



September 20, 2024

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Via Email : dfiliatrault@nirb.ca

Government of Canada Response to NIRB Call for Information Requests on Baffinland Iron Mines Corp.'s "Sustaining Operations Proposal 2" Project Proposal [NIRB File No. 08MN053, Project No. 125893]

Dionne Filiatrault,

On August 19, 2024, the Nunavut Impact Review Board (the Board) issued its Conformity Determination for Baffinland Iron Mines Corp.'s (Baffinland) Impact Statement Addendum for the "Sustaining Operations Proposal 2" (SOP2) Project Proposal and Notice of Commencement of the Technical Review Period.

The Board requested that the Impact Statement Addendum submitted by Baffinland be reviewed and parties provide the Board with Information Requests (IRs) directed to Baffinland and/or other parties involved in the assessment of the SOP2 Project Proposal.

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), Fisheries and Oceans Canada (DFO), Health Canada (HC), and the Parks Canada Agency (PC). Please find enclosed the Government of Canada's Information Requests.

Espoo Convention

The Government of Canada, following discussions with the Governments of Greenland and Denmark, supports the application of the *Convention on Environmental Impact Assessment in a Transboundary Context* (Espoo Convention) for the Mary River SOP2 Project Proposal.

The Government of Canada has previously shared remarks on the assessment of transboundary impacts and activities, and the Espoo Convention, with the Board (Public Registry Identification 337624). As previously indicated, it is the Government of Canada's view that the Board and the responsible Ministers have broad authority to assess and regulate activities carried out beyond the designated area that have a connection with the designated area, for instance if they have the potential to cause impacts to the designated area.

Information requests ECCC-02 and DFO-03 set out additional information that, in the Government of Canada's view, is required to ensure the appropriate assessment of transboundary impacts for the SOP2 Project Proposal.



The Government of Canada has shared excerpts of the Impact Statement Addendum relating to transboundary impacts with the Governments of Greenland and Denmark, who support the Government of Canada's Information Requests and who have provided the Government of Canada with the attached correspondence, dated September 9, 2024, which is being shared with the Board.

The Government of Canada will work with Baffinland, the Board, and the Governments of Greenland and Denmark to ensure obligations under the Espoo Convention are met.

Closing

The Government of Canada looks forward to continued participation in this assessment process. If you have any questions about the information outlined in this letter, please contact me at melissa.alexander@cannor.gc.ca.

Nakurmiik, Koana, Mat'na

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Encl.

Cc Spencer Dewar, A/Regional Director General, Nunavut, Crown-Indigenous Relations and Northern Affairs Canada

Nicole Cote, Director General, Environmental Protection Operations Directorate,
Environment and Climate Change Canada

Thomas Hoggarth, Regional Director of Aquatic Ecosystems, Arctic Region, Fisheries and
Oceans Canada

Greg Carreau, Director General, Safe Environments Directorate, Healthy Environments
and Consumer Safety Branch, Health Canada

Jenna Boon, Field Unit Superintendent, Nunavut, Parks Canada



Appendix A

General Government of Canada Request

IR Identifier:	GC-01
IR Directed To:	Proponent
Subject:	Proponent's commitment to incorporate changes to the assessment of cumulative effects in the SOP2 amendment application
Reference:	Baffinland Concordance Table, August 2, 2024. Baffinland Sustaining Operations Proposal, August 2, 2024. NIRB Guidelines for the Preparation of an Environmental Impact Statement for Baffinland Iron Mines Corporation's Mary River Project, October 6, 2015. NIRB Cumulative Effects Assessment Framework Workshop Report in relation to Baffinland Iron Mines Corporation's Mary River Project, April 8, 2024.
Issue/Concern:	The Proponent made several commitments at the February 19-20, 2024, Cumulative Effects Assessment Framework Workshop, to address concerns raised regarding previous cumulative effects assessments. Among other things, the Proponent committed to extend temporal scope to include post-closure monitoring (after all operations have ceased and remediation has been completed), acknowledge the range of mobile wildlife stocks, expand the list of Valued Components (VCs) assessed, and assess cumulative effects for all VCs regardless of predicted SOP2 residual effects. The large volume of submitted SOP2 material makes it difficult to confirm how the Proponent fulfilled its commitments made at the Cumulative Effects Assessment Framework Workshop. Appreciating the information provided in the concordance table, as well as the IS Addendum Main Document (e.g., Table 6.6, section 6.11, and sections for VC-specific assessments of cumulative effects), it is not always clear how specific commitments were addressed. Further, for certain VCs, summary information is confusing as to whether the Proponent assessed the significance of cumulative effects for those VCs or rather the significance of SOP2's contribution to cumulative effects for those VCs.
Information Request:	GC requests that the Proponent provide a brief Memo containing further details on the introduced changes in the assessment of cumulative effects made to fulfill the commitments made at the Cumulative Effects Assessment Framework Workshop.



Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

IR Identifier:	CIRNAC-01
Document Location:	Baffinland Final Environmental Impact Statement (FEIS) Addendum Main Document <i>Mary River Project – Sustaining Operations Proposal 2</i>, August 2024 Version: - Section 5.0 Management Plans - Section 6.7 Mitigation and Management Measures - Section 2.2. Summary of SOP2 proposal scope - Interim Closure Reclamation Plan - Life of Mine Waste Rock Management Plan - Phase 1: Waste Rock Management Plan - Surface Water Aquatic Effects Management Plan
IR Directed to:	Proponent
Subject:	Effects Assessment
Reference:	Baffinland FEIS Addendum Main Document <i>Mary River Project – Sustaining Operations Proposal 2</i>, August 2024 Version: - Section 5.0 Management Plans - Section 6.7 Mitigation and Management Measures - Section 2.2. Summary of SOP2 proposal scope - Interim Closure Reclamation Plan - Life of Mine Waste Rock Management Plan - Phase 1: Waste Rock Management Plan - Surface Water Aquatic Effects Management Plan
Issue/Concern:	In the summary of the Proponents SOP2 submission, Section 2.2 Summary of SOP2 Proposal Scope, it is indicated that the SOP2 activities “represent no material change to the scope of the Proponent’s operations as approved since 2018, but do reflect additional and on-going adaptive management measures that have been integrated into the project, many in direct response to concerns raised through regulatory and ongoing operational activities”. Further to this, Section 5.0 Management Plans and Management Measures explains that the SOP2 management plans are only reflective of the most up to date management plan available at this time. In Section 6.7, it is further explained that additional new mitigative commitments were developed for SOP2; however, it is understood that these new mitigations associated with SOP2 are not illustrated within draft management plan updates. Rather, the mitigation commitments are consolidated under the value component assessment sections 7-11 under the VC assessment. It is not clear in these sections what new mitigation commitments are being made that are necessitated due to the additional effects created by SOP2 activities. The presentation of SOP2 related mitigations may not be sufficient for reviewers to understand additional management, monitoring, reporting and/or mitigation that will be integrated into the project in response to the SOP2. In addition, the effects assessment lacked some technical data or modelling details so that reviewers can evaluate the findings of potential project effects that are attributed to the activities of SOP2.



Information Request:	CIRNAC requests the following details to be shared, to support the technical review for SOP2: 1. Clarification of new mitigation commitments related to predicted SOP2 project effects. It is preferred that these are presented within draft management plan updates. 2. Additional information to understand the predicted SOP2 project effects related to the following technical data, information and/or modelling: Interim Closure and Reclamation Plan (ICRP) - A description of the progressive sequence and placement of waste rock, based on SOP2 Mine Plan. - Waste Rock Stockpile Water Quality Modelling to predict As, Cu, Pb, Ni and Zn concentrations, based on the SOP2 rate or production. - Current aerial photos - Contact Water Quality predictions using current mine monitoring data (rather than only modeled data) - Climate change model for permafrost as sole mitigation strategy with current understanding of climate change impacts in the Arctic Life of Mine Waste Rock Management Plan - Description of waste rock volume estimations and PAG identification approach so that long term waste rock management can be understood based on the SOP2 rate of production, in alignment with the Phase 1 Waste Rock Management Plan (WRMP). - An update for waste rock placement strategy to correspond to strategy presented in the ICRP and Phase 1 WRMP Phase 1: Waste Rock Management Plan - Explain how the Waste Rock Facility component pathways of potential effect were analyzed (e.g., model evaluation) relative to the SOP2 rate of production, and how this analysis led to the waste rock facility exclusion in Table 6.2 Scoping of Potential Interaction and Effects of SOP2. - Provide 2023/2024 thermal evaluation and monitoring annual datasets for the WRF and include the associated climate change model (data, assumptions). Surface Water and Aquatic Ecosystem Management Plan - Provide a current / updated version to clarify monitoring station locations.
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IR Identifier:	CIRNAC-02
Document Location	- Baffinland FEIS Addendum Main Document <i>Mary River Project – Sustaining Operations Proposal 2</i>, Section 2.3.1.2 - Interim Closure & Reclamation Plan, October 30, 2018 Version
IR Directed to:	Proponent
Subject:	Mine Schedule and Closure Planning
Reference:	- Baffinland FEIS Addendum Main Document <i>Mary River Project – Sustaining Operations Proposal 2</i>, Section 2.3.1.2 - Interim Closure & Reclamation Plan, October 30, 2018 Version
Issue/Concern:	The Interim Closure & Reclamation Plan (ICRP) submitted for SOP2 indicates the date of mine closure is in 2039. In contradiction to this, the IS Addendum indicates that closure will commence in 2051 (Section 2.3.1.2, PDF pg., 45). The current schedule of Project phases and temporal bounds for the Mary River Project relative to the SOP2 is not clear.
Information Request:	CIRNAC requests that the Proponent: 1. Confirm the intended date of closure for the Mary River Project, and under what review process the date of closure was approved. 2. Confirm if the intended date of closure represents a temporal difference relative to the existing approved scope of operations for the Mary River Project. 3. If the intended date of closure is 2051, please confirm that the effects assessment (including models that may be used for predictions) encompasses 2051 for the time horizon assumptions.

