

**From:** Scotney, Nicole [CEAA]

**Sent:** August 9, 2017 4:20 PM

**To:** Maryse Belanger; James Millard

**Cc:** BD Mine / Mine BD (CEAA/ACEE); Atkinson, Mike [CEAA]; Peter Oram; Meghan Malloy; Gregus, Emily [CEAA]; Tutty, Bridget R

**Subject:** Information Requests (Part I) following review of EIS - Beaver Dam Mine Project

Dear Maryse and Jim,

The Canadian Environmental Assessment Agency (the Agency) has completed its technical review of the Environmental Impact Statement (EIS) and associated EIS Summary for the proposed Beaver Dam Mine Project (the Project). The Agency also received submissions from government experts, the public and Indigenous peoples. The Agency has analyzed the comments from government experts and determined that additional information is required, as per the information requirements (IRs) attached. The Agency is currently analyzing submissions from the public and Indigenous peoples and will make further information requests as required after it completes that analysis.

With the issuance of these IRs, the federal timeline within which the Minister of Environment and Climate Change's decision must be made is paused as of August 9, 2017. In order for the federal timeline to resume, the Agency requires acceptable responses to all the IRs, including those submitted by Nova Scotia Environment (NSE) that are necessary in order for the Agency to fully understand the potential environmental effects and their significance as described under section 5 of the *Canadian Environmental Assessment Act, 2012*. Of particular interest to the Agency will be those provincial IRs relating to hydrology, water quality, wetlands, and wildlife and wildlife habitat as they relate to potential impacts on fish and fish habitat, use by indigenous people of lands and resources, species at risk and migratory birds.

Complete IR responses are required in order to complete the EIS review phase of the federal environmental assessment process and to proceed with the preparation of its Environmental Assessment Report. Once you have submitted complete responses to all IRs, the Agency will take a period of up to 15 days to form an opinion on whether the requested information has been provided. If, at that time, the Agency determines the responses to be complete, it will commence a technical review of the additional information and the timeline for the environmental assessment will resume the following day. If the responses are determined to be incomplete, you will be notified at that time. For further information, please consult the Agency document *Information Requests and Timelines* <https://www.canada.ca/en/environmental-assessment-agency/news/policy-guidance/information-requests-timelines.html>.

The federal and provincial environmental assessments for the Project are being coordinated between the Agency and NSE. While the responses may be in a format of your choice, due to the nature of the IRs the Agency and NSE recommend that you consider resubmitting a revised EIS, as this will facilitate ease of review and allow for easy identification of the responses. It is the responsibility of the proponent to provide sufficient data and analysis as requested, and as such, you may wish to discuss certain IRs with the Agency together with government experts as necessary to obtain clarification or additional information, prior to submission of the responses. Working directly with the Agency and government experts in this manner, prior to responding to the Agency will help to minimize the potential for additional IRs related to your responses. The Agency can assist in arranging meetings with government experts, at your request.

The IRs and your responses will be made public on the Canadian Environmental Assessment Registry (CEAR) Internet site.

Please confirm receipt of this message and contact me if you require further information.

Sincerely,  
<Original signed by>

Nicole Scotney  
Project Manager, Atlantic Region  
Canadian Environmental Assessment Agency / Government of Canada  
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Beaver Dam Mine Project - Technical Review Information Requirements – Round 1, Part 1  
August 9, 2017

Reference IR#	Project Effects Link to CEAA 2012	Ecosystem Topic	EIS Guideline Reference	EIS Reference	Context and Rationale	The Proponent is Required to ...
CEAA 1-1	<p>5 (1)(c)(iii) Current Use of Lands and Resources for traditional purposes</p> <p>5 (1)(c)(ii) Aboriginal Physical and Cultural Heritage</p> <p>5 (1)(c)(iv) any Structure, Site or Thing of Historical, Archaeological, Paleontological or Architectural Significance</p>	General	Part 1, Section 4.4	Section 2 Project Description, Section 6.11 Indigenous Peoples	<p>Indigenous groups expressed concern regarding the visual impact of the Project. The groups expressed that the visual impact could be important based on final closure heights of the waste rock storage pile and the till stockpiles that will be over 20 m above grade and above high points of surrounding topography</p> <p>Also, the proponent stated that the nearest permanent residential dwelling is located in the Beaver Lake IR 17 located approximately 5 km south of the mine site. The proponent described the mine site being separated by forest and two topographic ridges, indicating that these ridges block direct views from the houses to all work areas. Further, the surface mine is located in a topographic depression and the crusher is in a more elevated position; however, distance to any sensitive receptors would mitigate any effects.”</p> <p>To facilitate a sound understanding of the Project and its potential effects, as well as to assist with consultation efforts, a visual representation of the Project is required. The representation should show the location of Project activities, components and landscape changes that would result from the Project during all phases of the Project (e.g. construction, operation, closure and post-closure).</p>	<p>Provide a model or virtual representation of the Project area (before construction, during operation, decommissioning and post reclamation) to better understand the visual impact of the Project.</p> <p>Provide topographic mapping to demonstrate that cited topographic ridges block views from nearest residences and close land-users.</p>
CEAA 1-2	5 (1)(c)(iii) Current Use of Lands and Resources for traditional purposes	General	Part 2, Section 5	Section 2.1.1 and Section 6.8.6	<p>Section 2.1.1 states that Highway 224 currently experiences considerable heavy truck traffic from forestry and other resource operations in the region. The Agency understands that the haul trucks will cross Highway 224, rather than use it, however all traffic in the region will contribute to noise and dust which could impact Indigenous current use, health and socio-economic conditions and wildlife.</p> <p>Section 6.8.6 states that traffic volumes on the existing Haul Road are unknown and variable both seasonally and annually. Project activities will increase the traffic levels by an average of 20 trucks per day for 12-16 hours of the day during the operational phase of the Project (an annual average of approximately 185 return truck trips per day).</p> <p>Understanding the volume of current Highway 224 use and mitigations is required to properly assess both direct and cumulative effects to valued components such as; current use by Indigenous people, Indigenous people’s health and socio-economic condition.</p>	<p>Provide an estimated existing traffic volume on Highway 224 and project haul roads.</p> <p>Provide the anticipated traffic volume on Highway 224 and haul roads for project related traffic.</p> <p>Provide a worst-case scenario for traffic volumes, in consideration of potential cumulative effects if reasonably foreseeable projects become active.</p> <p>Provide direct and cumulative effects assessment of increased traffic volumes on applicable valued components such as Indigenous current use, Indigenous health and socio-economic conditions.</p> <p>Provide mitigation measures for direct and cumulative effects that will reduce or eliminate impacts from increased traffic volumes.</p>
CEAA 1-3	All	General	Part 1, Section 4.4	Throughout	Throughout the EIS, it is stated that monitoring and other activities will continue throughout the life of the Touquoy mine.	Define the life of the Touquoy mine with respect to the continuation of monitoring.

