

From: Scotney, Nicole [CEAA]

Sent: August 21, 2017 2:49 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 Requirements (Part II) following review of EIS - Beaver Dam Mine Project

Good afternoon Maryse and Jim,

In addition to the email below and Round 1, Part 1 of Information Requirements (IRs) for the Beaver Dam Mine Project, please find Part 2 of the Agency's requirements attached. The IRs and your responses will be made public on the Canadian Environmental Assessment Registry Internet site in the near future.

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

Kind regards,

<Original signed by>

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Beaver Dam Mine Technical Review Information Requirements – Round 1, Part 2
August 21, 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 1-40	Section 5(1) (c)(i) Aboriginal Peoples- Health and Socio-economic Conditions Section 5(1) (c)(iii) Current use of lands and resources	General	Part 2, Section 6.3.4 Aboriginal peoples	Section 6.15.4 Accidents	<p>Comments received from Indigenous people expressed concern regarding the potential for fuel and other spills (e.g. cyanide) to occur and impact land and resources in the project area.</p> <p>In assessing the current use of land and resources for traditional purposes, part 2, section 6.3.4 of the EIS guidelines require a description of the underlying changes to the environment including any changes to environmental quality (e.g. air, water, soil)...or perceived disturbance of the environment (e.g. fear of contamination of water or country foods) that could detract from Indigenous use of the area or lead to avoidance of the area.</p> <p>Table 6.15-6 Fuel and/or Other Spills Interactions (page 609) in the EIS indicates that there would be no interaction between Indigenous people and potential fuel and/or other spills. However, depending on location and timing of such an event, potential fuel and/or other spills could directly affect drinking water of Indigenous people, through both groundwater quality and surface water quality. Furthermore, indirect effects from a spill event have the potential to impact the current land and resource use due to potential adverse effects to fish, fish habitat, wetlands and terrestrial habitats and species.</p> <p>The proponent should reconsider potential effects from fuel and or other spills to Indigenous people. The updated analysis needs to consider mitigation and contingency planning, with priority given to areas of high importance/use by Indigenous people and how these could/would be protected in the event of a spill.</p>	<p>Provide an analysis of the effects of potential fuel or other spill events on current use of land and resources by Indigenous people, including the potential for a worst-case scenario event.</p> <p>Provide mitigation and contingency planning, with priority given to areas of high importance by Indigenous people and how these would be protected in the event of a spill.</p>
CEAA 1-41	Section 5(1) (c)(i) Aboriginal Peoples- Health and Socio-economic Conditions Section 5(1) (c)(iii) Current use of lands and resources	General	Part 2, Section 6.1.10 Aboriginal peoples	Section 6.11.2 Baseline Program Methodology, Appendix N Mi'kmaq Ecological Knowledge Study	<p>Section 6.11 and appendix N of the EIS provide the results of the Beaver Dam Mine Project's Mi'kmaq Ecological Knowledge Study (MEKS) carried out by the Confederacy of Mainland Mi'kmaq.</p> <p>a) As noted in CEAA- 1-6, the Beaver Dam Mine Project area includes components at the Touquoy Mine site. The proponent provided reference to the Touquoy Mine Registration Document on Nova Scotia Environment's webpage where the Touquoy Mine 2005 MEKS can be found (page 537). However, current use by Indigenous groups in the area of the Touquoy Mine site is not clear because the figure referenced in the Touquoy Mine MEKS outlining the spatial scope of</p>	<p>a) Provide the 2005 Mi'kmaq Ecological Knowledge Study (MEKS) that was completed for the Touquoy Mine site, ensuring that all figures are included.</p> <p>Describe any changes to Mi'kmaq land and resource use since the Touquoy MEKS was written in 2005.</p> <p>b) Provide an updated figure showing current use by Indigenous people in the project area, including a clear legend.</p> <p>c) Clarify, based on the information provided in the MEKS, whether</p>

