August 9, 2024

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Via Email : info@nirb.ca

Government of Canada's Comments on the Revised Draft Impact Statement Guidelines

Dionne Filiatrault,

Thank you for the Nunavut Impact Review Board's (Board's) June 27, 2024 correspondence. The Government of Canada appreciates the opportunity to provide comments on the Revised Draft Standard Guidelines for the Preparation of an Impact Statement.

The Northern Projects Management Office (NPMO) is responding on behalf of Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), Environment and Climate Change Canada (ECCC), Health Canada (HC), Natural Resources Canada (NRCan), Transport Canada (TC), and Justice Canada (JC).

The first section of this submission provides general comments from the Government of Canada. The second section deals with department specific comments on the Revised Draft Impact Statement Guidelines.

The Government of Canada looks forward to continued engagement with the Board to improve the Nunavut environmental assessment regime. If you have any questions related to this correspondence, please contact me at melissa.alexander@cannor.gc.ca or 819-790-1062.

Nakurmiik, Koana, Ma'na

Alexander, Melissa

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cc Kim Pawley, Director, Environment and Renewable Resources Division, Crown-Indigenous Relations and Northern Affairs Canada

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Shari Currie, Regional Director, Prairie and Northern Region, Transport Canada

Heather Ramussen, Manager, Policy, Nunavut Impact Review Board

Appendix

Government of Canada General Comments

Comment Number:	GC-01
Subject:	Definitions
Reference:	pdf p. 6-11
Priority:	Medium
Background/Rationale:	Definitions in the draft Guidelines for some terms are not the same as those in the Board's *Guide to Terminology and Definitions* (Dec. 2018). These include the terms 'impact statement', 'Inuit Qaujimajatuqangit', and 'Nunavut Agreement'. A definition for the *Nunavut Planning and Project Assessment Act* is not provided in the draft Guidelines.
Recommendations to Address Issues:	GC recommends having consistency across Board documents, the definitions in the draft Guidelines and the *Guide to Terminology and Definitions* be compared, and where needed, one of the two documents be updated. For consistency between the treatment of the Nunavut Agreement and the *Nunavut Planning and Project Assessment Act,* that a definition of the Act be added to the Guidelines.

Comment Number:	GC-02
Subject:	Impact Assessment Process Steps
Reference:	Section 4.1.3, pdf p. 3
Priority:	Medium
Background/Rationale:	Section 4.1.3 describes how the main IS document is to be structured. Point 5 provides: 5. Summary of impact assessment for each valued component (see Sections 4.4.4, 4.4.5 and 4.5) and system identified, including: • description of the historical background and current baseline conditions; • predicted changes to the ecosystemic and socio-economic environments; • predicted impacts to the valued components and systems; • mitigation and enhancement measures; • residual impacts and the significance of those impacts; • cumulative impacts; • other impacts including: ▪ accidents and malfunctions ▪ impacts of the environment on the proposed project (e.g., climate change, meteorological, seismological).

	As written, Point 5 indicates that a consideration of "accidents and malfunctions" and "impacts of the environment…" needs to be included for each valued component. In typical impact assessment statements, details on these two topics are presented in stand-alone sections rather than being a consideration for each valued component. Later in the draft Guidelines, sections 4.4.5.2 and 4.5.4 "impacts of the environment" and "accidents and malfunctions" respectively, are described as stand-alone sections. This inconsistency may be confusing to proponents and readers of the Standard Guidelines.
Recommendations to Address Issues:	GC recommends revising the following (additions are in **bold**): **4.1.3 Main Document** … 5. Summary of impact assessment for each valued component (see Sections 4.4.4, 4.4.5 and 4.5) and system identified, including: • description of the historical background and current baseline conditions; • predicted changes to the ecosystemic and socio-economic environments; • predicted impacts to the valued components and systems; • mitigation and enhancement measures; • residual impacts and the significance of those impacts; • cumulative impacts; ~~• other impacts including:~~ ~~▪ accidents and malfunctions~~ ~~▪ impacts of the environment on the proposed project (e.g., climate change, meteorological, seismological).~~ **6. Summary of other impacts including:** • **accidents and malfunctions;** • **impacts of the environment on the proposed project (e.g., climate change, meteorological, seismological).** If the above change is made then the remainder of section 4.1.3 would then need to be renumbered. NOTE: If the GC's recommendation to revise section 4.1.3 is accepted by the Board, it is recommended that Appendix B be revised to reflect the new numbering of the points in section 4.1.3.

Comment Number:	GC-03
Subject:	Impact Assessment Process Steps
Reference:	Section 4.4.5.1, pdf p. 37
Priority:	Medium
Background/Rationale:	The draft Guidelines require Proponents to: "…identify potential impacts to each valued component and identified systems resulting from each proposed project phase, including impacts arising from accidental events and malfunctions, with established mitigation (e.g., industry standard practices) used to draw impact predictions." (p. 37) Further in the draft Guidelines, "**4.5.4 Accident and Malfunctions Assessment** The Impact Statement shall include an assessment of accident and malfunction scenarios caused by technological and/or human error or exceptional natural events that have a reasonable probability of occurring." The purpose and requirements of section 4.5.4 are unclear if the impacts of accidents and malfunctions have been addressed during the impact prediction portion of the IS document.
Recommendations to Address Issues:	GC recommends that the Guidelines clarify the different purpose and requirements of the review of "accidents and malfunctions" in sections 4.4.5.1 and 4.5.4.

Comment Number:	GC-04
Subject:	Definitions
Reference:	Section 4.4.5.6, pdf p. 86
Priority:	Medium
Background/Rationale:	The standard definition for "Criteria" is given as, "factors to be considered or what needs to be met when assessing potential impacts (e.g., TSP, PM_{10}, $PM_{2.5}$, NO_x, SO_2, volatile organic compounds (VOCs), Ozone (O_3), etc., are criteria for measuring air contaminants)." The example provided incorrectly states criteria are air quality parameters assessed. Criteria is the plural of criterion. Air quality criteria are standards by which air quality may be judged or decided. Criteria air contaminants are the contaminants for which standards are developed for assessing air quality.

Recommendations to Address Issues:	GC recommends that the Board consider the following revision (additions in **bold**, deletions in ~~strikethrough~~): Criteria: ~~factors to be considered or what needs to be met when assessing potential impacts (e.g., TSP, PM10, PM2.5, NOx, SO2, volatile organic compounds (VOCs), Ozone (O3), etc., are criteria for measuring air contaminants)~~. **Criteria are Standards which can be used for comparison or upon which a decision can be based. For example, air quality criteria, such as the NO_2 1-hour Canadian Ambient Air Quality Standard (CAAQS), are standards or thresholds to be considered when assessing potential impacts of air contaminants.**

Comment Number:	GC-05
Subject:	Significance Determination
Reference:	Section 4.4.5.7, pdf p. 89
Priority:	Low
Background/Rationale:	There appears to be duplication of descriptors for specifying significance of potential impacts. Specifically, the following bullets are repetitive, with the content of the first captured within the second: • Negatively impact ecological functions of ecosystemic and socio-economic systems • Negatively impact ecological functions or exceed available assimilative capacity of the ecosystemic and socio-economic environment
Recommendations to Address Issues:	GC recommends that the Board consider the following revision (deletions in ~~strikethrough~~): The following are descriptors which may be applicable for specifying significance of identified potential impacts: • Adverse • Intensive in concentration or associated with significant levels of change • Frequent and long-lasting • Irreversible • Occur at a broad spatial scale • Associated with cumulative change • Diminish the sustainability of ecosystemic and socio-economic systems ~~• Negatively impact ecological functions of ecosystemic and socio-economic systems~~

	• Negatively impact ecological functions or exceed available assimilative capacity of the ecosystemic and socio-economic environment • Associated with variables of societal importance and public concern and likely to exceed desired levels of change • Not in compliance with existing standards or regulations

Comment Number:	GC-06
Subject:	Typographical Errors
Reference:	Throughout
Priority:	Low
Background/Rationale:	GC identified various typographical errors throughout the Revised Draft Standard Impact Statement Guidelines document as follows: **First box of Figure 2, pdf page 22** The last sentence in the first box of Figure 2 is incomplete and currently states: "*Proponent submits an Impact Statement for a project proposal during step 1 of a NIRB Screening. It must be clearly stated by the Proponent that the proposal is intended to serve as an Impact Statement as well as the*". Complete the sentence as required. **Second box of Figure 2, pdf page 22** The sentence in the second box of Figure 2 does not end with a period whereas sentences in the other boxes do. Add a period to the end of the sentence in the second box. **Fourth box of Figure 2, pdf page 22** The last sentence in the fourth box of Figure 2 is incomplete and currently states: "*The NIRB confirms the scope of the Project and Review and conducts public scoping meetings in potentially impacted*." Complete the sentence as required. **Text in red box of Section 2.3, pdf page 31** The sentence currently states "*The International Union for Conservation of Nature's (IUCN, 2007) sets out guidelines in the application of the precautionary…"* but doesn't require a possessive apostrophe. Remove the possessive apostrophe. **Part 4, pdf page 38** The page numbering of the draft Guidelines restarts at page 1 in Section 4. Page numbering should be consecutive throughout the Guidelines. **First sentence of section 4.1.3, pdf page 40** The first sentence states: "*The Proponent shall prepare a main document is a stand-alone document…*" but is missing "that" and should read

	(addition underlined): "*The Proponent shall prepare a main document <u>that</u> is a stand-alone document…"* **Last bullet of section 4.1.6.2, pdf page 44** The previous (second-last) bullet already has an "and" at the end of it, so this shouldn't be repeated in the last bullet. Remove the "and" from the last bullet in this section. **Last sentence of first paragraph of section 4.4.1.1, pdf page 57** The sentence currently reads: "*The Proponent shall demonstration that not only have they asked for input from…"* Change "demonstration" to "demonstrate" in the sentence. **Last question of first bullet of section 4.4.2, pdf page 61** The question currently reads: "*How will Inuit be able to use the land pos-closure?*" Rectify the spelling error for "post-closure". **Fifth bullet of b) of section 4.4.5.3, pdf page 79** The bullet currently reads: **"***How the modelling and evaluation of effects of climate change to valued; components and proposed mitigations informed the public engagement process*". Remove the extra semicolon between "valued" and "components". **Sub-bullets of third bullet of section 4.5.4, pdf page 98** Capitalization for this bullet is inconsistent with the other sub-bullets in this section. The two sub-bullets of the third bullet are not capitalized while the sub-bullets above and below are. Capitalize the sub-bullets of the third bullet for consistency. **Last bullet of section 4.6, pdf page 100** The end of the last bullet of section 4.6 doesn't make sense and currently states: "*Inuit oversight committees reviewing results of monitoring and recommendations of additional research, monitoring, and adaptive management measures to improve understanding and management of project included incorporated."* Revise the sentence so it reflects the writer's intention. **Paragraph above blue box of section 4.6.1, pdf page 101** The sentence currently states: *"… and identify indicators, criteria, metrics, and thresholds of for mitigation to trigger management actions in each sub plan*." Remove "of" for the sentence to read correctly.
Recommendations to Address Issues:	GC recommends the typographical errors be fixed as noted above.