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					<p>For example, section 2.2.3 (pg. 33) states that air, groundwater, and surface water quality and quantity will continue to be monitored over the life of the Touquoy site as part of existing approvals for approved life span of the facility and for the proposed extended life of the Touquoy site associated with processing of Beaver Dam ore.</p> <p>and</p> <p>The tailings management facility and waste rock stockpile will continue to be monitored throughout the life of the Touquoy site as per the approved closure and reclamation plan for the Touquoy site; these facilities will not be used as part of the Beaver Dam Mine Project.</p>	
CEAA 1-4	All	General	Part 2, Section 3.2.2 Project Activities	Section 2.2.1.6 Project Components - Water Management and Section 2.3.2.4 Project Activities - Existing Environmental Mitigation and Monitoring Requirements Associated with Operations	<p>The EIS Guidelines require that the EIS includes reagent requirements (volumes, storage types). Throughout the EIS, clarity on the use of reagents, including flocculants, lime and cyanide, is needed.</p> <p>For example, on page 29 the EIS states that no reagents will be utilized at the Beaver Dam mine site, with the exception of flocculants, which will be available for use as required in the settling ponds.</p> <p>Further the EIS states that reagents will be reviewed with the local Nova Scotia Environment inspector for acceptability if anything other than water is determined to be required for dust suppression.</p> <p>On page 35, the EIS states that lime or ferric sulphate batch treatment may be employed if the pit water at Touquoy deteriorates.</p>	<p>Provide clarity and additional information on the use (including transport, storage and handling) for planned and potential reagents. Including, but not limited to;</p> <p>a) Provide information on the type and volume of reagents, including flocculants, which may be used for the duration of the Beaver Dam Mine Project.</p> <p>If reagent use is unknown at this time, outline the conditions under which they may be required and what will be considered during their selection. For example, state under what conditions the proponent would be required to use reagents for dust suppression and what these potential reagents might be.</p> <p>b) Provide details on the location and storage of all reagents, including flocculants and cyanide.</p>
CEAA 1-5	All	General	Part 2, Section 2.2 Alternative Means of Carrying Out the Project	Section 2.6 Alternative Means of Carrying out the Project	<p>The EIS guidelines require that the proponent identifies and considers the effects of alternative means of carrying out the project that are technically and economically feasible.</p> <p>In addition to the alternatives considered in section 2.6 of the EIS, the Agency requires that the proponent provides an alternative means analysis for the disposal of Beaver Dam tailings.</p>	<p>Provide an alternative means analysis for the disposal of Beaver Dam tailings or provide a rationale as to why it was not included.</p> <p>Alternatives considered should include, but not be limited to:</p> <ul style="list-style-type: none"> <li>the proposed disposal of tailings in the Touquoy open pit (including why storage of tailings in the Touquoy open pit was the preferred option)</li> <li>the use or an expansion of the Touquoy tailings management facility; and</li> <li>creation of a new Beaver Dam tailings management facility/storage areas.</li> </ul>

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CEAA 1-6	All	EA Methods-Scope	Part 1, Section 3.3.3 Spatial and temporal boundaries	Section 5.4.2 Spatial Boundaries, Throughout	<p>The EIS Guidelines require that spatial boundaries be defined taking into account the appropriate scale and spatial extent of potential environmental effects, community and Aboriginal traditional knowledge, current land and resource use by Indigenous groups, ecological, technical and social and cultural considerations.</p> <p>A consistent and clear definition of the Project Area (PA) is important to enable reviewers to understand the maximum extent of potential effects on valued components.</p> <p>In section 5.4.2 of the EIS, the PA is defined as including three distinct PAs: the Beaver Dam mine site, the haul road corridor, and the Touquoy processing and tailings management facility. Because project activities occur at all three distinct PAs, the proponent is required to assess potential environmental effects at all three PAs. The proponent has not consistently included all three PAs in their valued component analysis (i.e. the activities at the Touquoy mine site).</p> <p>As one example, in the proponent's analysis of fish and fish habitat, the spatial scope is limited to the PAs for the mine foot print and the haul road. It does not include consideration of potential effects to fish and fish habitat at the Touquoy mine site.</p> <p>Further, the PA identified as the Touquoy processing and tailings management facility is misleading as the tailings management facility is not within the scope of the Beaver Dam Mine Project.</p>	<p>Provide a clear and consistent definition of the Project Area that includes the spatial extent of all proposed activities for the Beaver Dam Mine Project.</p> <p>As applicable, update the baseline and effects assessment for each valued component throughout the EIS or, provide the Agency rationale as to why excluding activities at the Touquoy site is appropriate. As per the example provided in the context of this IR for fish and fish habitat, incorporate the baseline information for fish and fish habitat at the Touquoy mine site into the direct effects assessment.</p> <p>Clarify the project area identified as the Touquoy processing and tailings management facility and whether it includes the tailings management facility.</p>
CEAA 1-7	All	EA Methods-Scope	Part 1, Section 3.3.3 Spatial and temporal boundaries	Section 5.4.2 Spatial Boundaries, Throughout	<p>A clear definition of the Local Assessment Area is important to enable reviewers to understand the maximum extent of potential effects on valued components.</p> <p>Section 5.4.2 (page 113) of the EIS states that the size of the Local Assessment Area can vary depending on the Valued Component being considered. However the boundaries of the Local Assessment Area are not consistently and clearly defined for each Valued Component.</p> <p>For example on page 361 of the EIS, the proponent defined the spatial boundary for fish and fish habitat as:</p> <p>"...the Project areas for the mine footprint and the haul road, and the LAA consisting of surface water systems immediately adjacent to and receiving drainage from the PAs, within each affected tertiary watershed (seven along haul road PA and three within the mine footprint PA)"</p> <p>The description for the spatial boundary for fish and fish habitat is not clear. The same observation applies to all of the other Valued Components.</p>	<p>Clearly define and rationalize the spatial boundaries for the Local Assessment Area considered for each Valued Component.</p> <p>Provide a Figure that illustrates the Local Assessment Area for each Valued Component.</p>

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					<p>As well, descriptive text throughout the identification of local assessment area needs to be qualified or further defined so that the Agency can understand the extent of LAAs considered in the EIS. For example;</p> <ul style="list-style-type: none"> <li>• Ensure that statements such as “immediately adjacent to the project area” are described.</li> <li>• Ensure that statements such as “contiguous and consistent with habitat available within the PA” are described.</li> </ul>	
CEAA 1-8	All	EA Methods-Scope	Part 1, Section 3.3.3 Spatial and temporal boundaries	Section 5.4.2 Spatial Boundaries, Throughout	<p>A clear definition of the Regional Assessment Area is important to enable reviewers to understand the maximum extent of potential effects on valued components.</p> <p>Section 5.4.2 of the EIS states that the Regional Assessment Area may vary in size depending on the valued components being considered, and the biological and physical variables present. However, the spatial boundaries of the Regional Assessment Area for each valued component are not clearly defined.</p> <p>The clarity of these definitions is particularly important as one of the main purposes of the Regional Assessment Area is to identify and assess potential cumulative effects. The spatial scope for the cumulative effects assessment for valued components identified in table 8.3-1 are not clear and need to be further defined.</p>	<p>Clearly define and rationalize the spatial boundaries for the Regional Assessment Area considered for each Valued Component (for both direct and cumulative effects). For example:</p> <ul style="list-style-type: none"> <li>• Ensure that statements such as “immediately adjacent to the project area” are described.</li> <li>• Ensure that statements such as “wider scale” and areas “directly impacted by the project” are described.</li> </ul> <p>Provide a Figure that illustrates the Regional Assessment Area for each Valued Component.</p>
CEAA 1-9	All	EA Methods-Overall Mitigations	Part 2, Section 6.5 Mitigations	Throughout	<p>The EIS Guidelines state that mitigation measures will be specific, achievable, measurable and verifiable, and described in a manner that avoids ambiguity in intent, interpretation and implementation. Mitigation measures may be considered for inclusion as conditions in the EA decision statement and/or in other compliance and enforcement mechanisms provided by other authorities’ permitting or licensing processes.</p> <p>Many of the mitigation measures included in the EIS do not provide sufficient detail to enable the Agency to understand potential residual effects on valued components.</p>	<p>Review the proposed mitigation measures in relation to all valued components and provide updated lists of mitigation measures that are specific, achievable, measurable and verifiable, and described in a manner that avoids ambiguity in intent, interpretation and implementation. For example in the EIS:</p> <ol style="list-style-type: none"> <li>Section 6.1.7.1 Atmospheric Environment; clarify when mitigation measures will be applied, and what would be the triggers for dust suppression (e.g. complaints from public and/or First Nations, results from dust monitoring, number of days without rain, etc.).</li> <li>Section 6.1.7.3 Noise Emissions, states that “mitigation will be implemented as necessary where sound levels are of concern.” Describe the mitigation options and what would be the specific triggers for action.</li> <li>Section 6.3.7.1 Surface Water Quality, states that “mitigation measures will be employed at Touquoy as</li> </ol>