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					<p>the Touquoy Mine study area was not included e.g. Figure 2, titled Map of Current Mi'kmaq Land and Resource Use Study Areas.</p> <p>b) Figure 6.11-1 and figure 2 in Appendix N of the EIS include a map titled Current Mi'kmaq Land and Resource Use Study Areas (draft). The study areas identified in the map are not clear. For example, the difference between the areas labelled "Current Mi'kmaq Land & Resource Use Sites" and "Current Mi'kmaq Land & Resource Use Site within the Study Area" is not clear. Furthermore, the figure does not clearly outline the location of the Project haul roads. The lack of clarity in Figure 6.11-1 makes it difficult for the reviewer to understand current use by the Mi'kmaq in relation to the Beaver Dam Mine Project and therefore to understand the proponent's conclusions.</p> <p>c) Based on the MEKS, Indigenous people use areas directly overlapping the project area (i.e. the Beaver Dam Mine site, Touquoy Mine site and haul roads). The proponent also notes that areas to the west of the site have traditionally been used for these activities. In contradiction, section 6.13.3.3 of the EIS states that there is currently no direct use of the project site for subsistence harvesting of food, medicinal plants or furbearing animals.</p> <p>Further clarification is required to provide the Agency with a clear understanding of current use in the project area and by extension, to allow the Agency to properly consider potential adverse effects to Indigenous people related to current use and current land and resource use and health and socio-economic conditions.</p> <p>The Agency recognizes potential sensitivities with regard to the confidentiality and ownership of the data, therefore exact data are not required, but sufficient accuracy is needed to enable reviewers to evaluate possible effects.</p>	Indigenous people use the local and regional assessment areas of the Project, including along the existing and new sections of haul road.
CEAA 1-42	<p>Section 5(1)(c)(i) Aboriginal Peoples- Health and Socio-economic Conditions</p> <p>Section 5(1)(c)(iii) Current use of lands and resources</p>	EA Methods	Part 2, Section 6.1.10 Aboriginal peoples	Section 6.11.3.2 Current Mi'kmaq Land and Resource Use	<p>The Agency received comments on the EIS from the Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO) that states: "The Mi'kmaq Ecological Knowledge Study (MEKS) Protocol developed by the Nova Scotia Mi'kmaq Chiefs suggests including GIS Data to identify areas and resources for Mi'kmaq use and significance."</p> <p>The KMKNO comment further mentions that the analysis of significant species "shall include an adequate amount of base line information to acknowledge the significance of the species to the Mi'kmaq and the potential availability of these species within the project and immediate surrounding area."</p>	Provide, in relation to Mi'kmaq use, further information on the location, type and timing of current use activities (including the consideration of natural resources used and the availability of these resources), within the project, local and regional assessment areas.

