groundwater quality may also be adversely effected from dewatering and underground mining, leading to impacts to fish and fish habitat in adjacent surface waters.

### **Wildlife, Species at Risk, and Habitat**

The activities linked to the construction, operation, and decommissioning of a mine and associated infrastructure could have negative effects on terrestrial wildlife, migratory birds and species at risk (e.g. amphibians, arthropods, birds, lichens, terrestrial mammals, mosses, reptiles, and vascular plants) listed on the *Species at Risk Act* (SARA), and their habitat (e.g. wetlands) and critical habitat.

The nature of effects to wildlife and habitat (including residences and critical habitat defined under the SARA) can vary based on a number of factors, including: project location, duration, scale, and configuration; ancillary project activities (e.g., land clearing and timber harvesting); existing cumulative effects; the type of habitat that may be disturbed; and sensitivity of species found in the project area. The pathway through which potential effects are conveyed will depend on the land, air, and water constituents associated with the site along with the behavioral adaptability, presence and interaction with the species limiting factor (e.g. habitat supporting staging, nesting, roosting or foraging) and population resilience.

### Migratory birds and species at risk and their habitat

Individual mortality and the destruction of nests and eggs or any other structure necessary for the reproduction and survival of species of risk could occur during all project phases. Exploration and construction of mines and associated infrastructure usually contribute to large-scale land clearing activities, which leads to destruction, disturbance and fragmentation of habitat (e.g., foraging, nesting,

hibernating), habitat avoidance, sensory disturbance, and the inadvertent disturbance and destruction of individuals, nest and eggs of migratory birds and species at risk.

There is a higher risk that these effects would be more severe for migratory birds that are also species at risk and species where habitat is sensitive to disturbance (e.g., wetlands) or where there is already a high degree of cumulative effects to habitat or individuals. Destruction and/or disturbance of habitat can have increased impacts on species at risk individuals, residences and their critical habitat, and lead to changes in prey and predator dynamics, loss of food resources, loss of breeding areas, changes in migration or movement, and increased risk of mortality. Project activities occurring during critical seasons for species use also increase risk. For example, certain species at risk (e.g. turtles) and migratory birds (e.g. Bank Swallows, Common Nighthawk) may nest in large piles of soil left unattended/unvegetated during the breeding season. Other species at risk (e.g. bats) rely on summer and fall roosts and winter hibernacula that may have conditions (e.g. humidity) disturbed by blasting and vibration associated with underground mining activities.

Where a mining project requires new road infrastructure or an increase in capacity to existing road and rail networks, the increase in road traffic volumes are likely to result in an increase in wildlife injury and mortality. Although adverse direct effects to migratory birds and their nests are typically managed through appropriate scheduling of activities outside of the breeding season, collisions with vehicles and associated infrastructure can result in direct mortality of wildlife. Effects can be acute during the operation phase as this is when the most pronounced and sustained increase in vehicle volume is expected.

The construction, operation and decommissioning of mines may impact wildlife directly and indirectly through impacts to habitat through changes in geomorphological processes (e.g., sedimentation processes, water quality and quantity). Additionally, birds that land on and/or frequent wastewater (e.g., submerged tailings in tailings ponds, pit water) have the potential to come into contact with toxic substances which can result in on and off site mortality. During construction, operation, maintenance and decommissioning, there is the potential for harmful substances to enter or be spilled into the receiving environment that may negatively affect wildlife. Depending on the nature of the release (e.g., toxicity, volume release, exposure pathways), effects to wildlife could be acute, chronic or both. Changes to water quality and quantity can affect migratory birds, wildlife, and their habitat.

Noise, vibrations and light from construction and operation activities may result in habitat disturbance which can lead to avoidance of use. Attraction to lights at night or in poor visibility conditions during the day may cause birds to collide with lit structures or their vertical support structures, resulting in injury or death. In other instances, birds can get disoriented while circling a light source, and may deplete their energy reserves and either die of exhaustion or drop to the ground where they are at risk from predation.

### **Environmental Emergencies**

The proposed mining project includes tailings facilities, explosives storage facility, fuel station and mine wastewater pond. As such, there is potential for adverse environmental effects from accidents and malfunctions, such as a leak or spill from the tailings containment pits, fuel spills and uncontrolled explosions. Adverse effects to air quality, water quality, wildlife and wildlife habitat could result from the accidental release of high concentrations of ammonia, hydrocarbons, and other contaminants to surrounding waters. Optimized spill prevention, preparedness and response measures and systems will be important given the risk of spills of hazardous substances to the environment, especially to nearby waterways and environmentally sensitive areas.

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Margaret Fairbairn  
Name of Departmental / Agency Responder

A/Regional Director, Environmental  
Protection Operations  
Title of Responder

May 28, 2021  
Date