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						<p>per existing approvals.” Given that tailings are now being disposed of at the Touquoy pit, describe what additional mitigations are necessary, e.g. for the treatment facility, pump back wells, grouting or lining of possible faults, berms, and emergency procedures in the event of accidents.</p> <p>d. Section 6.6.7 Fish and Fish Habitat, include such items as:</p> <ul style="list-style-type: none"> <li>o The size of riparian buffers to protect fish habitat;</li> <li>o Measures to maintain existing vegetation cover, e.g. designated travel routes, buffers around infrastructure; and</li> <li>o How fish habitat will be avoided where possible, e.g.</li> <li>o setbacks/buffers.</li> </ul> <p>e. For fish and wildlife, provide further information on standard construction methods and mitigation techniques that reduce impacts to these populations and their habitats, particularly for haul road upgrades and the new 4km section.</p> <p>f. From an indigenous perspective, the MEKS considers the impact of the potential loss of habitat around wetlands and lakes to be significant, yet there is little information as to what the plans for compensation of these habitats are. Provide summary information on planned compensation projects for loss of wetlands and fish habitats.</p> <p>g. Section 6.11.7 Indigenous People, includes no specific measures identified to reduce impacts on recreation or subsistence activities by indigenous people in the area surrounding the project sites and haul road in relation air quality, noise, lighting, or drinking water sources. For example, give consideration to timing and location of project activities, buffer zones around known drinking water locations, and measures to avoid visual impacts.</p> <p>Update analysis and determinations of significance, as required, based on revised mitigation measures.</p>

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CEAA 1-10	All	EA Methods – Follow up and Monitoring	Part 2, Section 8.1 Follow up Monitoring Programs	Throughout and Section 9 Summary of Compliance and Effects Monitoring Programs	<p>Section 8 of the EIS guidelines outlines the information required for follow-up programs to be contained in the EIS.</p> <p>The EIS guidelines state that the duration of the follow-up program shall be as long as required for the environment to regain its equilibrium and to evaluate the effectiveness of the mitigation measures.</p> <p>Further, the guidelines require that the EIS present a preliminary follow-up program in particular for areas where scientific uncertainty exists in the prediction of effects. This program shall include:</p> <ul style="list-style-type: none"> <li>• objectives of the follow-up program and the valued components targeted by the program;</li> <li>• list of elements requiring follow-up;</li> <li>• number of follow-up studies planned as well as their main characteristics (list of the parameters to be measured, planned implementation timetable, etc.);</li> <li>• intervention mechanism used in the event that an unexpected deterioration of the environment is observed;</li> <li>• mechanism to disseminate follow-up results among the concerned populations;</li> <li>• accessibility and sharing of data for the general population;</li> <li>• opportunity for the proponent to include the participation of Aboriginal groups and stakeholders on the affected territory, during the development and implementation of the program; and</li> <li>• involvement of local and regional organizations in the design, implementation and evaluation of the follow-up results as well as any updates, including a communication mechanism between these organizations and the proponent.</li> </ul> <p>The information provided throughout the EIS effects assessment chapters, as well as the summary provided in section 9, lack sufficient detail for the Agency and its reviewers.</p>	<p>Provide an updated follow-up program for the Project and update corresponding sections throughout the EIS accordingly. For example in the EIS:</p> <ol style="list-style-type: none"> <li>a. Specifically, for section 6.1.7 Atmospheric Environment, Mitigation and Monitoring, identify the objectives of the follow-up programs and what the triggers will be for further mitigations and corrective action (e.g. complaints from public/Indigenous groups, effects are elevated beyond impact predictions, etc.) Specify what additional mitigation options would be available.</li> <li>b. For section 6.3.7 Surface Water Quality, Mitigation and Follow-up /state the proposed locations of sites to monitor environmental effects of the project at the Beaver Dam site. Also, include whether there are any changes to monitoring locations and programs required at the Touquoy Mine site, given that tailings will now be disposed of at this site. /Describe the triggers for corrective action should monitoring reveal effects different to those predicted and what options would be available, e.g. in-situ treatment water, treatment plants, etc.</li> <li>c. For section 6.11.7 Indigenous People, include follow-up related to the effects of the project on recreational and subsistence use (e.g. noise, dust, light, wildlife disturbance). Describe the triggers/thresholds for corrective action and any adaptive management options. Include any planned involvement of Indigenous groups in the follow-up program.</li> <li>d. For sections 6.10.7 Species of Conservation Interest, state the objectives and how they will be achieved of the Moose Management and Monitoring Program that is proposed to be implemented during preconstruction, and throughout operation of the Project. Include any planned involvement of Indigenous groups in the Moose Management and Monitoring Program. Provide summary details of this follow-up and management program for moose.</li> </ol>



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						<p>e. For section 6.2.7 Geology, Soils and Sediment, state the objectives of the proposed monitoring program “that will conduct annual sampling at select baseline sediment locations for metals suite done for baseline and regular testing of rock for acid generating potential at a rate to be determined by NSE, anticipated to be no less than 1 sample per 100,000 tonnes of rock generated.” Include a description of how the information will be used, and what the thresholds are for segregation of rock with different acid rock drainage and metal leaching potential. Describe what contingency plans and mitigation options are available should predictions regarding acid generating and metal leaching potential of rock proves inaccurate, i.e. management and storage of waste rock, and prevention of acid rock drainage and metal leaching.</p>
CEAA 1-11	All	EA Methods – Significance	Part 2, Section 6.6. Significance of residual effects	Section 5.10 Residual Effects and Determination of Significance and throughout	<p>The EIS requires further detail surrounding significance determination of residual effects in accordance of the Operation Policy Statement: <i>Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the Canadian Environmental Assessment Act, 2012</i> and Technical Guidance <i>Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the Canadian Environmental Assessment Act, 2012</i>.</p> <p>Characterization of criteria should be considered for each Valued Component and include, where possible, quantitative definitions as well as qualitative definitions. Rather than providing criteria for each Valued Component, the proponent defined criteria to be used for all Valued Components.</p> <p>Some of the definitions provided in table 5.10-1 are ambiguous and need to be further defined and clarified. For example, terms such as “natural variability” and “population viability” should be defined in the context of each valued component.</p>	<p>Expand upon the criteria definitions provided in table 5.10-1 to include, where possible, quantitative and qualitative definitions. For example, provide definitions of terms such as “natural variability” and “population viability”. Update the assessment of each valued component as appropriate.</p> <p>Explain how the existing definitions of criteria are appropriate for effects to valued components such as current use and health and socio-economic or provide rationale why the criteria defined in table 5.10-1 is applicable for all valued components.</p>
CEAA 1-12	All	EA Methods- Significance	Part 2, Section 6.6. Significance of residual effects	Section 5.10 Residual Effects and Determination of Significance and throughout	<p>In characterizing the residual effects for each valued component, it is not clear how the timing of the effect was considered, as described in the Operational Policy Statement: <i>Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the Canadian Environmental Assessment Act, 2012</i>.</p> <p>Timing assesses how the valued components may be affected during times such as the following:</p> <ul style="list-style-type: none"> <li>• a period of migration for species at risk;</li> </ul>	<p>Include a consideration of timing as a criterion for the determination of significance of residual effects of all valued components or provide a rationale as to why it was not included. Ensure that the criterion is fully defined and rationalized.</p> <p>Update the effects assessment for each valued component as appropriate.</p>