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					<p>The Agency requires more detailed information in order to understand the potential effects of the Project on current use activities</p> <p>As noted above, the Agency recognizes potential sensitivities with regard to the confidentiality and ownership of the data, therefore exact data are not required, but sufficient accuracy is needed to enable reviewers to evaluate possible effects.</p>	
CEAA 1-43	<p>Section 5(1)(c)(i) Aboriginal Peoples- Health and Socio-economic Conditions</p> <p>Section 5(1)(c)(iii) Current use of lands and resources</p>	EA Methods	Part 2, Sections 6.1.1 Atmospheric environment, and 6.2.1 Changes to the atmospheric environment	Sections 6.1.2 Baseline Program Methodology and Section 6.1.3.7 Ambient Light	<p>Section 6.1.1 and section 6.2.1 of the EIS guidelines require that the proponent detail existing ambient night-time light levels and a prediction of night-time light levels.</p> <p>The Agency understands that given the rural location of the Project, existing ambient night-time light levels can be considered pristine. To predict night-time light levels, the proponent is using a 2007 Focus Report completed during the Touquoy assessment and permitting process.</p> <p>Throughout the EIS, the proponent indicates that there is potential for light to adversely impact wildlife resources, which could in turn affect the Mi'kmaq's hunting practices. For example page 548 of the EIS states that light disturbance may affect the:</p> <ul style="list-style-type: none"> • quality of hunting experience by Mi'kmaq, and • ability for Mi'kmaq to hunt specific species due to behavior changes of wildlife. <p>However, the proponent indicates in section 6.1.3.7 of the EIS that there are no effects anticipated from light because "the haul road will not be active at night and the Beaver Dam and Touquoy mine sites are located more than 5 km from the nearest residence".</p> <p>As with CEAA 1-32 and 1-34, using Beaver Lake IR 17 as the nearest receptor location is not appropriate as the MEKS identifies that the occurrence of current land and resource use activities overlaps the project area (including the haul roads).</p> <p>Comments received by the Agency indicate concern that because operations will run 12-16 hours per day, some night-time (e.g. dawn and dusk) activity will occur.</p> <p>Furthermore, comments from Indigenous groups suggest that the 2007 light impact assessment described for Touquoy appeared to use inadequate equipment for post-curfew measurements (flash meter instead of a sky quality meter).</p>	<p>Provide a predicted light assessment or light modelling for night-time conditions (including dusk and dawn) for the Beaver Dam Mine Project site and haul road to delineate the predicted change from pristine (or nearly pristine) conditions. Determine and provide a figure showing the extent of light effects from the Project.</p> <p>Or</p> <p>Provide a rationale for not conducting a light assessment for the Beaver Dam Mine Project that justifies how relying on the 2007 Touquoy light assessment is appropriate. At a minimum, the rationale should include:</p> <ul style="list-style-type: none"> • A description of topographical similarities and differences between the Touquoy Mine site and the Beaver Mine site/haul road, • How effects of lighting from traffic activities are captured within the 2007 Focus Report, and • How the equipment used for the 2007 Focus Report is appropriate.

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CEAA 1-44	All	EA - Groundwater and Surface Water	Part 2, Section 6.2.2 Change to groundwater and surface water	Section 6.3.3.3.1 Beaver Dam Mine Site	<p>The EIS guidelines require an assessment of change to groundwater and surface water in relation to “changes to the hydrological and hydrometric conditions.”</p> <p>The EIS states that “a water balance was undertaken to determine the amount of water surplus generated on the Site in its existing, pre-development, conditions. The results can assist in the evaluation of water management options for Site design by comparing pre to post-development water surplus values. Catchment area, precipitation and evaporation data and storage capacity for the Project area were acquired to complete the water balance calculations (p. 196).” However ,little additional information is provided with respect to the water balance</p> <p>Comments received by the Agency by Indigenous groups included concern about water quantity in the Killag River and connected water bodies surrounding Beaver Dam Mine. For example, it was noted that:</p> <ul style="list-style-type: none"> • there is the potential for water from Cameron Flowage to enter the pit in significant quantities resulting in lower water levels in the downstream Killag River, and • flow regimes may be altered by influencing how rapidly water enters Cameron Flowage from dewatering activities in the Beaver Dam Mine pit. <p>Without further information with respect to the water balance calculations it is difficult for the Agency and its reviewers to have clear understanding of potential adverse effects to fish and fish habitat and Indigenous people’s current use of land and resources and a result of water management from the project .</p>	<p>Provide the water balance calculations for the project area (i.e. Beaver Dam Mine, haul road and Touquoy Mine).</p> <p>Provide a Figure to indicate directional water flow before and after the Project.</p> <p>Update, if applicable, the assessment of direct and cumulative effects and provide any additional mitigation and follow-up for direct and cumulative effects based on the analysis required above.</p>
CEAA 1-45	Section 5(1)(c)(ii) Aboriginal Physical and Cultural Heritage, Section 5(1)(c)(iv) any Structure, Site or Thing of Historical, Archaeological, Paleontological or Architectural Significance	EA – Physical and Cultural Heritage and any Structure, Site or Thing of Historical, Archaeological , Paleontologica l or Architectural Significance	Part 2, 6.3.4 Aboriginal Peoples	Section 6.12 Physical and Cultural Heritage, Appendix O Archaeological Reconnaissance Reports and Nova Scotia Communities, Culture & Heritage Communications	<p>Several archaeological assessments were undertaken by Cultural Resource Management Group (CRM) in the project area. In 2015 and 2016, CRM completed two archaeological assessments covering the Beaver Dam Mine site and sections of the proposed haul road. These reports have been included in Appendix O of the EIS.</p> <p>The Agency understands that in 2017, the proponent retained CRM to complete an archaeological assessment of the new 4 km section of the haul route. Indigenous groups noted that the outcomes of the 2017 CRM archaeological assessment were not provided.</p> <p>This information is required to better understand potential effects to physical and cultural heritage resources in the local and regional assessment areas.</p>	Provide the 2017 archaeological assessment conducted by Cultural Resource Management Group for the new four kilometer section of haul route.