Department Specific Comments

Crown-Indigenous Relations and Northern Affairs Canada

Comment Number:	CIRNAC-01
Subject:	General
Reference:	N/A
Priority:	Low
Background/Rationale:	The guidelines are very long (nearly 150 pages), which might be an impediment for developers to follow them effectively. The guidelines are meant to provide instructions for preparing an Impact Statement, not provide extensive theory and guidance on Impact Assessment in Nunavut, which may be better placed in other guidance materials (e.g., Guides, Proponent Guide, SEA Toolkit, etc.)
Recommendations to Address Issues:	The Board should consider moving background content elsewhere and focusing on the requirements of the Impact Statement. Guidance on Impact Assessment process and practice could be available as complementary materials (e.g., NIRB guides, SEA Toolkit, etc.)

Comment Number:	CIRNAC-02
Subject:	Definitions
Reference:	Definitions and Terms, pdf p. 8
Priority:	Low
Background/Rationale:	The definition of ‘Indigenous Groups asserting s. 35 rights’ refers to ‘asserted and established Aboriginal and Treaty rights’; ‘and/or’ should be used instead of ‘and’.
Recommendations to Address Issues:	Update definition of ‘Indigenous Groups asserting s. 35 rights’ to refer to ‘asserted and/or established Aboriginal and/or Treaty rights’.

Comment Number:	CIRNAC-03
Subject:	Definitions
Reference:	Definitions and Terms, pdf p. 9
Priority:	Moderate
Background/Rationale:	The definition of ‘Inuktut or Inuktitut’ provided is a duplicate of the definition of ‘Inuit’.
Recommendations to Address Issues:	Provide a definition of ‘Inuktut or Inuktitut’.

Comment Number:	CIRNAC-04
Subject:	Definitions
Reference:	Definitions and Terms, pdf p. 9
Priority:	Low
Background/Rationale:	The definition of 'Inuit' refers to the Aboriginal peoples of northern Canada and Greenland. The definition should also acknowledge the Inuit of Alaska and Chukotka.
Recommendations to Address Issues:	Expand definition of 'Inuit' to also refer to Alaska and Chukotka.

Comment Number:	CIRNAC-05
Subject:	Transboundary Impacts
Reference:	Definitions and Terms and Section 4.4.5.5, pdf p. 11, 84, and 85
Priority:	High
Background/Rationale:	The definition of 'Transboundary Impacts' refers only to direct impacts; indirect impacts should also be considered. Further, the definition refers to 'impacts occurring within the designated area from project related works which occur wholly or partly outside of the designated are'; there could also be impacts which occur outside the designated area that are applicable to or affect the designated area.
Recommendations to Address Issues:	Update definition of 'Transboundary Impacts' by either deleting 'directly' or adding 'or indirectly', and add reference to impacts occurring outside the designated area that are applicable to or affect the designated area. Similar changes should be made in section 4.4.5.5.

Comment Number:	CIRNAC-06
Subject:	Editorial
Reference:	Part 1 – Introduction, pdf p. 13
Priority:	Low
Background/Rationale:	The short form of legislation (e.g., NuPPAA) does not have to be italicized, only the full name of legislation does.
Recommendations to Address Issues:	Remove italics from '*NuPPAA*' and other instances where short form of legislation (includes regulations) is used throughout the document.

Comment Number:	CIRNAC-07
Subject:	Acceptance of Impact Statement
Reference:	Section 1.1, 1.4, and 4.1.2, pdf p. 14, 20, 21 and 22
Priority:	Moderate
Background/Rationale:	Under 'Goals and Benefits of the Guidelines', it is indicated that a proposal could be accepted as a 'Final Impact Statement'; this contradicts Figure 2, in which it is indicated that the proposal would be accepted as a 'Draft Impact Statement'. Alternatively, the text following Figure 1 seems to suggest that the proposal could be accepted as either

	a 'Draft Impact Statement' or a 'Final Impact Statement'. Messaging should be made consistent. Acceptance of a proposal as a Final Impact Statement could seemingly bypass opportunities for parties to provide input; it is unclear under what circumstances this would be deemed appropriate.
Recommendations to Address Issues:	Update references to how a proposal may be accepted as an Impact Statement (Draft versus Final), for consistency. Provide additional clarity and justification regarding the potential acceptance of a proposal as a Final Impact Statement, as relevant.

Comment Number:	CIRNAC-08
Subject:	Terminology
Reference:	Part 1 – Introduction and Section 1.4, pdf p. 13 and 18
Priority:	Low
Background/Rationale:	The use of the term 'Pathways' in the heading 'Pathways for Impact Statement Submission' is potentially confusing, as it is used in the context of impact pathways throughout the document.
Recommendations to Address Issues:	Consider using alternate language for s. 1.4 (e.g., Options for submitting the Impact Statement), instead of using the term 'pathways'.

Comment Number:	CIRNAC-09
Subject:	Inuit and Indigenous Knowledge
Reference:	Section 3.1.1.2, pdf p. 35
Priority:	Moderate
Background/Rationale:	It may be worth having explicit breakdowns of each community that was consulted, to aid in transparency.
Recommendations to Address Issues:	Add a bullet for the Proponent to show evidence of where and when knowledge was gathered from each potentially impacted Indigenous group and organization (e.g., local Hunters and Trappers Organizations).

Comment Number:	CIRNAC-10
Subject:	Submission Languages
Reference:	Section 4.1 (Table 2) and 4.1.1, pdf p. 38 - 40
Priority:	Moderate
Background/Rationale:	Other Indigenous languages have become more relevant in Nunavut recently – there should probably be some reference to coordination of those languages for accessibility, where relevant.
Recommendations to Address Issues:	Page 39 indicates that Executive Summaries, and plain language summaries should be presented in English, French, and Inuktut, with the understanding that Inuktut includes either and/or Inuktitut and Inuinnaqtun within the Kitikmeot Region of Nunavut; it should also likely list other Indigenous languages, relevant to Indigenous parties who may be affected by the proposed development.

Comment Number:	CIRNAC-11
Subject:	Cumulative Impact Assessment
Reference:	Section 4.1.3, pdf p. 41 and Appendix B (pdf p. 109)
Priority:	Moderate
Background/Rationale:	The proposed list under 'Summary of impact assessment for each valued component' includes assessing cumulative impacts following assessing the residual impacts on VEC's and their significance. Cumulative impact assessment includes assessment of the significance of residual cumulative impacts, as per Section 4.4.5.4. This should perhaps be reflected in the impact assessment steps.
Recommendations to Address Issues:	Consider clarifying that assessing cumulative impacts includes assessing residual cumulative impacts and their significance.

Comment Number:	CIRNAC-12
Subject:	Table 3
Reference:	Section 4.2, pdf p. 44
Priority:	High
Background/Rationale:	The Introductory Sections box, under 'Project Overview' states the following: "The capacity of renewable resources that are likely to be significantly impacted by the proposed project to meet the existing and future needs of the residents of the designated area" This section should include more information.
Recommendations to Address Issues:	Add further direction regarding content for 'Project Overview' such as describing key project components and associated activities, scheduling details, the timing of each phase of the proposed project and other key features.

Comment Number:	CIRNAC-13
Subject:	Alternatives
Reference:	Section 4.3.2.1, pdf p. 52 and 53
Priority:	Moderate
Background/Rationale:	The section on alternatives refers to the identification of a single 'preferred alternative'; it is possible that a proponent may identify multiple, equally preferred alternatives to carry forward in its assessment.
Recommendations to Address Issues:	Provide guidance regarding carrying forward more than one preferred alternative in the assessment.

Comment Number:	CIRNAC-14
Subject:	Alternatives
Reference:	Section 4.3.2.1, pdf p. 53
Priority:	Moderate
Background/Rationale:	In relevant regions, other Indigenous groups should be considered in the alternatives assessment – such as Dene and Denesuline.

Recommendations to Address Issues:	Consider the following revision (additions in italics, deletions in strike-through): "Where different routes are being considered for components such as roads and transmission line corridors, the Proponent must demonstrate strong consideration of Inuit Qaujimajatuqangit *and traditional knowledge,* ~~and~~ *as well as* avoidance of impacts on Inuit *and Indigenous* values."

Comment Number:	CIRNAC-15
Subject:	Spatial Boundaries
Reference:	Section 4.4.3.4, pdf p. 68
Priority:	Moderate
Background/Rationale:	It is indicated that, "Where Inuit have identified alternative spatial boundaries, a rationale should be provided if they were not adopted." This should apply to all relevant parties.
Recommendations to Address Issues:	Update sentence to refer to Inuit and other relevant parties.

Comment Number:	CIRNAC-16
Subject:	GHG Emissions Analysis
Reference:	Section 4.4.5.3, pdf p. 76 - 80
Priority:	Moderate
Background/Rationale:	Table 12, under 'Identifying GHG Emissions and Project Impacts to Climate Change Commitments' states: "Analysis of the Project's greenhouse has (GHG) emissions against relevant emissions reduction efforts, targets, or climate change legislation, regulation, or policies."
Recommendations to Address Issues:	Analysis of a project's GHG emissions should also be in relation to its options for power and heating source. It is likely that projects are outside of communities and will need to plan their energy system (e.g., diesel versus renewables).

Comment Number:	CIRNAC-17
Subject:	Language
Reference:	Section 4.4.5.3, pdf p. 76 - 80
Priority:	Low
Background/Rationale:	Contents of Table 12
Recommendations to Address Issues:	Overall language is cumbersome/wordy and difficult to understand. The section could be reviewed from a plain language perspective and/or examples provided to help clarify what is being asked.

Comment Number:	CIRNAC-18
Subject:	Cumulative Impact Assessment
Reference:	Section 4.4.5.4, pdf p. 80 and 82

Priority:	Moderate
Background/Rationale:	Table 13 states: "Identify the Project's predicted cumulative impacts on valued components and ecosystemic and socio-economic systems in combination with reasonably foreseeable projects and activities, including proposed future activities associated with the proposed Project under assessment, within determined spatial and temporal assessment boundaries." A similar statement is made on PDF Page 82, under 'b) Describing Cumulative Impacts and determining Significance'. These should include 'past and present/existing projects and activities' as well.
Recommendations to Address Issues:	Rephrase the text in Table 13 and on PDF Page 82 to include 'past and present/existing projects and activities'.

Comment Number:	CIRNAC-19
Subject:	Transboundary Impacts and Impacts to Indigenous Groups asserting s. 35 Rights
Reference:	Section 4.4.5.5, pdf p. 84
Priority:	High
Background/Rationale:	It is indicated that triggers for transboundary considerations include, "Proposed project components in an area in the designated area that other Indigenous groups also have rights" and, "Potential negative impacts to the rights of other Indigenous groups, including harvesting rights". It is important to note that parties residing outside of Nunavut can be affected by non-transboundary impacts; impacts to rights within Nunavut should not be characterized as 'transboundary considerations'.
Recommendations to Address Issues:	Acknowledge that impacts to Indigenous groups asserting s. 35 rights should not be characterized as 'transboundary impacts' if rights within Nunavut are impacted.