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					<ul style="list-style-type: none"> <li>when species are using an area for sensitive life stages; and</li> <li>when the project area is being used by Indigenous peoples</li> </ul>	
CEAA 1-13	All	EA Methods- Criteria Ecological and social context guidance	Part 2, Section 6.6. Significance of residual effects	Section 5.10 Residual Effects and Determination of Significance and throughout	<p>As per section 6.6 of the EIS guidelines, the Agency recommends that ecological and social context be used in determining the significance of residual effects.</p> <p>As described in the Operational Policy Statement: <i>Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the Canadian Environmental Assessment Act, 2012</i>, the ecological and social context within which potential environmental effects may occur should be taken into account when considering the key criteria such as magnitude, geographic extent, timing, frequency, duration and reversibility.</p> <p>Context may help better characterize whether adverse effects are significant. For example, information on the context is useful when it reveals:</p> <ul style="list-style-type: none"> <li>a unique characteristic of the area (e.g., proximity to park lands, ecologically critical or fragile areas, valuable heritage resources);</li> <li>unique values or customs of a community that influence the perception of an environmental effect (including cultural factors);</li> <li>a valued component that is important to the functioning of an ecosystem, ecological community or community of people; or</li> <li>a valued component valued component for which a target has been established.</li> </ul> <p>The Agency requires a clearer understanding of the methodologies used in determining significance, including how considerations related to the ecological and social context were taken into account. The definition provided by the proponent in table 5.10-1 is not clear and appears to be specific to social context and focused on human activity and associated disturbance.</p>	<p>Provide an explanation of how the ecological context was taken into account in the assessment of significance for each Valued Component.</p> <p>Update the effects assessment for each valued component as appropriate.</p>
CEAA 1-14	All	EA Methods- Significance of residual effects	Part 2, Section 6.6. Significance of residual effects	Throughout	<p>Section 6.6 of the EIS Guidelines state that the EIS will provide an analysis of the significance of the residual environmental effects that are considered adverse using Agency guidance.</p> <p>The section further states that the EIS will contain clear and sufficient information to enable the Agency, technical and regulatory agencies, Indigenous groups and the public to review the proponent's analysis of the significance of effects.</p> <p>The proponent must provide sufficient detail to substantiate how significance determination conclusions were reached. The determination of significance should be presented in a rational, defensible way that discusses each of the key criteria and a rationale must be provided if a particular criterion is deemed not relevant.</p>	<p>Provide an analysis to support each significance determination within the EIS so that the reviewer understands how the conclusions were made.</p>

Reference IR#	Project Effects Link to CEEA 2012	Ecosystem Topic	EIS Guideline Reference	EIS Reference	Context and Rationale	The Proponent is Required to ...
CEAA 1-15	All	Cumulative Effects- Projects Considered	Part 2, Section 6.7.3 Cumulative Effects Assessment	Section 8.2.4 Identification, selection and Description of projects in the Area Past, Present and Future Physical Activities, Section 4.4 Presentation and organization of the EIS	<p>In section 8.2.4 of the EIS, the proponent states that “projects within a 35 km radius of the Beaver Dam Mine Project area are sufficient in capturing past, present and foreseeable projects for the cumulative effects analysis”. The proponent indicated that the 35 km radius area was selected based on the valued component with the largest spatial boundary.</p> <p>The main purpose of the regional assessment area is to identify and assess cumulative effects. Rather than identifying other projects considered in the regional assessment area, the proponent has limited the area considered to 35 km. surrounding the project.</p> <p>In section 8.4, the projects within the 35 km radius have been outlined. However, the physical activities are not described in sufficient detail to allow potential environmental effects to be characterized for later assessment.</p>	<p>Confirm that the 35 km radius extends from the complete Beaver Dam Mine Project area (including the Beaver Dam mine site, the haul road and the Touquoy mine site) and not just the Beaver Dam mine site.</p> <p>Provide a rationale for why a 35 km radius was deemed sufficient for the cumulative effects analysis. If it is determined that the 35 km radius needs to be modified, update the list of projects in the area as required.</p> <p>Provide further detail on other projects considered for the cumulative effects analysis to allow potential environmental effects to be characterized. For example, provide a figure, for clarity, showing all of the projects in the area that were considered in the cumulative effects analysis.</p>
CEAA 1-16	All	Cumulative Effects- Projects Considered	Part 2, Section 6.7.3 Cumulative Effects Assessment	Section 8 Cumulative Effects Assessment	<p>Cochrane Hill Gold Project (Cochrane Hill) and Fifteen Mile Stream Project were both identified to the Agency by Atlantic Gold as future projects that may utilize the Touquoy facilities as operations advance for these future projects. These future projects were however not identified in the cumulative effects assessment for the Beaver Dam Mine Project.</p>	<p>Provide a rationale for why Cochrane Hill and Fifteen Mile Stream Project are excluded from the cumulative effects assessment if they may be using Touquoy facilities.</p> <p>As applicable, include project information on Cochrane Hill and Fifteen Mile Stream Projects and update the cumulative effects assessment. If there is a potential for these foreseeable projects to use the Touquoy site, provide anticipated project activities at the Touquoy site associated with these projects, e.g. traffic routing and traffic volumes, as well as plans for tailings management.</p>
CEAA 1-17	All	Cumulative Effects- Characterizing Residual Effects	Part 2, Section 6.7.3 Cumulative Effects Assessment		<p>The Agency’s Operational Policy Statement: <i>Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012</i>, states that methodologies used to predict cumulative environmental effects must be clearly described. In section 8.2.6 of the EIS, the proponent stated that the environmental effects methodology is the same used for direct project effect as presented in Section 5.</p> <p>This guidance states that significance predictions in relation to cumulative environmental effects should be clearly presented and rationalized against defined criteria consistent with the Canadian Environmental Assessment Agency’s reference guide <i>Determining Whether a Project is Likely to Cause Significant Adverse Environmental Effects</i> (November 1994), or any future updates to this document. The EIS does not include an assessment of significance for cumulative environmental effects using the methodology outlined above and does not provide a rationale to support the conclusions reached.</p>	<p>Provide the criteria definitions for characterizing residual effects in the cumulative effects analysis or provide rationale as to why the criteria outlined in Table 5.10-1 for direct effects are applicable to cumulative effects.</p> <p>Provide the analysis of how significance was determined for each valued component considered in the cumulative effects assessment and what rationale supports the conclusions reached.</p>