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CEAA 1-46	Section 5(1) (c)(i) Aboriginal Peoples- Health and Socio-economic Conditions Section 5(1) (c)(iii) Current use of lands and resources	EA - Mitigations	Part 2, Section 6.1.10 Aboriginal Peoples	Section 6.11 Indigenous Peoples	Throughout the EIS, the proponent identified that benefits agreements will be developed with the Mi'kmaq of Nova Scotia. The Agency recognizes that much detail of such agreements may be confidential; however, in the Agency's experience such agreements sometimes contain mitigations and follow-up measures that may be valuable considerations in the context of the environmental assessment. If content of the benefits agreements is to be considered in the environmental assessment of the Project, the proponent, with agreement/consent of Indigenous groups, should identify non-confidential commitments. The focus of the identified commitments should relate to the assessment of adverse environmental effects in relation to section 5 of CEEA 2012. For example, those that related to proposed mitigation measures and follow-up. The Agency will then use these commitments in its analysis of environmental effects related to the Project and their potential for significance.	Provide a list of non-confidential commitments from the benefits agreements for use in the environmental assessment.
CEAA 1-47	All	EA - Mitigations	Part 2, Section 5 Aboriginal Engagement and Concerns	Section 6.11.6 Project Activities and Indigenous Peoples Interactions and Effects	Part 2, section 5 of the EIS guidelines states that the EIS must include views expressed by each Indigenous group on the effectiveness of the mitigation or accommodation measures. Based on the Agency and Indigenous groups' review of the EIS, it is unclear whether the mitigation measures or accommodation measures have been presented to the Mi'kmaq. Comments from Indigenous groups note that the EIS does not indicate how the Mi'kmaq were involved in the development of mitigation and monitoring measures. The Mi'kmaq noted that engagement activities should establish the most effective engagement approach, validate the effects assessment with the Mi'kmaq and develop appropriate and targeted mitigation and benefit enhancement measures. Furthermore, section 6.11.6 of the EIS (page 547), states that the proponent will work with Mi'kmaq to reduce noise effects on certain parts of the land during the Project and during particularly hunting seasons. However, the proponent did not provide information on how it plans to involve the Mi'kmaq in the development of noise mitigation measures, nor if mitigations for other valued components would also be developed with the Mi'kmaq. This information is required for the Agency to determine whether potential adverse effects are significant.	Identify how the information presented during the proponent's Mi'kmaq Consultation efforts was used during the development of the effects assessment of the EIS; specifically in the development of mitigation measures, monitoring and follow-up. Provide information on mitigation measures that will address potential impacts from noise relative to Mi'kmaq use of the project area. Details should include, but not be limited to, information stating how the Mi'kmaq were/will be involved in developing these noise mitigation measures; as well as details of monitoring and adaptive management mechanisms relative to the effectiveness of the measures. Indicate whether the proponent will involve the Mi'kmaq in the implementation of mitigations, monitoring and adaptive management for other valued components for the proposed project.
CEAA 1-	Section 5(1) (c)	EA –	Part 2, Section 6.6	6.11.5.2 Thresholds	The EIS guidelines state that the EIS will contain clear and sufficient	Update the significance threshold for the determination of significance