Comment Number:	CIRNAC-20
Subject:	Transboundary Impacts and Impacts to Indigenous Groups asserting s. 35 Rights
Reference:	Section 4.4.5.5, pdf p. 84
Priority:	Moderate
Background/Rationale:	It is indicated that "Indigenous Groups asserting s. 35 rights refer to Inuit and Indigenous rights holders as recognized under Article 40 of the Nunavut Agreement, including Inuit of Northern Quebec, First Nations in Northern Manitoba, First Nations in Northern Saskatchewan, Makivik, Nunavik, Eeyou Marine Region (James Bay and Northern Quebec), Sahtu Settlement Region, Wek'èezhìi or Tłı̨chǫ Settlement Region, Mackenzie Valley, Overlapping Treaty Areas in the Northwest Territories, Nunatsiavut, and Greenland/Denmark." As written, the statement is unclear and potentially confusing.
Recommendations to Address Issues:	Update text to read, 'Indigenous Groups asserting s. 35 rights can refer to Inuit and other Indigenous rights-holders including those recognized under Article 40 of the *Nunavut Agreement.* Examples of Indigenous

	Groups asserting s. 35 rights that could potentially be impacted by a project include groups within Northern Quebec, First Nations in Northern Manitoba, First Nations in Northern Saskatchewan, and Makivik, as well as Indigenous groups in Nunavik, Eeyou Marine Region (James Bay and Northern Quebec), Sahtu Settlement Region, Wek'èezhìi or Tłı̨chǫ Settlement Region, Mackenzie Valley, Overlapping Treaty Areas in the Northwest Territories, and Nunatsiavut.'

Comment Number:	CIRNAC-21
Subject:	Ecosystemic Impact Assessment
Reference:	Section 4.5.1.3, pdf p. 92
Priority:	Low
Background/Rationale:	It is indicated that, "For each predicted negative residual impact in this section, associated mitigation measures proposed should be discussed to the extent possible to reduce or avoid the identified impacts…". It is unclear why negative 'residual' impacts are referenced here; mitigation measures should be discussed for all negative impacts.
Recommendations to Address Issues:	Delete 'residual'.

Justice Canada

Comment Number:	JC-01
Subject:	Inuit Qaujimajatuqangit
Reference:	Section 4.4.2, pdf p. 25
Priority:	Moderate
Background/Rationale:	Page 25: "How Inuit Qaujimajatuqangit, Indigenous Knowledge, or Community is described, as well as the protocols for the collection, protection, and use of Inuit Qaujimajatuqangit will differ by regions and even communities". The above wording undermines clarity about IQ: if the various kinds of knowledge vary by community, how is the Proponent to know when they have collected sufficient IQ, as distinct from Indigenous and Community Knowledge? Page 25: "Proponents are reminded that, while related, public engagement and gathering of Inuit Qaujimajatuqangit are different exercises". This defines things by what they are not instead of defining things by what they are. No clear distinction is drawn between public engagement and collecting IQ. The risk here is that, by making distinctions without a practical difference, Proponents will treat all input as the same (although the Impact Statement will imply

	otherwise by categorizing the input under the different kinds of knowledge). Page 25: "Proponents are encouraged to read the NIRB's Proponent Guide to the treatment of Inuit Qaujimajatuqangit, available at: https://www.nirb.ca/content/guides." The *Proponent Guide* not only does not define Inuit Qaujimajatuqangit, but it uses inconsistent terminology. The *Proponent Guide* refers to Inuit Qaujimaningit – which is different than Qaujimajatuqangit, but the difference is not explained – as well as to Traditional and Local knowledge, which appears to be a different.
Recommendation to Address Issues:	It is recommended that in this *Guideline* and in the other *NIRB Guides*, the Board use consistent terminology and properly define each category of knowledge: Inuit Qaujimajatuqangit, Inuit Qaujimaningit, Indigenous, Traditional, Community and Local. Seen as a whole, the *Guideline* and *Guides* use undefined and inconsistent terminology to describe the various categories of information.

Transport Canada

Comment Number:	TC-01
Subject:	Identification of navigable waters
Reference:	Section 4.3.1, pdf p. 14
Priority:	High
Background/Rationale:	The right of navigation is a public right. Navigation is also important to Indigenous people for transportation activities and as a way to access lands and waters for the exercise of Indigenous and treaty rights, e.g., travel to hunting areas. For these and other reasons, "navigation" should be considered a valued component of the socio-economic environment. Despite being a valued component, the only requirement of Proponents in the draft Guidelines regarding the identification of projects' impacts to navigation is in Appendix E, Table 22: > Valued Component - Surface Water and Sediment Considerations - Assessment of each water crossing and in-stream work against the *Canadian Navigable Waters Act* (CNWA) and CNWA Minor Works Order to determine if Transport Canada approval is required. Assessing project works, such as watercourse crossings, against the CNWA is an important first step in identifying a project's impacts to navigation. However, this information alone will not allow the Board or participants in a hearing to understand impacts to navigation, how such

	impacts could be mitigated, and the significance of residual impacts, if any. It also pushes matters regarding navigation to the regulatory stage. This is not in keeping with the treatment of other valued components that require regulatory approvals, such as impacts to fish and fish habitat, which are the subject of possible *Fisheries Act* authorizations. Further to the subject of impacts to navigation, the draft Guidelines do not reflect the guidance set out in the Final Guidelines for the Preparation of an Impact Statement for DeBeers Canada Inc.'s Chidliak Diamond Mine Proposal. Section 8.1.6.2 - Impact Assessment in the DeBeer's Guidelines were amended to require: vii. Assessment of each water crossing and in-stream work against the *Canadian Navigable Waters Act* (CNWA) and CNWA Minor Works Order to determine if Transport Canada approval is required, and potential impacts to the navigability and safety of the watercourses; (emphasis added) Finally, identification of "navigation" as a valued component of the socio-economic environment would also bring the draft Guidelines in line with the *Tailored Impact Statement Guidelines Template* (generic version) for designated projects subject to the *Impact Assessment Act.*
Recommendations to Address Issues:	TC recommends the draft Guidelines be revised to identify navigation as a valued component of the socio-economic environment (additions are in **bold**). **4.3.1 Project Design** General project design information discussed in the Impact Statement shall include a discussion and overview of: • how the ecosystemic and socio-economic environment and well-being have influenced the design of the proposed project. This should include consideration of relevant geographical, geological, meteorological, hydrological, and oceanographic conditions. This discussion should also include current and future land and/or aquatic use activities, including hunting, harvesting, gathering, occupancy, and land uses such as for cultural practices, travel and camps, and cultural connection (past, present, and future) to the proposed project impacted area; • how potential impacts to humans (e.g., socio-economic and well-being) and communities have influenced the proposed project design to protect and/or minimize adverse impacts due to remote locations. For example, the potential for increased social stratification, potential for exposure to new infections or diseases, impacts to vulnerable populations,

	increased stress on local infrastructure such as housing, roads, waste and water management systems, obstruction to enjoyment of the natural environment (e.g., by changes to sound level, obstructions to view, obstructions to access), loss of access to harvesting and gathering areas, **impacts to use of navigable waters,** loss of availability and both real and perceived changes to the quality of harvest, and direct or indirect impacts to food security to social and mental health, etc.);

Comment Number:	TC-02
Subject:	Identification of navigable waters
Reference:	Section 4.2.6, pdf p. 11
Priority:	Medium
Background/Rationale:	The draft Guidelines would require proponents to provide the following information: "All waterbodies and navigable waterways." As written, the information requirement could be confusing to Proponents and other readers of the Guidelines as it suggests there is a difference between waterbodies and waterways.
Recommendations to Address Issues:	TC recommends the draft Guidelines be revised to the following (additions in **bold**): **4.2.6 Project Location** The following information shall be included: ~~• All waterbodies and navigable waterways;~~ • **All waterbodies, with further identification of which waters are considered navigable under the *Canadian Navigable Waters Act* (CNWA)**

Comment Number:	TC-03
Subject:	Travel, including navigation, as a valued component of the socio-economic environment
Reference:	• Revised Draft NIRB Standard Guidelines for the Preparation of an Impact Statement, Section 4.5.2.1, pdf p. 57 • Final Guidelines for the Preparation of an Impact Statement for DeBeers Canada Inc.'s Chidliak Diamond Mine Proposal, section 8.1.6.2 - Impact Assessment (NIRB Doc. No. 347406) • Impact Assessment Agency of Canada: Tailored Impact Statement Guidelines Template (generic version) for designated projects subject to the *Impact Assessment Act,* section 10.1.4 – Baseline social conditions-Navigation, section 10.2.4 – Effects to social conditions-Navigation (see: https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-

	assessment-act/tailored-impact-statement-guidelines-projects-impact-assessment-act.html).
Priority:	High
Background/Rationale:	Following from the background/rationale listed in TC-01, travel, which includes navigation, is an important valued component of the socio-economic environment. Given this, Impact Statements should provide information about project impacts to travel.
Recommendations to Address Issues:	TC recommends the draft Guidelines be revised to list navigation as an example of a value component of the socio-economic environment (additions in **bold**). **4.5.2.1 Identification of Valued Components, Systems, and Potentially Impacted Communities** The Proponent must conduct an impact assessment on all the valued components and systems identified. Valued Socio-economic Components could include: • Traditional land and/or aquatic uses (such as hunting, fishing, harvesting, gathering, habitation, **travel,** and cultural expression and connection on and to lands, waters, ice) …

Comment Number:	TC-04
Subject:	Navigation as a valued component of the socio-economic environment
Reference:	• Revised Draft NIRB Standard Guidelines for the Preparation of an Impact Statement, Appendix E: Table 22, Table 23, Table 24, pdf p. 86 • Final Guidelines for the Preparation of an Impact Statement for DeBeers Canada Inc.'s Chidliak Diamond Mine Proposal, section 8.1.6.2 - Impact Assessment (NIRB Doc. No. 347406) • Tailored Impact Statement Guidelines Template (generic version) for designated projects subject to the *Impact Assessment Act,* section 10.1.4 – Baseline social conditions-Navigation, section 10.2.4 – Effects to social conditions-Navigation
Priority:	High
Background/Rationale:	Following from the background/rationale listed in TC-01, travel, including navigation, is an important valued component of the socio-economic environment. Given this, Impact Statements should provide information about project impacts to travel and more specifically, navigation.
Recommendations to Address Issues:	TC recommends the Guidelines be revised as follows (additions are in **bold**): Appendix E: Table 22: Impact Assessment Considerations Ecosystemic Environment Surface water and sediment

	~~Assessment of each water crossing and in-stream work against the Canadian Navigable Waters Act (CNWA) and CNWA Minor Works Order to determine if Transport Canada approval is required.~~ Appendix E: Table 23: Baseline Considerations Socio-Economic Environment Way of life, traditional land and/or aquatic uses (such as hunting, fishing, harvesting, gathering, habitation, **travel,** and cultural expression and connection) … **Assessment of each water crossing and in-stream work against the *Canadian Navigable Waters Act* (CNWA) and CNWA Minor Works Order to determine if Transport Canada approval is required. For each work in a navigable waterbody that is not a CNWA Minor Work,** • **identify and describe the navigable waterbody where each work will be located, and all their uses including present, past or potential uses, as well as information regarding the physical characteristics of the waterway (depth, width, etc.);** **and** • **provide a list of potentially affected waterbody users (i.e., those who use the waterbody for any part of the year as a means of transport or travel for commercial or recreational purposes, or as a means of transport or travel for Indigenous peoples of Canada exercising rights recognized and affirmed by section 35 of the Constitution Act, 1982), and concerns regarding use.** Appendix E: Table 24: Impact Assessment Considerations Socio-Economic Environment Way of life, traditional and/or aquatic uses (such as hunting, fishing, harvesting, gathering, **travel,** and cultural expression and connection)