Reference IR#	Project Effects Link to CEAA 2012	Ecosystem Topic	EIS Guideline Reference	EIS Reference	Context and Rationale	The Proponent is Required to ...
					Any assumptions or conclusions based on professional judgement should be clearly identified and described.	
CEAA 1-18	All	Cumulative Effects- Addressing Uncertainty	Part 2, Section 6.7.3 Cumulative Effects Assessment	Section 8.5.5.1 Cumulative Impacts to Fish Habitat, and Section 8.5.9.1.4 Cumulative Effects to Species of Conservation Concern	<p>The EIS identifies uncertainty about the potential cumulative effects of the Project (e.g. on fish and fish habitat and species of conservation concern). This uncertainty is proposed to be addressed through the monitoring and follow-up programs established for the Project.</p> <p>However, DFO has identified that without knowing the degree of uncertainty and to which specific predictions it relates, it is difficult to evaluate the best mechanism to address the uncertainty.</p> <p>For example, for fish and fish habitat, could the uncertainty be reduced with additional fish and fish habitat assessments pre-construction/post-construction and extensive monitoring (water quality/quantity) on-site and in close proximity to the site? Alternatively, is there further mitigation that could be applied to resolve the uncertainty in the impact predictions?</p>	<p>Clearly identify the sources of uncertainty (where they exist) with respect to potential cumulative effects resulting from the Project (e.g. on fish and fish habitat and species of conservation concern).</p> <p>Provide, where possible, mechanisms to address areas of uncertainty, i.e. mitigation and/or follow-up.</p> <p>Include information on how the proponent proposes that follow-up programs will be designed to address the uncertainty in identifying potential cumulative effects and what adaptive management options are proposed.</p>
CEAA 1-19	Information and data	EA – Groundwater and surface water	Part 2, Section 6.4 Groundwater and surface water Section 6.2.2 Changes to groundwater and surface water	Appendix E	<p>With respect to impacts of dewatering activities at the Beaver Dam open pit; and impacts of dewatering Touquoy and impacts of tailings disposal from Beaver Dam at Touquoy:</p> <p>The appendices of the EIS provide information to characterize the permeability of the geological materials, however, suggest that a numerical model is not required (Appendix E).</p> <p>No hydrogeological model is provided to support the activities at the Beaver Dam open pit or the Touquoy Mine site. NRCan has advised that for conducting a thorough technical review, empirical data and numerical modelling is a standard for this kind of assessment. As noted in section 6.1.4 of the EIS guidelines, the assessment should include “an appropriate hydrogeologic model for the project area including a detailed conceptual model, which discusses the hydrostratigraphy and groundwater flow systems; the rationale for the selected model will be provided; a sensitivity analysis will be performed to test model sensitivity to climatic variations (e.g. recharge) and hydrogeologic parameters (e.g. hydraulic conductivity).”</p> <p>NRCan was not able to locate several of the figures referenced in the appendices (e.g. figures in Appendix E: 1986 Report by Jacques, Whitford and Associates Ltd; and all figures in Report No: 1501_R01 April 2015 Assessment of Potential Open Pit Groundwater Inflows Beaver Dam Gold Project Nova Scotia”). A 3D groundwater numerical model should be provided to answer specific questions related to issues such as groundwater dynamics, recharge areas, seepage, drawdown, transport etc.</p>	<p>Provide a 3D groundwater numerical model for the Beaver Dam open pit to provide information on issues such as groundwater dynamics, recharge areas, seepage, drawdown, transport, etc. Ensure all referenced figures are provided.</p> <p>Provide a 3D groundwater numerical model for the Touquoy Mine site to provide information on issues such as groundwater dynamics, recharge areas, seepage, drawdown, transport, etc.</p> <p>Update the environmental effects analysis provided in the EIS based on the 3D model results, where appropriate.</p>

Reference IR#	Project Effects Link to CEAA 2012	Ecosystem Topic	EIS Guideline Reference	EIS Reference	Context and Rationale	The Proponent is Required to ...
					<p>The Agency requires this information to understand potential effects to surface and groundwater quality and quantity; and by extension, related valued components such as fish and fish habitat, and current use by Indigenous people.</p> <p>NRCAN recommends the Proponent consider the "Guidelines for Groundwater Modelling to Assess Impacts of Proposed Natural Resource Development Activities" (2012) prepared by Wels, Mackie and Scibek and available at: <a href="http://www.env.gov.bc.ca/wsd/plan_protect_sustain/groundwater/groundwater_modelling_guidelines_final-2012.pdf">http://www.env.gov.bc.ca/wsd/plan_protect_sustain/groundwater/groundwater_modelling_guidelines_final-2012.pdf</a>.</p>	
CEAA 1-20	Information and data	EA – Groundwater and surface water	Part 2, Section 6.14 Groundwater and surface water Section 6.2.2 Changes to groundwater and surface water	Appendix E	<p>The Mud Lake Fault zone has been characterized since 1986 (Appendix E: 1986 Report by Jacques, Whitford and Associates Ltd.). NRCAN is aware that it is a more permeable and instable zone. However, NRCAN did not see any information about its lateral and vertical extent.</p> <p>NRCAN recommends the Proponent consider similar projects with faults in other regions such as BC as examples of how this information has been included in the groundwater assessments for open pit mining projects.</p>	Present the lateral and vertical extent of the Mud Lake Fault Zone in the hydrogeological study and assess its impacts using the 3D groundwater numerical model at the Beaver Dam Mine site.
CEAA 1-21	Information and data	EA - Groundwater	Part 2, Section 6.1.2 Geology and Geochemistry	Section 6.2 Geology, Soil and Sediment Quality	<p>NRCAN has indicated that the EIS does not demonstrate a sufficient understanding of the site-specific geology and mineralogy. Section 3.2.2 of the EIS Guidelines state that the EIS should include "characterization and management of ore, waste rock, low grade ore, overburden and tailings (volumes generated, mineralogical characterization, potential for metal leaching and acid rock drainage)."</p> <p>As indicated in section 6.1.2 of the EIS Guidelines, the EIS should include the "geochemical characterization of expected mine material such as waste rock, ore, low grade ore, tailings, overburden and potential construction material in order to predict metal leaching and acid rock drainage."</p> <p>Section 6.2.2 of the EIS Guidelines also outlines requirements to assess changes to groundwater and surface water:</p> <ul style="list-style-type: none"> <li>• Changes to water quality attributed to acid rock drainage and metal leaching associated with the storage of waste rock, ore, low grade ore, tailings, overburden and potential construction material, including: <ul style="list-style-type: none"> <li>o short term metal leaching properties;</li> <li>o longer term rates of acid generation (if any) and metal leaching;</li> <li>o estimates of the potential for mined materials (including waste rock, tailings and low grade ore) to be sources of acid rock drainage or metal leaching;</li> <li>o estimates of potential time to the onset of acid rock drainage or metal leaching;</li> </ul> </li> </ul>	Demonstrate how the information requirements outlined in sections 3.2.2, 6.1.2 and 6.2.2 of the EIS Guidelines has been included in the EIS or provide a rationale as to why the information has not been included. The rationale should be clearly substantiated by geochemical and mineralogical information and analysis. Reference the manual produced by the MEND Program, entitled, MEND Report 1.20.1, "Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials", Version 0 - December 2009 for use in acid rock drainage and metal leaching prediction.