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48	Aboriginal Peoples	Significance	Significance of Residual Effects	for Determination of Significance	<p>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>Section 6.11.5.2 of the EIS identifies that a significant adverse effect to Indigenous people "is defined as a disturbance to or destruction of land and resources utilized by Indigenous Peoples, including potable water, surface water, fish, plants, and animals in the area of the mine site due to construction, operations, or accidents and malfunctions. A significant adverse effect is also defined as a negative effect to health or socio-economic conditions for Indigenous Peoples."</p> <p>Based on the threshold identified above, the effects predicted by the proponent to the Mi'kmaq of Nova Scotia would be significant.</p>	<p>for Indigenous people.</p> <p>Or</p> <p>Provide a rationale for how the proponent concluded that potential effects to Indigenous people are not significant based on the threshold identified by the proponent in section 6.11.5.2 of the EIS.</p>
CEAA 1-49	All	Cumulative Effects - Projects Considered	Part 2, Section 6.7.3 Cumulative Effects Assessment	Section 8.4 Identification of Projects in the Area	<p>The EIS identifies that "the Atlantic Salmon Conservation Centre has completed recent liming programs (2009, 2010) on the West River Sheet Harbour in order to maintain a pH of 5.5 at the river mouth to support quality salmon habitat in the river... Based on its success, the Nova Scotia Salmon Federation is proposing to install a second lime dosing station on the Killag River (Page 184)."</p> <p>A third program, a catchment liming project, has been identified in Keef Brook, which is bisected by the Beaver Dam Mines Rd. and is adjacent to the Project.</p> <p>The EIS does not identify these liming programs in the 35 km² area considered for the cumulative effects assessment.</p>	<p>Include the Atlantic Salmon Conservation Centre's liming programs in the cumulative effects assessment or provide rationale for why the Atlantic Salmon Conservation Centre liming programs are excluded from the cumulative effects assessment.</p> <p>Include, as applicable, project information in the cumulative effects assessment; assess cumulative effects as a result of the Project to such things as fish and fish habitat, water quality and water quantity in relation to the liming programs.</p> <p>Include any mitigation measures proposed to mitigate adverse effects; and include any related follow-up and monitoring.</p> <p>Provide clear information on the location of lime dosers for example, provide locations in the figure suggested in information requirement number CEAA 1-15.</p>
CEAA 1-50	Section 5(1)(c)(iii) Current use of lands and resources	EA - Current Use of Land and Resources	Part 2, Section 6.3.4 Aboriginal Peoples	Section 6.11.6 Project Activities and Indigenous Peoples Interactions and Effects	<p>Based on the requirements of section 6.3.4 of the EIS guidelines, and in consideration of the Agency's Technical Guidance for Assessing the Current Use of Lands and Resources for Traditional Purposes under CEAA 2012, the proponent has not provided a complete assessment of current land and resource use by Indigenous people. As one example, the previously noted guidance states that use of lands and resources may have tangible values (e.g. wildlife species or traditional plants) and/or intangible values (e.g. quiet enjoyment of the landscape or sites used for teaching).</p> <p>Section 6.11 of the EIS includes aspects of the required analysis. The proponent considers the potential for direct effects of air emissions on Beaver Lake IR 17 (p. 546), as well as identifies that the Project has the potential to impact hunting, gathering, etc.</p>	<p>Update the direct and cumulative effects assessment of current use of land and resources by Indigenous people, including at a minimum:</p> <ul style="list-style-type: none"> The direct and indirect effects of air quality, noise, light and landscape changes on Indigenous people to include the area surrounding the Project. Consideration should be given to potential receptors in close proximity to the project area or that could be using the area intermittently for current land and resource use purposes. The consideration of resource use for subsistence, food, social and ceremonial purposes, and moderate livelihood purposes within the local and regional assessment areas.