Health Canada

Comment Number:	HC-01
Subject:	Human Health and Environmental Risk Assessment
Reference:	Section 4.5.3, pdf p. 96
Priority:	High
Background/Rationale:	Health Canada (HC) agrees that stronger outcomes will result from proponents working with local community organizations and Designated Inuit Associations to identify determinants of health for the assessment

	that meet the needs of the potentially impacted communities. The Government of Nunavut could be another relevant party for inclusion in this conversation, given its role in delivery of health and social services in the territory. Other federal authorities (e.g., CIRNAC) could also have relevant resources or knowledge to contribute to future assessments with a broadened health context. HC also notes that it has a non-regulatory role and there are no "mandatory health requirements" for an impact assessment that are enforced by the Department. Instead, the Board could request that proponents demonstrate efforts to implement Health Impact Assessment best practices based on current guidance and resources.
Recommendations to Address Issues:	HC recommends that Board consider the following revisions to Section 4.5.3 (additions in **bold**, deletions in ~~strikethrough~~): Proponents should work with communities and **relevant** ~~applicable~~ local organizations, Designated Inuit Associations, **and territorial** and ~~Health Canada~~ **federal authorities** to identify appropriate determinants of health. Proponents shall **consider available Health Canada guidance** ~~also engage Health Canada to ensure mandatory health requirements are met~~ and **resources to confirm current** ~~they have the most up-to-date~~ best practices ~~and guidance~~.

Comment Number:	HC-02
Subject:	Human Health and Environmental Risk Assessment
Reference:	Section 4.5.3, pdf p. 96
Priority:	Moderate
Background/Rationale:	Reference to HC's guidance documents and instructions to proponents, to provide Human Health Risk Assessment (HHRA) documentation that is appropriately detailed for the type of project and local conditions, will support HC's review of projects and ability to provide advice to the Board. Minor wording changes are proposed for clarity and to avoid repetition in the document.
Recommendations to Address Issues:	HC recommends that the Board consider the following revisions to Section 4.5.3 (additions in **bold**, deletions in ~~strikethrough~~): The Proponent shall consider the following **factors** when determining the need for and level of detail **included in** ~~of~~ a Human Health and Environmental Risk Assessment for a proposed project~~, including Health Canada's Guidance Documents for Evaluating Human Health Impacts in Environmental Assessment~~:

	• **The** ~~S~~spatial and temporal extent of the predicted contamination; • The types and quantities of contaminants predicted to be released (the more toxic and/or the larger the quantity of the chemical, the greater the potential risk); • **The** ~~N~~**n**umber of valued components predicted to be impacted (e.g., air, water, soil, country foods); • **The** ~~L~~**l**ikelihood of human exposure to the impacted valued components (e.g., drinking water sources, recreational use of surface water, reliance on country foods); • **The** ~~L~~locations and proximity of individuals to the impacted areas; • **The** ~~S~~sensitivit**ies**~~y~~ of individuals (e.g., underlying health conditions, presence of communities, culturally significant areas, etc.); • **The** ~~D~~**d**uration of exposure**s** to constituents of potential concern (i.e., residential area versus seasonal occupancy or occasional site use); • Communities, designated Inuit organizations, and/or Indigenous groups concerns related to health, country foods, and use of traditional territory; • **The** ~~L~~**l**oss of access to harvesting and gathering areas, changes to quality of harvest, or loss of cultural identity; and • Public concerns related to anticipated impacts to health. Any decision related to the ~~need for,~~ **level of detail** and type of Human Health Risk Assessment (HHRA) shall be described and justified. The results and conclusions reached in the assessment related to human health should be sufficiently detailed and appropriate for the specific project and the type of HHRA undertaken. **Proponents shall consult** ~~A HHRA shall be informed by~~ Health Canada**'s *Guidance for Evaluating Human Health Effects in Impact Assessment*** when developing a HHRA and include ~~consideration of~~: • Predicted sources, quantities, and points of release from the proposed project emissions and effluents containing hazardous substances; • Selection process for hazardous substance constituents of potential concern; • Identification of pathways to human receptors; • Identification and characterization of human receptors (workers and the public), including maps to delineate their locations and the distances of communities,

	residences, temporary/seasonal residences, etc. to project sites and related infrastructure; • Method used to convert hazardous substance exposure and intake by the various human receptors from the various pathways into an exposure or dose (e.g., conversion factors); and • Criteria used to determine significance of impact (e.g., exposure relative to lifetime cancer risk limit).

Comment Number:	HC-03
Subject:	Reference to drinking water guidelines
Reference:	Table 22, pdf p. 128
Priority:	Low
Background/Rationale:	As written, surface water quality for potential drinking water sources is required to be compared to "Heath Canada drinking water guidelines." Although published by Health Canada, applicable guidelines would more specifically be referred to as, "federal drinking water guidelines" or "Guidelines for Canadian Drinking Water Quality."
Recommendations to Address Issues:	HC suggests that the Board consider the following revision to Table 22 (additions in **bold**, deletions in ~~strikethrough~~): • Identification of and predictions for contaminants of potential concern from the Project. For any water sources identified as being current or future drinking water sources, compare concentrations of contaminants to relevant territorial and/or **federal** ~~Health Canada~~ drinking water guidelines **(e.g., *Guidelines for Canadian Drinking Water Quality***).

Comment Number:	HC-04
Subject:	Baseline Considerations for the Socio-Economic Environment
Reference:	Table 23, pdf p. 144
Priority:	Low
Background/Rationale:	A minor word change would promote consistency with the resources available from HC (i.e., guidance rather than guidelines).
Recommendations to Address Issues:	HC recommends that the Board consider the following revisions to Table 23 in the row "Individual, family, and community health and well-being" (additions in **bold**, deletions in ~~strikethrough~~): • Exposure, risk, and impacts from (requirements for a Human Health and Environmental Risk Assessment will be determined on a project-by-project basis; see Section 4.6.3 and Health Canada ~~Guidelines~~ **Guidance** for additional information).

Comment Number:	HC-05
Subject:	Health Canada Guidance Documents
Reference:	Pdf p. 96-97, 128, 138, 144
Priority:	Low
Background/Rationale:	HC acknowledges that references to guidance documents throughout the Standard IS Guidelines have been written to avoid requiring updates between the proposed 5-year revision schedule. The Department has recently published updated versions of its guidance documents and is providing them for informational purposes only (i.e., no changes required to the IS Guidelines).
Recommendations to Address Issues:	For the Board's information, below are links to the most recent versions of HC's series of *Guidance for Evaluating Human Health Effects in Impact Assessment*: Air Quality: https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-1-2023-eng.pdf Country Foods: https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-5-2023-eng.pdf Human Health Risk Assessment: https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-6-2023-eng.pdf Noise: https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-3-2023-eng.pdf Drinking and Recreational Water Quality: https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-2-2023-eng.pdf Radiological Impacts: https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-4-2023-eng.pdf

Environment and Climate Change Canada

Comment Number:	ECCC-01
Subject:	ECCC's Environmental Code of Practice for Metal Mines 2009
Reference:	Section 4.4.5.1, pdf p. 74-75 Other References - ECCC Environmental Code of Practice for Metal Mines 2009 - https://www.canada.ca/content/dam/eccc/migration/main/lcpe-cepa/documents/codes/mm/mm-eng.pdf
Priority:	Low
Background/Rationale:	Section 4.4.5.1 states that "*The Proponent shall identify potential impacts to each valued component and identified systems resulting from each proposed project phase, including impacts arising from accidental events and malfunctions, with established mitigation (e.g., industry standard practices) used to draw impact predictions. Predictions shall be presented with explanations and justification, including the following:* • *Explain how scientific and engineering data, Inuit Qaujimajatuqangit, Indigenous Knowledge and/or Community Knowledge informed the identification of impacts, determination of mitigation, and significance;* • *Document and justify study methodologies, including mathematical or numerical modeling and statistical analyses (see Section 3.1);* • *Support analyses, interpretation of results and conclusions with reference to appropriate literature, reports, engagement, studies;*". Although the Standard Impact Statement Guidelines applies to all projects undergoing a review under the Nunavut Agreement and the *Nunavut Planning and Project Assessment Act*, proposed metal mine projects could benefit by referencing the ECCC Environmental Code of Practice for metal mines. The document describes the operational activities of a metal mine and the environmental concerns associated with it from exploration to closure. This may provide guidance and assist the proponent in addressing some of the requirements under Section 4.4.5.1.
Recommendations to Address Issues:	ECCC recommends that the ECCC Environmental Code of Practice for metal mines be added to the list of guidance that may be useful for any proposed metal mine project.

Comment Number:	ECCC-02
Subject:	Uncertainty in model predictions
Reference:	Section 4.4.5.1, pdf p. 75
Priority:	Medium
Background/Rationale:	Numerical models are often used to predict impacts that are assessed. ECCC reviews the output of numerical models submitted to the Board to support the impact assessment. To understand their accuracy, it is necessary to know both how the models were calibrated and a measure

	of uncertainty in the results (through validation, sensitivity analysis or other means). Currently the Revised Draft Standard Impact Statement Guidelines request a discussion of how uncertainty will be dealt with without asking for an explicit discussion of uncertainty.
Recommendations to Address Issues:	ECCC recommends modifying the text in the 4th bullet of the list in Section 4.4.5.1 (additions in **bold** and deletions in strikethrough) to clarify that a discussion of uncertainty is required: *"Document assumptions and limitations of data collection and analyses, and describe ~~how~~ uncertainty in impact predictions **using validation, sensitivity analysis or other means, and how uncertainty is accounted for in the prediction of effects and effectiveness of mitigation measures** ~~have been dealt with~~;"*

Comment Number:	ECCC-03
Subject:	Accidents and Malfunctions Caused by Environmental Factors
Reference:	Section 4.4.5.2, pdf p. 75
Priority:	Medium
Background/Rationale:	The current text states: "*While predictions of impacts of the environment on the Project can build off the assessment of predicted impacts from the Project on valued components (Sections 4.5), this assessment should include a discussion of the combined or collective impacts of environmental factors on the Project and recognition of changes in likelihood and severity of factors due to climate change.*" Environmental impacts on the project may also increase the likelihood and severity of accidents and malfunctions (e.g., fires or severe storms resulting in spills), and this risk may increase with climate change.
Recommendations to Address Issues:	ECCC recommends including mention of accidents and malfunctions in this statement and that the text be revised as follows (additions in **bold**): "*While predictions of impacts of the environment on the Project can build off the assessment of predicted impacts from the Project on valued components (Sections 4.5), this assessment should include a discussion of the combined or collective impacts of environmental factors on the Project, **including potential accidents and malfunctions caused by environmental factors,** and recognition of changes in likelihood and severity of factors due to climate change."*

Comment Number:	ECCC-04
Subject:	Climate Change and Greenhouse Gas (GHG) Emissions
Reference:	Section 4.4.5.3 Climate Change, pdf p. 76-78
Priority:	Medium
Background/Rationale:	ECCC notes the Strategic Assessment of Climate Change (SACC) and the methods provided are not in force under northern regulatory regimes. However, the Board has indicated their intention to align the Standard Impact Statement Guidelines (SISG) with the SACC to the extent possible.