Reference IR#	Project Effects Link to CEEA 2012	Ecosystem Topic	EIS Guideline Reference	EIS Reference	Context and Rationale	The Proponent is Required to ...
					<ul style="list-style-type: none"> <li>o quantity and quality of leachate from samples of tailings, waste rock, and ore;</li> <li>o quantity and quality of effluent to be released from the site into the receiving waters;</li> <li>o quality of humidity cell or column test liquid from acid rock testing;</li> <li>o sensitivity analysis to assess the effects of imperfect segregation of waste rock;</li> <li>o pit water chemistry during operation and post-closure, and pit closure management measures (e.g. flooding). This will include geochemical modelling of pit water quality in the post-closure period;</li> <li>o surface and seepage water quality and flow rates from the waste rock dumps, tailings/waste rock impoundment facility, stockpiles and other infrastructure during operation and post-closure;</li> <li>o drawings and/or figures showing groundwater contours (piezometric surfaces) to illustrate projected seepage conditions for the applicable project components; and</li> <li>o a discussion of the potential for and timing of off-site migration of impacted groundwater, and an analysis of contaminant attenuation capacities within the hydrogeological units within the project area.</li> </ul> <p>NRCan recommends the Proponent consider Annotation 8 in the EIS Guidelines: "The manual produced by the Mine Environment Neutral Drainage (MEND) Program, entitled, MEND Report 1.20.1, "Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials", Version 0 - December 2009 is a recommended reference for use in acid rock drainage and metal leaching prediction."</p> <p>The following IRs (CEAA 1-22 – CEAA 1-28) will provide NRCan’s technical reviewer with a more sound understanding of site specific geology and mineralogy, and by extension, allow the Agency to assess potential environmental effects resulting from the Project.</p>	
CEAA 1-22	Information and data	EA – Geology and Geochemistry	Part 2, Section 6.1.2 Geology and Geochemistry	Section 2.3.3.2 Conceptual Reclamation Plan	In the EIS, section 2.3.3.2 Conceptual Reclamation Plan states that "any remaining low grade ore stockpiles will be remediated or returned to the surface mine" (p.58). This information is unclear to the reader.	Provide additional description or explanation of the proposed remediation of ore stockpiles.
CEAA 1-23	Information and data	EA – Groundwater and surface water	Part 2, Section 6.14 Groundwater and surface water Section 6.2.2	Section 5.7 Anticipated Project-Environmental Interaction	NRCan noted that it is unclear why there are no potential interactions identified between project activities and groundwater quality and quantity in table 5.7.1 under General Waste Management during "Operation and Maintenance" and "Decommissioning and Reclamation" (p.119).  Identifying potential Project interactions with valued components will allow the	Clarify whether groundwater quality and quantity will interact with project activities related to general waste management (during both operation and maintenance and decommissioning and reclamation phases of the project), or provide a valid rationale for their exclusion.

Reference IR#	Project Effects Link to CEAA 2012	Ecosystem Topic	EIS Guideline Reference	EIS Reference	Context and Rationale	The Proponent is Required to ...
			Changes to groundwater and surface water		Agency to better understand potential environmental effects resulting from the Project.	
CEAA 1-24	Information and data	EA – Groundwater and surface water	Part 2, Section 6.1.2 Geology and Geochemistry	Section 6.2.3.2.1 Soils and Sediment (under baseline conditions)	NRCan identified that in the last paragraph of Section 6.2.3.2.1 (p. 162) of the EIS, it states that the “existing topsoil and overburden are considered suitable for use in the rehabilitation of disturbed areas.” The EIS does not provide sufficient information to support this statement.	Provide a justification with any available chemical data to support the statement that existing topsoil and overburden are considered suitable for use in the rehabilitation of disturbed areas.
CEAA 1-25	Information and data	EA- Groundwater and surface water	Part 2, Section 6.1.2 Geology and Geochemistry	Section 6.2.3.4 Bedrock Geology	NRCan identified that the proposed acid rock drainage/metal leachate sampling rate analyses (1 per 100,000 tonnes of rock) is too low; at a minimum it should be doubled.  In addition, the headings in the first line of Table 6.2-3 (p.165-166) are unclear.  NRCan recommends that the proponent should refer to Mine Environment Neutral Drainage Report 1.20.1, Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials (Price, 2009) for guidance on sampling.	Update the frequency of ARD/ML analysis and provide a rationale for the number of tonnes of rock and the analysis.  Provide a description, of the information provided in Table 6.2-3.
CEAA 1-26	Information and data	EA- Groundwater and surface water	Part 2, Section 6.14 Groundwater and surface water	Section 6.3.1 Rationale for Valued Component Selection	In their review, NRCan was unable to locate evidence in support of the statement, “the potential disconnection between bedrock groundwater aquifers and surface water in the area limits the potential for contaminant transport from surface to groundwater” (p.175). This information is required for a sound understanding of the Project and its potential environmental effects.	Provide existing evidence, with rationale, to support the statement that the potential disconnection between bedrock groundwater aquifers and surface water in the area limits the potential for contaminant transport from surface to groundwater.
CEAA 1-27	Information and data	EA- Groundwater and surface water	Part 2, Section 6.14 Groundwater and surface water  Part 2, Section 6.2.2 Changes to groundwater and surface water	Section 6.3.2.3 Surface Water Quantity	NRCan has indicated that the following statement was not clear: “A water balance for the Beaver Dam mine site was calculated to determine the amount of surface water runoff currently created given minimal impermeable surfaces in order to compare it against the amount of water surplus generated from an increase in impermeable surfaces as a result of the Project” (p.179).	Provide clarification of which impermeable surfaces are being referred to in the statement of “a water balance for the Beaver Dam mine site was calculated to determine the amount of surface water runoff currently created given minimal impermeable surfaces in order to compare it against the amount of water surplus generated from an increase in impermeable surfaces as a result of the Project.”
CEAA 1-28	Information and data	EA- Groundwater and surface water	Part 2, Section 6.14 Groundwater and surface	Section 6.3.3.2 Surface Water Quality	NRCan noted in its review of section 6.3.3.2 that there is a large difference between the field and laboratory pH measurements that is not explained (Appendix: Surface Water Baseline Analytical Results).	Provide an explanation for the large difference between the field pH measurements and the laboratory pH measurements for surface water results.

Reference IR#	Project Effects Link to CEAA 2012	Ecosystem Topic	EIS Guideline Reference	EIS Reference	Context and Rationale	The Proponent is Required to ...
			water			
CEAA 1-29	Information and data	Surface Water Quality and Quantity	Part 2, Section 6.1.4 Groundwater and Surface Water	Section 6.3.2.1 Project Watershed Locations, Section 6.3.2.2. Surface Water Quality	<p>Figures 6.3-1 and 6.3-2 of the EIS show two unnamed lakes that were not included in the surface water quality program. One of the lakes is located northwest of Mud Lake, and the other lake is located along the southwest edge of the Beaver Dam Mine site boundary.</p> <p>In addition, Crusher Lake, Tent Lake and Kent Lake were not considered in the surface water quality program. Indigenous groups identified that Tent Lake and Kent Lake are potentially hydraulically connected.</p> <p>This information is required for the Agency to properly understand the proposed Project and its potential effects to surface water, and by extension, potential effects to fish and fish habitat.</p>	<p>Provide monitoring data for the two unnamed lakes (which appear in figures 6.3-1 and 6.3-2), Crusher Lake, Tent Lake and Kent Lake.</p> <p>Or</p> <p>Provide a rationale as to why surface water quality data from the surface water resources are not required to understand the proposed projects and its potential effects.</p>
CEAA 1-30	Fish and Fish Habitat	EA- Fish and Fish Habitat	Part 2, Section 6.1.6 Fish and Fish Habitat	General	The Agency requires information on the value of fish habitat in Crusher Lake and whether fish passage is possible. This information is required in order to understand the impact of the project on fish and fish habitat.	<p>Provide information on the dam at Crusher Lake, whether it still exists and its location. If present, provide an assessment of the ability of migratory fish species to pass this structure in either direction.</p> <p>If the dam is still present, provide an assessment of the ability of migratory fish species to pass this structure in either direction.</p>
CEAA 1-31	Fish and Fish Habitat	EA- Fish and Fish Habitat	Part 2, Section 6.1.6 Fish and Fish Habitat	Section 6.6.2 Fish Habitat Assessment	<p>The approach used to assess fish habitat is based on suitability for salmonids, however, habitat suitability for other commercial, recreational or Aboriginal fisheries species have not been assessed (e.g. habitat suitable for alewife).</p> <p>The use of salmonids as an indicator for habitat may be suitable; however, fish that support salmonids can be important as well, i.e. Fisheries Act Section 35(1) "No person shall carry on any work, undertaking or activity that results in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery." Section 35 of the Fisheries Act prohibits serious harm to fish which is defined in the act as "the death of fish or any permanent alteration to, or destruction of, fish habitat." Fish habitat means spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes.</p>	<p>Determine the potential for other commercial, recreational and Aboriginal fisheries species to be present in areas where project effects may occur.</p> <p>Provide an updated assessment for fish and fish habitat that considers potential environmental effects on commercial, recreational and Aboriginal fisheries species other than salmonids.</p> <p>Provide information on any downstream barriers in the project area that may obstruct migratory species, such as Sea-run trout, from reaching potential habitat.</p>
CEAA 1-32	5(1)(c)(i) Aboriginal Peoples Health/ socio-economic conditions	EA – Atmospheric Environment	Part 2, Section 6.2.1 changes to the atmospheric environment	Section 2.1 Project Location and History Section 2.3.2.2 Haul Road Section 6.1.2	<p>Section 2.1 states that there are three seasonal residences within 100 m of the haul road which indicates that there are known human receptors close to the haul road. The MEKS provided in the EIS also shows the area surrounding the haul road could be used by Indigenous people.</p> <p>Section 2.3.2.2 states that approximately 20 highway trucks will be required to transport ore from Beaver Dam to Touquoy for processing; annual average of 185</p>	Evaluate the potential for elevated noise levels at the nearest human receptor location(s), which would include seasonal cabins/cottages as well as any areas used by Indigenous people that are closer to the site than Beaver Lake IR 17. Where values are predicted to approach or exceed provincial noise standards, additional mitigation measures should be considered (such as those presented in Appendix HI of Health