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					<p>However, aspects of current use of land and resources by Indigenous people that are not included in section 6.11 of the EIS are an assessment of:</p> <ul style="list-style-type: none"> • Whether changes to air quality, noise, light, or landscape have the potential to directly or indirectly affect Indigenous people who use the area surrounding the Project, including areas adjacent to the haul road. For example the assessment should consider at a minimum: <ul style="list-style-type: none"> ○ effects on nearby receptors such as migratory birds used by Indigenous people, and ○ whether Indigenous people may avoid using the area surrounding the Project because of the increased noise from industrial activity and project related traffic. • Whether improving access to relatively undisturbed areas has the potential to affect natural resources, and by extension, the availability of resources for current land and resource use activities. • Potential cumulative impacts from truck traffic, forestry activities and the related risk of accidents on the haul roads. <p>This information is required to provide the Agency with a clear understanding of potential adverse effects to Indigenous people related to current use of land and resources.</p>	<ul style="list-style-type: none"> • The consideration of hauling activities (e.g. truck traffic and forestry activities, including the risk of accidents), road construction and maintenance, and tailings management. • Whether improving access to relatively undisturbed areas has the potential to affect natural resources, and by extension, the availability of resources for current use activities. <p>Provide any additional mitigation and follow-up for direct and cumulative effects based on the analysis required above. Include mitigation that would address:</p> <ul style="list-style-type: none"> • the combined truck traffic on the haul road, • critical periods of the year for wildlife movement , and • timing of traditional activities by Indigenous people. <p>Provide, if necessary, an updated significance determination based on the effects assessment above and in consideration of the potentially revised threshold in CEAA 1-48.</p>
CEAA 1-51	Section 5(1)(c)(iii) Current use of lands and resources	EA - Current Use of Land and Resources	Part 2, Section 6.1.10 Aboriginal Peoples	Section 6.11 Indigenous Peoples	<p>The proponent outlines in the EIS potential effects that were noted in the MEKS and states that “no effect is expected on the areas where the majority of hunting, gathering and trapping activities occur...”</p> <p>The EIS does not provide sufficient information to support this conclusion. Furthermore, the EIS includes examples of potential effects to areas where hunting, gathering and trapping occur such as:</p> <ul style="list-style-type: none"> • The EIS indicates that acid rock drainage (ARD), suspended solids and leaching of metals from rock at the mine site have the potential to affect receiving waters (e.g. potential fish habitat), specifically Cameron Flowage, Killag River, West River and West River Sheet Harbour (page 548). These adverse impacts to water quality and, by extension, fish habitat, also have the potential to result in changes in the quality or health of hunted and fished species. 	<p>Provide further analysis, to enable the EIS reviewers to understand the conclusions reached concerning potential impacts of the Project, including the haul road, on areas of high importance/use for Indigenous people.</p> <p>The information required to support the analysis and conclusions may include additional baseline information, effects assessment, mitigation, and follow-up.</p>

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"> • The MEKS (appendix N of the EIS) identifies Mi'kmaq concerns over the potential loss of wetlands and areas of traditional use (e.g. hunting, fishing, gathering and trapping) including "Tent lake and Cope Pond, Rocky, Otter, Como, Grassy and Beaver lakes, Killag River and the West River and the West River Sheet Harbour." • Some of the important waterbodies and sites listed above are located along the haul route and hauling could increase dust and noise levels, which in turn could impact traditional uses such as fishing and other harvesting activities. <p>Building on CEEA 1-50, further analysis is required in relation to areas of high importance/use to Indigenous people, if any, so that the Agency can understand potential effects to current use of land and resources by Indigenous people.</p>	