	The current draft of the SISG is high-level, somewhat unclear, and does not align with the SACC and its Technical Guides. It may be difficult for proponents to understand expectations, and what reference documents they should follow to ensure they are effectively responding to the SISG. The SISG should be clear and specific to guide proponents effectively, as early as possible in the review process. Clear SISG would help collect sufficient information to enable a thorough analysis of potential GHG effects and mitigate potential delays or omittance in relevant data and information in the review of GHG information in later phases of the impact assessment process. This is especially important for Standard Guidelines which will be used for multiple projects moving forward.
Recommendations to Address Issues:	ECCC recommends that the following specificity (additions in **bold** and deletions in strikethrough) be added under Section 4.4.5.3 heading "a) Identifying Project Contributions to Climate Change", and also reflected in Table 12. ECCC also recommends that the bullet list below be reordered to match with the sequence of work that is requested from the proponent (Section 3.5 of the SACC Technical Guide can be used as a reference). ECCC can also provide references to specific sections of the SACC that are relevant to each bullet, if desired. *"The discussion shall include:* • ***a list of federal or territorial*** ~~*Alignment with Greenhouse Gas (GHG)*~~ *legislation, policies,* ~~***and***~~ ***or*** *regulations* ***that will apply to the project, explaining any implications for the project****;* • ***the impact of the project on*** ~~*Contributions to*~~ *federal* ~~*/*~~ ***or*** *territorial (as available) emissions reduction efforts* ***and on global GHG emissions****;* • ***an estimate of the project's*** ~~*Quantification of*~~ *net* ~~*Greenhouse Gas*~~ ***GHG*** *emissions* ***by year for each phase of the project, including each term of the equation (Net GHG emissions = Direct GHG emissions + Acquired energy GHG emissions – Avoided domestic GHG emissions – Offset measures) based on the project's maximum capacity****,* ~~*to account for emissions related to land use change*~~*;* • ***an emissions intensity for each year of the operation phase of the project;*** • ***a quantitative and qualitative description of the*** *positive and negative impacts on carbon sinks;* • ~~*A*~~***a****n upstream GHG assessment (when required under relevant* ~~*emissions reductions efforts, targets or climate change*~~ *legislation,* ~~*policies*~~ ***policy****,* ~~*and*~~ ***or*** *regulations*~~*);*~~ • ***for projects with lifetimes to 2050 and beyond, a*~~***A*** ***net-zero plan that would use and build off the best available technologies and environmental practices evaluation in order to achieve net-zero emissions by 2050***~~*(when required under relevant emissions*~~

	~~*reductions efforts, targets or climate change legislation, policies and regulations)*~~*; and* • *proposed mitigation measures, including an evaluation of best available technologies and environmental practices* ~~*as well as offsetting options*~~ ***and its conclusions****."*

Comment Number:	ECCC-05
Subject:	Complexity and Uncertainty of Climate Change
Reference:	Section 4.4.5.3 Climate Change, pdf p. 77
Priority:	Low
Background/Rationale:	Section 4.4.5.3 describes climate change as a major environmental challenge and notes "*Climate change has added complexity and uncertainty to both predicting future conditions, as past conditions or trends may no longer be an accurate measure of what to expect in the future, and uncertainty in the reliability of project design, infrastructure, and mitigation strategies."* This sentence is confusing, and the ideas should be split up for clarity.
Recommendations to Address Issues:	ECCC recommends the ideas in the above sentence be split up for clarity. For example: "Climate change has added complexity and uncertainty to both predicting future conditions and in the reliability of project design, infrastructure, and mitigation strategies. Past conditions or trends may no longer be an accurate measure of what to expect in the future."

Comment Number:	ECCC-06
Subject:	Requirements for Climate Change Assessment
Reference:	Section 4.4.5.3 Climate Change, Table 12
Priority:	Low
Background/Rationale:	Table 12 (Requirements for Climate Change Assessment) is presented before it is referenced in the text. This means that, in its current location, the table lacks context, and it is difficult to link to the explanatory text. Table 12 has three parts: (i) greenhouse gases, (ii) impacts on valued components (VCs) and (iii) assessment of climate change resilience. Some of the content in the second part of Table 12 is repeated in the third section (e.g. "*Rationale for selection of climate models and associated scenarios, including an assessment of the degree of uncertainty or confidence associated with climate models and scenarios applied, and the related impact on other predictions in the Impact Statement"*). This repetition makes it hard to differentiate between these requirements (i.e., assessment of impacts of VCs versus assessment of climate change resilience).
Recommendations to Address Issues:	ECCC recommends Table 12 be presented in the Standard Impact Statement Guidelines after it is referenced, and some context is provided to link the table and the text.

	ECCC also recommends not repeating content within Table 12. This would reduce confusion between the different requirements for climate change assessment.

Comment Number:	ECCC-07
Subject:	Risks/Impacts from Climate Change
Reference:	Section 4.4.5.3 Climate Change, Table 12
Priority:	Medium
Background/Rationale:	The section on Assessing Project Climate Change Resilience in Table 12 states: *"Risks and/or impacts on the Project from climate change, including implications and considerations for project design, planning, construction, operations, and closure."* No guidance is provided on how risks or impacts are to be ranked or categorized. This is important to provide in order for the public and community members (non-scientists) to be able to assess and provide perspectives on the risks. ECCC notes the Strategic Assessment of Climate Change and associated technical guides provide some guidance for considering risks associated with climate change resilience, and notes there are other International Organization for Standardization standards that could be referenced as well.
Recommendations to Address Issues:	ECCC recommends guidance on how risks or impacts are to be ranked and categorized be included in the Standard Impact Statement Guidelines in order to allow the public and community members to assess and provide perspectives on the risks presented by the proponent.

Comment Number:	ECCC-08
Subject:	Identifying Project Impacts on Valued Components in the Context of Climate Change
Reference:	Section 4.4.5.3 Climate Change, pdf p. 78-79
Priority:	Medium
Background/Rationale:	Part b) of the Climate Change Assessment is "Identifying Project Impacts on Valued Components in the Context of Climate Change". This section is difficult to follow because it is not always clear how valued components (VCs) are being defined or considered. For example, this section states: *"The impacts of climate change on valued components, which may include but not be limited to:* • *Impacts of climate change on extreme meteorological events including flooding, storms, etc. and associated impacts to valued components (e.g., fish impacts due to coastal erosion from wave action);"* ECCC notes that changes in extreme meteorological events are not themselves VCs. The need to identify project-relevant climate

	parameters/hazards and their projected changes should come first. Evaluating their potential impacts on the project and thereby VCs would then follow. As another example, pdf page 79 states: *"How climate change has informed the proposed mitigation measures, particularly the resilience and/or adaptation of valued components to the impacts from the Project."* It is unclear from this bullet whether the Board is suggesting that adaptation or mitigation measures be applied to VCs. ECCC notes such measures would likely be applied to project components to protect VCs and ensure resilience. This should be clarified.
Recommendations to Address Issues:	ECCC recommends Part b) of the Climate Change Assessment (Identifying Project Impacts on Valued Components in the Context of Climate Change) be updated to state how VCs are being defined or considered.

Comment Number:	ECCC-09
Subject:	ECCC and Strategic Assessment of Climate Change
Reference:	Section 4.4.5.3 Climate Change, pdf p. 78-79
Priority:	Low
Background/Rationale:	In each of the three sections under 4.4.5.3, it is stated "*Proponents shall follow guidance from applicable authorizing agencies, such as Environment and Climate Change Canada*". It is unclear what is meant by "authorizing agency" here. As defined in the Standard Impact Statement Guidelines, "authorizing agencies" is "*A government agency, Designated Inuit Organization (DIO) or any other body that has the authority to issue a permit, lease, licence or grant approval to a Proponent to conduct some physical work or physical activity in relation to a project proposal and includes Regulatory Authorities as defined under NuPPAA*." ECCC is not an authorizing agency with respect to climate change, and there is no legal requirement to adhere to the methodology outlined in the Strategic Assessment of Climate Change (SACC). ECCC can provide guidance based on the Strategic Assessment of Climate Change and associated technical guides.
Recommendations to Address Issues:	Should the Board wish to include in the Standard Impact Statement Guidelines the methodology outlined in the SACC, then ECCC recommends the text related to "*Proponents shall follow guidance from applicable authorizing agencies, such as Environment and Climate Change Canada*" be updated to (additions in **bold** and deletions strikethrough): *"… Proponents shall follow guidance from applicable ~~authorizing~~ agencies, such as Environment and Climate Change Canada's* ***Strategic Assessment of Climate Change, and associated technical guides****."*

Comment Number:	ECCC-10
Subject:	Impacts of Climate Change
Reference:	Section 4.4.5.3, pdf p. 80
Priority:	Low
Background/Rationale:	The fourth bullet on this page states: "*How climate change could influence impacts that have a reasonable probability of occurrence and potential adverse effects if not managed, including how these may change over the temporal scope of the Project up to and including the closure phase".* ECCC notes this sentence includes the closure phase, but it may be prudent to also include the post-closure phase, because some projects may leave lingering effects on the environment that need to be accounted for. For example, the permafrost thaw could impact the integrity of sumps or deposits that were using permafrost as a barrier (e.g., Kokelj et al., 2010. Permafrost and terrain conditions at northern drilling-mud sumps: Impacts of vegetation and climate change and the management implications. DOI: 10.1016/j.coldregions.2010.04.009).
Recommendations to Address Issues:	ECCC recommends modifying the fourth bullet on pdf page 80 to include the post-closure phase, and the text be revised as follows (addition in **bold**): "*… including how these may change over the temporal scope of the Project up to and including the closure* ***and post-closure*** *phase."*

Comment Number:	ECCC-11
Subject:	Likely Routes of Release
Reference:	Section 4.5.4, pdf p. 98
Priority:	Medium
Background/Rationale:	Sub-bullets of the second bullet on the page outlines details on potential accidents and malfunctions. ECCC suggests the addition of the following accidents and malfunctions descriptive: "likely routes of release". This addition will augment the comprehension of all factors associated with accidents and malfunctions and how they may impact the surrounding environment. It will allow for a more complete assessment of the scenarios presented by the Proponent.
Recommendations to Address Issues:	ECCC recommends adding "likely routes of release" to the third sub-bullet as follows (addition in **bold**): "*Description of the source, quantity, mechanism, rate, form,* ***likely route of release,*** *and characteristics of contaminants and other materials (physical and chemical) that could potentially be released to the surrounding environment; and*".