Reference IR#	Project Effects Link to CEAA 2012	Ecosystem Topic	EIS Guideline Reference	EIS Reference	Context and Rationale	The Proponent is Required to ...
				Baseline Methodology Program Section 6.1.5.1 Boundaries Section 6.1.6.3.1 Beaver Dam Mine Site and Haul Road Figure 6.1-1	<p>trucks per day for 12 or 16 hours/day, 350 days/year.</p> <p>Section 6.1.2 states that the nearest receptor considered in the preliminary acoustical model was at Beaver Lake IR 17, which is approximately 5 km from the mine site and 3 km from the nearest point of the haul road.</p> <p>Section 6.1.5.1 states that the Nova Scotia Guidelines for Environmental Noise Measurement and Assessment require the noise guideline levels to be met at locations where people normally live, work or <b>take part in recreation</b> (emphasis added).</p> <p>Section 6.1.6.3.1 states that sources of project-related noise on the haul road may include heavy machinery and truck traffic during the construction and operational phases. It also states that based on a review of the preliminary acoustical model, noise impacts from the mine site and the haul road, as a result of crushing and haul operations only, are below the most conservative NSE criteria of 55 dBA (applicable for the hours of 23:00 to 7:00) at a radius of approximately 500 m from the mine site and the haul road.</p> <p>Since mobile noise sources were not included in the evaluation, this prediction is likely to be underestimated. In addition, the proximity of the seasonal cabins to the haul road may result in higher noise levels at those receptor locations. Based on Figure 6.1-1, it appears that the nearest seasonal residences are within an area that may exceed 50 dBA.</p> <p>Given that the nearest known human receptors are located at the seasonal cabins approximately 100 m from the haul road, and Indigenous groups may use the area, it is unclear why noise levels at the nearest receptor locations were not evaluated.</p>	Canada (2016)).
CEAA 1-33	5(1)(c)(i) Aboriginal Peoples Health/socio-economic conditions	EA – Atmospheric Environment	Part 2, 6.1.1 Atmospheric Environment	Section 6.1 Atmospheric Environment	<p>The EIS Guidelines require the EIS to include “ambient air quality in the project areas and, for the mine site, the results of a baseline survey of ambient air quality, including but not limited to the following contaminants: total suspended particulates, fine particulates (PM<sub>2.5</sub>), particulate matters up to 10 micrometers in size (PM<sub>10</sub>), sulfur oxides (SO<sub>x</sub>), volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>)”</p> <p>The EIS does not include baseline data for local background air quality (SO<sub>x</sub>, NO<sub>x</sub>, VOCs, etc.), which may impact the health of Indigenous people who use the surrounding area.</p>	Provide baseline data on SO <sub>x</sub> , NO <sub>x</sub> , VOCs for local background air quality. Include a map of any Environment Canada air quality stations being proposed as surrogates for many of these baseline parameters for regional background air quality.
CEAA 1-34	5(1)(c)(i) Aboriginal Peoples Health/socio-economic	EA – Atmospheric Environment	Part 2, Section 6.2.1 changes to	Section 6.1.6.1.2 Touquoy	Section 6.1.6.1.2 states for the Touquoy Processing Facility that “an Emissions Summary and Dispersion Modeling assessment was conducted to assess potential air releases to the atmosphere and their impact on the surrounding receptors.	Provide additional information to validate/justify the conclusion that there will be no adverse health impacts to Indigenous people who may use the area surrounding Beaver

Reference IR#	Project Effects Link to CEAA 2012	Ecosystem Topic	EIS Guideline Reference	EIS Reference	Context and Rationale	The Proponent is Required to ...
	conditions		the atmospheric environment	Processing Facility	<p><i>Based on the estimated maximum emissions scenario presented in the Focus Report, the predicted maximum ground level ambient air concentrations of all potential contaminants during full-scale operations of the Touquoy facility calculated from the air dispersion modeling were all well below applicable criterion at the three sensitive points of reception (p. 143)."</i></p> <p>When ore from the Beaver Dam site is processed at the Touquoy Processing Facility, if this same "Emissions Summary and Dispersion Modelling Assessment" is used to justify that there will be no adverse health effects from processing the Beaver Dam ore, it should be noted that this Assessment did not evaluate fugitive emissions from open pit operations, unpaved haul roads or emissions/erosion from storage piles. Not including these other sources in the emissions and dispersion modelling will result in an under-estimation of emissions, particularly with respect to particulate matter.</p> <p>The MEKS provided in the EIS shows the area surrounding the haul road and Beaver Dam Mine could potentially be used by Indigenous people. Additional information is needed to understand potential adverse health impacts from fugitive air emissions.</p>	<p>Dam Mine, the haul road and Touquoy Mine with respect to air quality as a result of project activities, taking into consideration all emission sources, including fugitive emissions from the open pit, unpaved haul roads, and storage pile erosion.</p> <p>If justification cannot be provided, update the air quality modelling to include all air emissions sources associated with the proposed Beaver Dam Gold Project.</p>
CEAA 1-35	5(1)(c)(i) Aboriginal Peoples Health/ socio-economic conditions	EA – Atmospheric Environment	Part 2, Section 6.2.1 changes to the atmospheric environment	Section 6.1.6.1.2 Greenhouse Gas Emissions	<p>Section 6.1.6.1.2 states for the Touquoy Processing Facility that "an Emissions Summary and Dispersion Modeling assessment was conducted to assess potential air releases to the atmosphere and their impact on the surrounding receptors.</p> <p>Based on the estimated maximum emissions scenario presented in the Focus Report, the predicted maximum ground level ambient air concentrations of all potential contaminants during full-scale operations of the Touquoy facility calculated from the air dispersion modeling were all well below applicable criterion at the three sensitive points of reception (p. 143)."</p> <p>When ore from the Beaver Dam site is processed at the Touquoy Processing Facility, if this same "Emissions Summary and Dispersion Modelling Assessment" is used to justify that there will be no adverse health effects from processing the Beaver Dam ore, it should be noted that this Assessment did not evaluate fugitive emissions from open pit operations, unpaved haul roads or emissions/erosion from storage piles. Not including these other sources in the emissions and dispersion modelling will result in an under-estimation of emissions, particularly with respect to particulate matter.</p> <p>The MEKS provided in the EIS shows the area surrounding the haul road and Beaver Dam Mine could potentially be used by Indigenous people. Additional information is needed to understand potential adverse health impacts from fugitive air emissions.</p>	<p>Provide additional information to validate the conclusion that there will be no adverse health impacts to Indigenous people who may use the area surrounding Beaver Dam Mine, the haul road and Touquoy Mine with respect to air quality as a result of project activities, taking into consideration all emission sources, including fugitive emissions from the open pit, unpaved haul roads, and storage pile erosion.</p> <p>Provide justification for using the Touquoy Mine Focus Report to describe fugitive air emissions for the Beaver Dam Mine Project and potential associated health effects from activities at the Beaver Dam Mine, haul roads and Touquoy Mine; or conduct air modelling which includes all project activity sources.</p>
CEAA 1-36	5(1)(c)(i) Aboriginal Peoples Health/	Indigenous Health and	Part 2, Section 6.1.10	Section 6.1.6.1.2 -	It appears that fugitive dust emissions were not modelled for all aspects of the Project. Fugitive dust in the vicinity of project activities may deposit on nearby	Evaluate the potential for dust deposition and subsequent consumption of vegetation (including consumption of metals

Reference IR#	Project Effects Link to CEAA 2012	Ecosystem Topic	EIS Guideline Reference	EIS Reference	Context and Rationale	The Proponent is Required to ...
	socio-economic conditions	Socio-economic Conditions	– Aboriginal Peoples – country foods consumption	Touquoy Processing Facility (which cites the Touquoy Focus Report – Appendix L – Emission Summary and Dispersion Modelling Report)  6.1.7.1 Dust and Particulate Emissions  6.11.6 Project Activities and Indigenous Peoples Interactions and Effects	vegetation which may be harvested and consumed by Indigenous peoples. Comments received by Indigenous groups express concern over contamination of country foods.	in dusts) if plants are being harvested and consumed for traditional purposes by Indigenous peoples in areas where fugitive dust emissions may be a concern (e.g. near haul roads)
CEAA 1-37	Migratory Birds  <i>Species at Risk Act</i> , Section 79	Migratory Birds	Part 2, Section 6.1.7; Section 6.1.8; Section 6.2; Section 6.3.2; Section 6.3.3; Section 6.4; Section 6.5; Section 8	Section 6.10 Species of Conservation Interest and Species at Risk; Section 8.5 Species of Conservation Interest and Species at Risk Cumulative Effects Assessment; Section 9.2 Environmental Monitoring Plan	Section 6.10 of the EIS identifies a number of species at risk that may be present in the project area. The proponent states that there will be potential effects from various operations, but provides little detail on the nature of those effects, e.g. loss of habitat. ECCC has indicated that more information is required on the following species: <ul style="list-style-type: none"> <li>• Blue Felt Lichen was observed in 26 locations: 10 within the mine footprint project area, 3 within the haul road project area, and 13 within the broader local study area.</li> <li>• Frosted Glass-whiskers was observed in 7 locations within the mine footprint project area.</li> <li>• Boreal Felt Lichen was observed at 3 locations in the local study area (outside the mine footprint project area).</li> <li>• Although Snapping Turtles were not observed within the project area, they were observed on roadsides in proximity to the project area, and appropriate habitat for the species is present in the project area.</li> <li>• Common Nighthawk, Canada Warbler, Olive-sided Flycatcher, and Eastern Wood-Pewee were all detected during the breeding season, and suitable habitat for these species was detected in both the mine footprint and haul road project areas.</li> </ul>	Provide further detail on any potential adverse effects, e.g. loss of habitat, related to Project activities on each identified species at risk as well as cumulative effects. This analysis should also include effects resulting from accidental events and response.  Identify proposed mitigation measures that avoid/minimize potential adverse effects on these species, and plans to monitor the effectiveness of these mitigation measures.  Describe how the proposed mitigation measures relate to <i>Species at Risk Act</i> -listed wildlife species and explain how these measures are consistent with any applicable recovery strategy and action plan.

Reference IR#	Project Effects Link to CEEA 2012	Ecosystem Topic	EIS Guideline Reference	EIS Reference	Context and Rationale	The Proponent is Required to ...
					The EIS guidelines state that where mitigation measures have been identified in relation to species and/or critical habitat listed under the <i>Species at Risk Act</i> , the mitigation measures will be consistent with any applicable recovery strategy and action plan. The EIS does not explain how any of the proposed mitigation measures related to species at risk are consistent with applicable recovery strategies and action plans.	
CEAA 1-38	Migratory Birds	Migratory Birds	Part 2, Section 6.1.7; Section 6.2.4; Section 6.3.2; Section 6.5	Section 6.9 Birds	Several types of migratory bird habitat are in decline in Nova Scotia, including mature coniferous forest, mature deciduous forest, and mature mixed forest. This is of concern because certain bird species prefer mature forest habitat. Some bird species, generally known as interior species, only prosper when the tracts of mature forest are relatively large and unfragmented (i.e. interior forest). Projects should be designed to avoid causing further loss and fragmentation of these habitat types, and to avoid further fragmentation of the landscape.	Provide: <ul style="list-style-type: none"> <li>mapping that identifies mature and interior forest habitat in relation to proposed project infrastructure, and a rationale for any patch of habitat that cannot be avoided;</li> <li>an analysis of project impacts on mature and interior forest habitat for migratory birds and the species of migratory birds that use these habitats, taking into account cumulative losses; and</li> <li>a plan that sets out appropriate mitigation measures for the predictable loss of mature and interior forest habitat for migratory birds in instances where the habitat cannot be avoided.</li> </ul>
CEAA 1-39	Migratory Birds	Migratory Birds	Part 2, Section 6.1.7; Section 6.2; Section 6.3.2; Section 6.5	Section 6.10.3.7.10 Bird SAR and SOCI Summary; Section 9.2 Environmental Monitoring Plan	<p>According to Figures 6.10-2 to 6.10-2L, Greater Yellowlegs were observed at a number of locations within the Mine and Haul Road project areas. The only Maritime province where this species is known to breed is Nova Scotia, where the first breeding bird atlas estimated the population at less than 100 pairs (Erskine 1992). As indicated in Table 6.10-13, the Atlantic Canada Conservation Data Centre ranks the breeding status of the species as S3B in Nova Scotia.</p> <p>The level of interaction between proposed project activities and this species and its breeding habitat are unclear.</p> <p>Pairs establishing territories, nesting birds and chick-rearing birds should not be disturbed.</p> <p>A setback of 300 meters from Greater Yellowlegs breeding habitat from mid-April until chicks have naturally left the area is recommended. Monitoring of birds beyond the buffer should be carried out to verify the efficacy of the setback. If birds show signs of disturbance despite the setback, then activities should be immediately halted, and a proposed adaptive management plan submitted to Environment and Climate Change Canada's Canadian Wildlife Service and other appropriate regulatory authorities for review.</p>	<p>Clarify whether all observation locations for Greater Yellowlegs identified in Figures 6.10-2 to 6.10-2L consisted of birds observed/detected during the breeding season; and if not, identify which would consist of birds detected during the breeding season.</p> <p>Identify any instances where impact to habitat for breeding Greater Yellowlegs cannot be avoided, and why avoidance is not possible. Identify any other proposed mitigation to avoid this impact. In instances where breeding habitat would not be directly affected by the project but occurs near the project footprint, clarify whether a buffer would be established if Greater Yellowlegs nest near the project footprint.</p>