Comment Number:	ECCC-12
Subject:	Management of Potential Accidents and Malfunctions
Reference:	Section 4.5.4, pdf p. 98
Priority:	Medium

Background/Rationale:	The fourth bullet on this page outlines details on the description of how each potential accident and malfunction would be managed and mitigated. The fourth sub-bullet states "*How these would differ by season/environmental conditions.*" ECCC notes the addition of examples may help the reader understand the intention of the sub-bullet's instruction/the type of information being sought. The third sub-bullet currently states: "*Clean-up or restoration work in the surrounding environment that would be required during, or immediately following the incident; and*". The sub-bullet should be modified to clarify what is meant by "work that would be required". ECCC also suggests adding a consideration for operational best practices (e.g., use of drip trays for stationary vehicles) as a sub-bullet under this bullet. Operational best practices would not necessarily be considered to be design safeguards, but also aren't contingency or emergency response measures. Nonetheless, they can contribute to how accidents and malfunctions may be mitigated and can minimize their impact.
Recommendations to Address Issues:	ECCC recommends adding examples to the fourth sub-bullet as follows (addition in **bold**): "*How these would differ by season/environmental* ***conditions (e.g., difficult weather conditions hindering response efforts, wildfires, climate change, etc.).***" ECCC recommends that the third sub-bullet be updated to clarify the wording as follows (addition underlined and deletions in strikethrough): "*Clean-up or restoration* ~~*work*~~ ***procedures that would be implemented*** *in the surrounding environment* ~~*that would be required*~~ *during, or immediately following the incident; and*" ECCC also recommends the addition of the following sub-bullet to understand further mitigation measures as operational best practices: "•Operational best practices (e.g. use of drip trays, scheduled vehicle maintenance)."

Comment Number:	ECCC-13
Subject:	Training Planned or Required for Response
Reference:	Section 4.5.4, pdf page 98
Priority:	Low
Background/Rationale:	The sixth bullet on this page states "*Discussion of any training planned or required for response;*". Training for accidents and malfunctions could also include prevention (e.g., safe fueling procedures, training on drip tray use) and preparedness (e.g., how to use equipment), in addition to response. When establishing a training regimen for a project, it is also important to consider the periodicity of training to ensure that all workers remain appropriately trained and maintain their skills over time.

Recommendations to Address Issues:	ECCC recommends the following modification to the sixth bullet to address details of training planned or required (additions in **bold**): "*Discussion of any training planned or required for **prevention, preparedness, and** response, **and the periodicity of the training regimen**;*"

Comment Number:	ECCC-14
Subject:	Closure and Reclamation Plan Updates
Reference:	Section 4.6.4, pdf page 107
Priority:	Low
Background/Rationale:	The first paragraph on this page describes the Closure and Reclamation Plan as "*a "living" document, with the level of detail to be revised to reflect the progress of the proposed project as well as changes in technology and/or standards or legislation. Future revisions should also consider input from engagements with communities and other stakeholders on methods to be used, and potential uses for project infrastructure, etc. which specifically state how these inputs are incorporated*." It is unclear whether there is any requirement for the proponent to provide updates to the Closure and Reclamation Plan at regular intervals.
Recommendations to Address Issues:	If there are standard requirements for the proponent to provide updates at regular intervals, ECCC recommends adding those requirements in section 4.6.4.

Comment Number:	ECCC-15
Subject:	Impact of Accidents and Malfunctions on the Ecosystemic Environment
Reference:	Appendix E, Table 22
Priority:	Low
Background/Rationale:	It is noted that considerations of accidents and malfunctions in the context of shipping are mentioned for Birds and Bird Habitat and Marine Wildlife. However, the scope of accidents and malfunctions should be broadened (e.g., also considering accidents and malfunctions arising from project operations, etc.) and should also be considered for the other relevant valued components that could be impacted.
Recommendations to Address Issues:	ECCC recommends broadening the scope of accidents and malfunctions beyond shipping and including consideration of accidents and malfunctions for all relevant valued components included in Table 22.

Comment Number:	ECCC-16
Subject:	Accidents and Malfunctions, Including Spills
Reference:	Appendix E, Table 22
Priority:	Low
Background/Rationale:	On pdf page 132, the first sub-bullet states "*Incidental spills, malfunctions, and other accidents*". On pdf page 134, the third bullet states "*Potential spills, malfunctions, and other accidents associated with shipping operations and any resulting impacts to marine wildlife, marine habitat and marine fish*." For both these instances, ECCC suggests revising the wording for clarity and consistency to align with the wording used in previous bullets (i.e., "accidents and malfunctions, including spills").
Recommendations to Address Issues:	For the first sub-bullet on pdf page 132, ECCC recommends replacing the sub-bullet with: "Accidents and malfunctions, including spills". For the third bullet on pdf page 134, ECCC recommends changing the wording to (additions in **bold** and deletions strikethrough): "***Accidents and malfunctions, including spills,*** ~~*Potential spills, malfunctions, and other accidents*~~ *associated with shipping operations and any resulting impacts to marine wildlife, marine habitat and marine fish*."

Natural Resources Canada

Natural Resources Canada (NRCan) is dedicated to ensuring that the country's natural resources are developed sustainably, competitively, and inclusively. Our policies and programs aim to enhance the natural resource sector's contribution to the economy and improve the quality of life for all Canadians. Through innovative science conducted in facilities across the country, we generate ideas and transfer technologies to support this goal.

NRCan provides expertise in various fields, including energy sources and distribution, forests and forestry, minerals and mining, earth science, energy efficiency, and science and data. Our review of impact statements for new projects draws on the knowledge and experience of the Geological Survey of Canada (GSC), CanmetMINING, the Explosives Regulatory Division, and the Climate Change Impacts and Adaptation Division. Additionally, we utilize the Open Science and Data Platform, which offers access to data, scientific publications, and information on development activities to help Canadians understand the cumulative effects of human activities and make informed decisions for the future.

NRCan would like to thank the NIRB for the opportunity to comment on the Revised Draft Standard Guidelines for the Preparation of an Impact Statement. In its review, NRCan provided a total of 34 comments, focusing on the department's areas of expertise. NRCan suggests that the guidelines could be made more adaptable or include an annex specific to certain types of projects, such as mineral extraction. This focus is reflected in several of the comments provided, especially for acid rock drainage and metal leaching (NRCan-24 -31).

While it is understood that the guidelines are intended to be a high-level document, Mine Environment Neutral Drainage (MEND) report (2009) recommends that the task of characterizing mined materials cover

all stages of mining and should be addressed as early as possible. Detailed mine waste characterization is crucial, particularly because the reliability predictions of source terms from mine material underpin the quality of impact assessment for the environment. If the NIRB finds these comments too detailed for the main document, NRCan recommends including them in either Table 21 or Table 22.

In addition to the above, please consult and consider other topics of relevance for a natural resource project from the link below:

https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/tailored-impact-statement-guidelines-projects-impact-assessment-act.html

NRCan – Permafrost

Comment Number:	NRCan-01
Subject:	Preparation of Impact Statement – Acquisition Methodology and Data Analysis (Scientific and Engineering Information)
Reference:	Section 3.1.1.1, pdf p. 34 (Scientific and Engineering Information)
Priority:	-
Background/Rationale:	For clarification and to ensure adequate information is provided it is suggested that Proponents include data obtained from existing sources (i.e. not collected by Proponent). Although the text refers to reliability, it is the accuracy and precision of the data collected (or measurements) that are the important parameters to include. Statements of uncertainty and potential error are also important aspects of reliability.
Recommendations to Address Issues:	To ensure that adequate information is provided it is suggested that in the introductory paragraph also include: • Description of existing sources of data utilized. • Provide the accuracy and precision of data collected/measurements made. • Include with reliability of results, the uncertainty and potential errors.

Comment Number:	NRCan-02
Subject:	Documentation
Reference:	Section 3.1.2, pdf p. 35, 2nd paragraph of section, 1st sentence
Priority:	-
Background/Rationale:	It should be clear that the documentation should be adequate enough to allow reviewers to trace the path from data through to impact identification. It is suggested that revision be made for clarification.
Recommendations to Address Issues:	It is suggested that sentence be revised to: "…. and justifiable and ensure the path from data through to impact identification is traceable."

Comment Number:	NRCan-03
Subject:	Use of Existing Information
Reference:	Section 3.1.3, pdf p. 36
Priority:	-
Background/Rationale:	When the Proponent uses information from other sources, it is important that reviewers have adequate information on the reliability of the data/information such as accuracy and precision of data/measurements made, and uncertainty in the analysis. It is suggested that a revision be made to include this clarification.
Recommendations to Address Issues:	It is suggested that an additional sentence be inserted after the first sentence on page 36: Information on the reliability of the information/data and results utilized including uncertainty.

Comment Number:	NRCan-04
Subject:	Description of Environment and Baseline Information – Gaps and uncertainties
Reference:	Section 4.4.4.2, pdf p. 34
Priority:	-
Background/Rationale:	For clarification it is important that information be included on precision and accuracy of the measurement systems utilized for reviewers to better understand the limitations of the data provided. A revision is suggested to include this clarification.
Recommendations to Address Issues:	It is suggested the first bullet be revised to include accuracy and precision of data used: • Adequacy of data used, including information on accuracy and precision of measurement systems utilized for data collection.

Comment Number:	NRCan-05
Subject:	Impact Prediction
Reference:	Section 4.4.5.1, pdf p. 38
Priority:	-
Background/Rationale:	When documenting assumptions of data collection and analyses it is important that this information is included for any data acquired from other sources. It is suggested that 3rd bullet on page 38 be revised to include this clarification.
Recommendations to Address Issues:	Revision suggested for 3rd bullet on page 38 • Document assumptions and limitation of data collection (including that collected by Proponent and acquired from other sources) and analyses,…….

Comment Number:	NRCan-06
Subject:	Impacts of Environment on the Project
Reference:	Section 4.4.5.2, pdf p. 38
Priority:	-
Background/Rationale:	It is unclear why the only reference to climate change is associated with sea ice and sea level (last bullet in list). Climate change can have impacts on some of the aspects of the biophysical environment mentioned in the rest of the bullets such as slope instability, permafrost, flooding etc. It is suggested that a separate bullet be provided to include impacts of climate change on the project. There is an error in the 1st bullet and it appears that reference was to be made to differential thaw settlement and/or frost heave. A revision is suggested to fix the error.
Recommendations to Address Issues:	It is suggested that the 1st bullet be revised: • Geotechnical hazards (including slope and underground instability, differential thaw settlement and/or frost heave, ice scour and seismic activity). It is suggested that the last bullet be revised to remove "climate change" and to add a new bullet for climate change.

Comment Number:	NRCan-07
Subject:	Identifying project impacts on valued components in the context of climate change
Reference:	Section 4.4.5.3, pdf p. 41-42 (b. Identifying project impacts)
Priority:	-
Background/Rationale:	It isn't just the selection of climate models that is important but also the selection of the models utilized to predict the impact of climate change (and the project) on the valued components. These models will have uncertainties and limitations and it is important that reviewers have adequate information on these models. It is suggested that the 1st bullet on the bottom of p. 41 (in section b) be revised to include this clarification. There appears to be an error in the 3rd main bullet in the upper part of p. 42 and a revision is suggested to fix the error.
Recommendations to Address Issues:	A revision is suggested for the 1st bullet on page 41: • The rationale for the selection of climate models and associated scenarios, and models used to predict climate change impacts on valued components, including associated uncertainties related to climate change predictions and the impacts on valued components; A revision is suggested for the 3rd main bullet on page 42 (remove ";" between "valued" and "components"):

	• …… climate change to valued components and proposed mitigations…..
Comment Number:	NRCan-08
Subject:	Identification of valued components, systems
Reference:	Section 4.5.1.1, pdf p. 55
Priority:	-
Background/Rationale:	It is unclear why "climate change" is included in this bullet list which outlines the valued components. Change in the atmospheric system is already included in the "Climate and Meteorology" valued component. Change is also considered in the description of the other valued components listed. It is suggested that "climate change" be removed from the list. Note also that Table 21 in Appendix E does not include climate change in the list of valued components and change is considered within the climate and meteorology valued component.
Recommendations to Address Issues:	It is suggested that "climate change" be removed from the bullet list on page 55 as it is covered within the "climate and meteorology" valued component.

Comment Number:	NRCan-09
Subject:	Baseline and impact considerations relating to ecosystemic environment
Reference:	Appendix E, Section 4.9 Table 21, pdf p. 80 (Permafrost)
Priority:	-
Background/Rationale:	In the first sub bullet under Permafrost, it is unclear why ice lenses are mentioned given reference has already been made to high ice-content soils. Ice lenses refer to only one type of ground ice and there are other forms such as ice-wedges and massive bodies of ice (e.g. buried glacier ice). A revision is suggested for clarification and to be more inclusive. The 2nd sub bullet under Permafrost should be revised for clarification and specifically refer to ground temperature. The 3rd sub bullet refers to permafrost and talik configuration. An important thing to determine is the overlap of the mine (open pit and underground) with permafrost and taliks as this will determine whether water flow into the mine is significant. A revision is suggested to ensure that it is clear that this needs to be considered in impact analysis.
Recommendations to Address Issues:	Revision is suggested for 1st sub bullet under Permafrost bullet: "…..high ice-content soils including areas with massive ice, thaw-sensitive……" Revision is suggested for 2nd sub bullet under Permafrost bullet: "Ground temperature at areas planned…." Revision suggested for 3rd sub bullet under permafrost:

	"…. Permafrost and talik configuration in the development areas (including overlap with open pit and underground mines) and adjacent water bodies….."

Comment Number:	NRCan-10
Subject:	Baseline and impact considerations relating to ecosystemic environment
Reference:	Appendix E, Section 4.9 Table 21, pdf p. 81 (Geology)
Priority:	-
Background/Rationale:	The 1st bullet for geology refers to "surface geology". However, a more correct term is "surficial geology" which includes unconsolidated sediments. For clarification reference to permafrost occurrence and its thermal and ground ice conditions would be better to use than the text provided. Revisions are suggested for the text for clarification and to ensure that permafrost conditions in bedrock and unconsolidated sediments are considered.
Recommendations to Address Issues:	Revisions are suggested for the 1st bullet under Geology: • Bedrock lithology, morphology, surficial geology, landform, and soils (including occurrence of permafrost and its thermal and ground ice conditions) at proposed borrow…….

Comment Number:	NRCan-11
Subject:	Baseline and impact considerations relating to ecosystemic environment
Reference:	Appendix E, Section 4.9 Table 21, pdf p. 81-82 (Groundwater)
Priority:	-
Background/Rationale:	Taliks can occur adjacent to and beneath large water bodies (lakes and rivers). The text in the 3rd main bullet for Groundwater refers to lake taliks and is restrictive and it is suggested that the text be more inclusive to ensure that relevant factors are considered in the impact assessment.
Recommendations to Address Issues:	Revision is suggested for the 3rd bullet under Groundwater for clarification and to be more inclusive: • …..permafrost, taliks beneath and adjacent to waterbodies such as lakes and rivers, potentiometric……..

Comment Number:	NRCan-12
Subject:	Impact Assessment Considerations Ecosystemic Environment
Reference:	Appendix E, Section 4.9, Table 22, pdf p. 89 (Terrestrial Environment)
Priority:	-
Background/Rationale:	The 4th bullet on page 89 has an error and an editorial revision is required. It is also not clear in this bullet why reference is made specifically to "ice lenses" as well as high ice-content soils. Ice lenses are just one form of ground ice (see earlier comment, #9) and is restrictive. A revision is suggested for clarification and to be more inclusive to ensure all types of ground ice are considered.

	Reference is made to thermal stability in the 5th bullet on page 89. However, the physical stability is also important for integrity of infrastructure and facilities. Revisions are required for clarification and to ensure both aspects of stability are considered. It is unclear if the 6th bullet on page 89 is meant to refer to permafrost changes associated with mine waste management facilities (tailings and waste rock) that aren't necessarily in mined out pits. Surface and subaqueous disposal may also be used for mine waste disposal. Permafrost change will be a consideration for these facilities and any water management structures such as dams and dykes for waste or water impoundment or berms used to ensure contact water does not interact with surface water. To ensure that permafrost is considered in the design of these facilities and the assessment of impacts the text should be revised for clarification.
Recommendations to Address Issues:	It is suggested that the 4th bullet on page 89 be revised: • Implications to the Project planning and design of project components related to terrain conditions, in particular permafrost, sensitive landforms, high ice-content soils (including occurrence of massive ice) thaw-sensitive slopes, and talik zones. It is suggested that the 5th bullet on page 89 be revised: • Potential impacts on the stability of terrain (thermal and physical), in the vicinity of facilities and infrastructure due to the thawing of…….. It is suggested that the 6th bullet on page 89 be revised: • Assessment and prediction of permafrost behaviour (degradation and its rate) beneath the pits during mining and operation of in pit, surface and subaqueous mine waste management facilities (tailings and waste rock) including all dams, dykes and berms associated with these facilities. Long-term predictions of the thermal regime around mine waste management facilities should be conducted with the consideration of climate change.

Comment Number:	NRCan-13
Subject:	Impact Assessment Considerations Ecosystemic Environment
Reference:	Appendix E, Section 4.9, Table 22, pdf p. 89 (Geology)
Priority:	-
Background/Rationale:	The bullet under Geology on page 89 refers to seasonal subsidence. However, it isn't just seasonal subsidence and heave that are important with respect to hazards and foundation stability. Long-term subsidence is also important and should be considered in the impact assessment. It is

	suggested that the text be revised to ensure the role of long-term subsidence is considered in the impact assessment.
Recommendations to Address Issues:	It is suggested that the bullet under Geology on page 89 be revised: • Potential geotechnical and geophysical hazards within the Project area and impacts on foundation stability, including potential for seasonal and long-term subsidence, seismicity and……

NRCan – Hydrogeology

Comment Number:	NRCan-14
Subject:	Maps of project phases
Reference:	Sections 3.1, 4.1.3, 4.1.6.1, 4.1.6.2, 4.2.3.2, 4.2.6, Appendix B
Priority:	-
Background/Rationale:	Maps of key project development phases including closure are needed for meaningful engagement and assessment.
Recommendations to Address Issues:	Stated sections specify the need to present maps. However, it is not clearly stated which project development phases need to be mapped. NRCan suggests stating these explicitly. With respect to Groundwater, NRCan recommends the inclusion of maps depicting the project for the Operations and Closure phases.

Comment Number:	NRCan-15
Subject:	Submission requirements
Reference:	Section 4.1, pdf p. 38-44)
Priority:	-
Background/Rationale:	The submission requirements do not mention technical reports. Reviewers and stakeholders rely on technical reports to assess the proponent's summaries of baseline conditions, impact assessments as well as follow-up and monitoring programs. Technical reports are an integral part of an Impact Statement. Their inclusion in the submission requirements is warranted. Note that Appendix A, Conformity table, is currently blank.
Recommendations to Address Issues:	Section 4.1, Table 2. After "Summaries" add another entry entitled "Technical reports". The following text can serve as a descriptor in Table 2. "Technical reports are separate documents that provide the detailed technical information and analysis used to describe baseline conditions, to provide impact assessments for each valued component and system, and to evaluate mitigation measures, significance of residual impacts, and follow-up and monitoring programs." A short additional section (4.1.7) could also be added to describe the general content requirements of technical reports.

Comment Number:	NRCan-16
Subject:	Baseline and Impact Assessment considerations
Reference:	Appendix E, Section 4.9, Tables 21 and 22, pdf p. 79
Priority:	-
Background/Rationale:	NRCan has previously participated in a similar process of developing Standard Guidelines for the Impact Assessment Agency of Canada (IAAC). The current Appendix E tables (21 and 22) list considerations (i.e., factors to consider), but little direction in how they should be considered (e.g., there are few verbs indicating what is expected in these considerations).
Recommendations to Address Issues:	NRCan recommends providing more detailed guidance for baseline and Impact Assessment considerations. See section, 8.6 Groundwater and surface water, of the Tailored Impact Statement Guidelines Template.

Comment Number:	NRCan-17
Subject:	Baseline considerations, Groundwater
Reference:	Appendix E, Section 4.9, Table 21, pdf p. (Groundwater)
Priority:	-
Background/Rationale:	In general, all the groundwater bullets apply to the RSA and LSA.
Recommendations to Address Issues:	Either delete “Hydrogeology of the RSA and LSA:” or put all the bullets under this heading.

Comment Number:	NRCan-18
Subject:	Baseline considerations, Groundwater
Reference:	Appendix E, Section 4.9, Table 21, pdf p. 81-82 (Groundwater)
Priority:	-
Background/Rationale:	The current list of baseline considerations mixes different concepts and data types and does not follow a logical sequence. The recommendations add some important details and some missing elements (e.g., baseline monitoring, conceptual model) in a more logical sequence.
Recommendations to Address Issues:	Following the Board’s approach for generalized and concise guidelines, here is a list of suggested baseline condition considerations for the Groundwater valued component. Hydrogeology of the RSA and LSA: • Springs, domestic, communal, and municipal wells. • Baseline groundwater monitoring and characterization program. • Characterization of hydrostratigraphic units in sediments and bedrock including their hydraulic properties, thickness, and distribution. • Characterization of fault and fracture zones, their orientations, and effects on groundwater flow. • Groundwater level fluctuations. • Piezometric maps for aquifers with groundwater flow directions.

	• Hydrostratigraphic cross-sections with potentiometric contours and groundwater flow directions. • Influence of active layer, talik and permafrost distributions on hydraulic properties, groundwater flow and groundwater-surface water interactions. • Delineation and characterization of groundwater-surface water interactions. • Physicochemical parameters, chemical and isotopic constituents of groundwater. • Conceptual model of the hydrogeologic environment. • A 3-D numerical groundwater model for baseline conditions to quantify a groundwater budget, groundwater flow directions, fluxes, travel times and groundwater-surface water interactions. • Interactions of groundwater with other valued components.

Comment Number:	NRCan-19
Subject:	Impact Assessment considerations, Groundwater
Reference:	Appendix E, Section 4.9, Table 22, pdf p. 90 (Groundwater)
Priority:	-
Background/Rationale:	The current list of impact assessment considerations is missing some elements (e.g., water management plan) and relevant details. A recommended list is provided below.
Recommendations to Address Issues:	Following the Board's approach for generalized and concise guidelines, here is a list of suggested impact assessment considerations for the Groundwater valued component. • Water management plan including predicted water flows/budget (e.g., inflows, withdrawals, discharges, diversions, process water) for all Project phases. • Potential changes to groundwater-surface water interactions. • Potential changes to groundwater flow (levels, fluxes, direction, flow paths, temperatures, or budget) or quality resulting from Project works or activities (e.g., dewatering, pumping, underground works, tailings, water use, water discharge, stream diversion). • Potential changes to groundwater flow or quality resulting from changes to permafrost, ground ice, talik and active layer conditions (by Project activities and climate change). • Potential changes to permafrost, ground ice, talik and active layer conditions due to changes in groundwater and surface water conditions. • A 3-D numerical groundwater model for operations and closure conditions to identify and quantify changes in groundwater levels, flow directions, fluxes, travel times, budget, and groundwater-surface water interactions.

	• Contaminants of potential concern from the Project, description of their sources, flow paths and predicted changes in groundwater concentrations with time and location. • Potential impacts of faults on contaminant transport and groundwater quality. • Identify and assess potential groundwater quantity and quality impacts on groundwater receptors (e.g., surface water, wetlands, wells) and other valued components. • Potential cumulative impacts to groundwater and surface water quantity and quality. • Proposed groundwater monitoring program. • Management measures to identify, monitor, minimize and mitigate impacts to groundwater and other valued components.

NRCan – Hazards

Comment Number:	NRCan-20
Subject:	Impact Assessment considerations, Seismic Hazard Related
Reference:	Section 4.4.5.2, Table 11, pdf p. 75
Priority:	-
Background/Rationale:	The seismic hazard of Nunavut ranges from low to high. The high hazard regions in the northeast have experienced large offshore earthquakes (e.g., 1933 M7.3 off Baffin Island). Due to these large offshore events, Tsunami hazards will need to be considered in this area.
Recommendations to Address Issues:	Table 11 - under “Geotechnical hazards (including slope and underground instability/landslides, differential or thaw settlement, frost heave, ice scour and seismic activity)” should include a reference to “potential tsunami hazards for coastal regions”.

Comment Number:	NRCan-21
Subject:	Impact Assessment considerations, Seismic Hazard Related
Reference:	APPENDIX E: BASELINE AND IMPACT CONSIDERATIONS Baseline and Impact Assessment Considerations Relating to the Ecosystemic Environment Table 21, Terrestrial Environment, pdf p. 117
Priority:	-
Background/Rationale:	The seismic hazard of Nunavut ranges from low to high. The high hazard regions in the northeast have experienced large offshore earthquakes (e.g., 1933 M7.3 off Baffin Island). Due to these large offshore events, Tsunami hazards will need to be considered in this area.
Recommendations to Address Issues:	Table 21 - under “Terrestrial Environment” should include a reference to “potential tsunami hazards for coastal regions”.

Comment Number:	NRCan-22
Subject:	Impact Assessment considerations, Seismic Hazard Related
Reference:	APPENDIX E: BASELINE AND IMPACT CONSIDERATIONS Baseline and Impact Assessment Considerations Relating to the Ecosystemic Environment Table 22, Geology, pdf p. 126-127
Priority:	-
Background/Rationale:	The seismic hazard of Nunavut ranges from low to high. The high hazard regions in the northeast have experienced large offshore earthquakes (e.g., 1933 M7.3 off Baffin Island).
Recommendations to Address Issues:	Table 21 - under "Geology" should include a request for "mitigation measures" to be applied and an indication of the codes and standards that will be applied to mitigate the impacts of seismic events and related effects.

Comment Number:	NRCan-23
Subject:	Impact Assessment considerations, Hazards
Reference:	APPENDIX E: BASELINE AND IMPACT CONSIDERATIONS Baseline and Impact Assessment Considerations Relating to the Ecosystemic Environment Table 22, Geology, pdf p. 126-127
Priority:	-
Background/Rationale:	Landslides resulting from the project activities are considered.
Recommendations to Address Issues:	Table 21 - under "Geology" should include a request for "mitigation measures" to be applied for landslides resulting from project activities.

NRCan – Acid Rock Drainage and Metal Leaching

Comment Number:	NRCan-24
Subject:	Sample representativeness
Reference:	Section 3.1.1.1
Priority:	-
Background/Rationale:	Scientific and Engineering Information This section indicates that "Data collection, sampling process, and data analysis methods, as well as use of proper experimental and analytical controls, must be clearly identified and justified." It then provides some requirements for the data and results generated. In terms of sampling, this section requires justification of sample size. There is no requirement for the justification of number of samples, sample selection, or sample source. Without this information, it will be difficult for the proponent and regulators to evaluate the completeness and representativeness of the sampling strategy.
Recommendations to Address Issues:	NRCan recommends that the requirement to justify the number of samples, their selection, and their source be added to the list of requirements itemized under section 3.1.1.1. Follow Chapter 8 of the Impact Assessment Agency of Canada's Tailored Impact Statement Guidelines template.

Comment Number:	NRCan-25
Subject:	Clarity on mine waste characterization
Reference:	Section 4.1.3
Priority:	-
Background/Rationale:	Main document As presented, the guidelines request that predicted changes to the ecosystemic and socio-economic environments and predicted impacts to the valued components and systems impacts be provided. There is no expectation regarding the characterization of excavated geological material (i.e. overburden, waste rock and pit walls) and processed waste (i.e. tailings), generally called source term. The quality of the predicted impacts and changes to the ecosystems and valued ecosystem component depends on the quality of the metal leaching and acid rock drainage (ML/ARD) characterization of the source term.
Recommendations to Address Issues:	Add a bullet: Characterize the ML/ARD potential for all excavated material ((i.e. overburden, ore, waste rock and pit walls) and processing waste (i.e. tailings) following appropriate guidance such as MEND 1.20.1 Predictive manual or the GARD guide.

Comment Number:	NRCan-26
Subject:	Data consistency
Reference:	Section 4.1.5, pdf p. 5
Priority:	-
Background/Rationale:	Presentation An issue that often arises in Impact Statement reports is that the data presented in tables is not accompanied with sufficient metadata to identify how the data was generated, which sample(s) is associated with, and how it correlates to data presented in figures.
Recommendations to Address Issues:	NRCan recommends that the data presented in tables is consistent with figures and corresponding datasets. It should also be made clear how the data was obtained and the sample it is associated with.

Comment Number:	NRCan-27
Subject:	Highlighting mine material with Potential ML/ARD
Reference:	Section 4.1.6.1, pdf p. 5
Priority:	-

Background/Rationale:	Executive summaries As currently presented, the executive summary will provide highlights of potential impacts and their mitigation. It does not ask to provide which mine material may generate ML/ARD, which is important information to provide in the executive summary. It is also important that readers are aware that not all excavated material and processing waste may be problematic as some can be used for road constructions, dams, etc...
Recommendations to Address Issues:	Insert a bullet that provides the geological formations and mine processing waste that may be generating ML/ARD and the material that does not. The executive summary would then indicate what mitigation measures are to be implemented to manage the identified problematic waste.

Comment Number:	NRCan-28
Subject:	Characterization of stressors
Reference:	Section 4.3.1, pdf p. 13
Priority:	-
Background/Rationale:	Project design Section 4.3.1 Project design is not explicit about identifying the source of contamination and physical disturbance. It is important to provide adequate guidance to the proponent so that all sources of contamination (i.e. ML/ARD) on the site.
Recommendations to Address Issues:	NRCan recommends adding a bullet: Characterize the ML/ARD potential for all excavated material ((i.e. overburden, ore, waste rock and pit walls) and processing waste (i.e. tailings) following appropriate guidance such as MEND 1.20.1 Predictive manual or the GARD guide.

Comment Number:	NRCan-29
Subject:	Clarity on mine waste characterization
Reference:	Section 4.4.3.1, pdf p. 28
Priority:	-
Background/Rationale:	Valued Ecosystemic and socio-economic component The document should provide specific guidance on how to characterize physical disturbance and contamination. This is basic to determine any impact on valued ecosystem components.
Recommendations to Address Issues:	NRCan recommends that more clarity is presented regarding the identification of project components such as potentially acid generating

	and non-acid generating waste rock, overburden, ore, pit walls and tailings and sludge. The document should also provide an explanation on how adequate source term characterization (i.e. following appropriate guidance such as MEND 1.20.1 Predictive manual or the GARD guide) will help boosting confidence in predicted impacts and their associated mitigation measures.

Comment Number:	NRCan-30
Subject:	Clarity on mine waste characterization
Reference:	Section 4.4.5, pdf p. 34-35
Priority:	-
Background/Rationale:	Impact assessment approach Section 4.4.5 is not explicit about identifying the source of contamination and physical disturbance. It is important to provide adequate guidance to the proponent so that all sources of contamination (i.e. Metal Leaching and Acid Rock Drainage) are identified on the site.
Recommendations to Address Issues:	NRCan recommends adding a bullet below the first bullet regarding baseline: Characterize the ML/ARD potential for all excavated material ((i.e. overburden, ore, waste rock and pit walls) and processing waste (i.e. tailings) following appropriate guidance such as MEND 1.20.1 Predictive manual or the GARD guide.

Comment Number:	NRCan-31
Subject:	Guideline recommendation
Reference:	Section 4.4.4 and Table 21 in Appendix E, pdf p. 81
Priority:	-
Background/Rationale:	Ecosystemic baseline conditions Representative sampling combined with appropriate characterization methods are essential for adequate and meaningful baseline geological characterization. The quality of this characterization work will underpin the reliability of any predictions of contaminant mobilization from disturbed geological material. It is therefore important that studies within the Impact Statement follow best practice guidelines in terms of study design and execution.
Recommendations to Address Issues:	NRCan recommends that the Standard Guidelines includes references to guidelines on the preparation of geochemical characterization studies. The guidelines that NRCan recommends are MEND 1.20.1 Predictive manual or the GARD guide.

NRCan – Climate Change Adaptation

Comment Number:	NRCan-32
Subject:	Reference – Climate Change Adaptation
Reference:	Canada's Changing Climate Report 2019, Section 4.4.5.3 Climate Change, pdf p. 40
Priority:	-
Background/Rationale:	In-text there is a reference to the Canada's Changing Climate Report (2019) but in the Literature cited list, the full reference is for the Canada in a Changing Climate: Synthesis Report.
Recommendations to Address Issues:	Recommend updating the full reference in the Literature Cited section to: Bush, E. and Lemmen, D.S., editors (2019): Canada's Changing Climate Report; Government of Canada, Ottawa, ON. 444 p.

Comment Number:	NRCan-33
Subject:	Climate Change Adaptation
Reference:	Canada's Changing Climate Report 2019, Section 4.4.5.3 Climate Change, pdf p. 39, Table 12
Priority:	-
Background/Rationale:	In table 12, Identifying GHG Emissions and Project Impacts to Climate Change Commitments, it lists "Impact on carbon sinks, both positive and negative." Many carbon sinks also act as carbon sources in cycles (forests for example).
Recommendations to Address Issues:	Suggest revising to "Impact on carbon sinks **and sources**, both positive and negative."

Comment Number:	NRCan-34
Subject:	Climate Change Adaptation
Reference:	Section 4.4.5.3 Climate Change, pdf p. 39, Table 12
Priority:	-
Background/Rationale:	In Table 12, Identifying Project Impacts on Valued Components in the Context of Climate Change, it lists "Where interactions occur with the project, an incorporation of climate change uncertainty into the assessment...". NRCan believes this is referring to the uncertainty associated with climate change models and scenarios, but this is not entirely clear here.
Recommendations to Address Issues:	Suggest revising to "Where interactions occur with the project, an incorporation **of considerations related to climate scenario and model** uncertainty into the assessment..."