IR Identifier:	CIRNAC-03
Document Location:	Example references (not limited to): - Phase 1 Waste Rock Management Plan – BAF-PH1-830-P16-0029, Rev 4.1 (e.g., Fig.8, 5.6, Appendix A1 Fig. 3, 8, 14) - Phase 1 Waste Rock Management Plan PT4-IA2E (e.g., Fig. 5-8, 11, 14, 15; Appendix A Fig. 1, 2; Appendix B Fig. 0, 2, 3, 4, 6, 7, 8) - Interim Closure and Reclamation plan – BAF-PH1-830-P16-0012, Revised Draft – Rev 5 (e.g., Fig. 9.3, 9.4)
IR Directed to:	Proponent
Subject:	Figure Quality
Reference:	Example references (not limited to): - Phase 1 Waste Rock Management Plan – BAF-PH1-830-P16-0029, Rev 4.1 (e.g., Fig.8, 5.6, Appendix A1 Fig. 3, 8, 14) - Phase 1 Waste Rock Management Plan PT4-IA2E (e.g., Fig. 5-8, 11, 14, 15; Appendix A Fig. 1, 2; Appendix B Fig. 0, 2, 3, 4, 6, 7, 8) - Interim Closure and Reclamation plan – BAF-PH1-830-P16-0012, Revised Draft – Rev 5 (e.g., Fig. 9.3, 9.4)
Issue/Concern:	Many figures throughout the SOP2 submission, such as those identified in the reference above, are unreadable. These figures have a low resolution hindering readability and interpretation.



Information Request:	CIRNAC requests that the Proponent review the documents identified in the reference above and provide a replacement for any low-resolution figures. It is requested that resolution quality allow for label and data legibility.
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Environment and Climate Change Canada (ECCC)

IR Identifier:	ECCC-01
Document Location:	Mary River Project – Sustaining Operations Proposal 2: IS Addendum Main Document - Section 7 Atmospheric Environment
IR Directed to:	Proponent
Subject:	Air Emissions at Milne Port
Reference:	Mary River Project – Sustaining Operations Proposal 2, Section 1.4 Scope of Requested SOP2 Amendment to Project Certificate Mary River Project – Sustaining Operations Proposal 2, Section 2.3.1.2 Steensby Component Construction Activities Spatially or Temporally Overlapping SOP2
Issue/Concern:	The Proponent is requesting the annual limit for ore shipments through Milne Port to be maintained at 6 MTPA (plus up to 0.9 MTPA for stranded ore) through to 2032. This extended period is expected to result in an overlap of air emissions associated with outgoing ore shipments with those related to incoming shipments of some construction supplies through Milne Port for the approved Steensby Port and associated South Railway. Previous descriptions and assessments of construction traffic in the FEIS were written when Panamax ore carriers were considered for outgoing ore shipments. It is not evident what the magnitude of air quality impacts would be for the Milne Port area during this overlap given that larger Capesize ore carriers are now employed for outbound shipments. ECCC acknowledges that during the later stages of the Steensby development some shipments will be made via the new Steensby Port facilities.
Information Request:	ECCC requests that the Proponent provide an assessment of air quality impacts for the Milne Port area to be expected during concurrent activities of ore shipments up to 6.9 MTPA and construction supply shipments associated with the development of the approved Steensby Port and Southern Railway. Include in the analysis the air quality impacts associated with the use of larger Capesize ore carriers for outbound shipments.



IR Identifier:	ECCC-02
Document Location:	Mary River Project – Sustaining Operations Proposal 2: IS Addendum Main Document - Section 14 Transboundary Impacts
IR Directed to:	Proponent
Subject:	Shipping Emissions Estimate
Reference:	Mary River Project – Sustaining Operations Proposal 2, Attachment 5.3 Black Carbon Memo
Issue/Concern:	ECCC has identified that shipping emissions from the proposed continuation of shipping 6 MTPA may cause adverse transboundary impacts to air quality. ECCC requires additional information on these potential adverse transboundary impacts to help determine whether significant adverse transboundary impacts due to shipping emissions may occur. ECCC requires an estimate of shipping emissions expected with the proposed continuation of 6 MTPA shipping to understand where these emissions disperse along the entire route from Milne Port to southern Greenland. The quantity of emissions will vary by ore carrier size (i.e. Panamax, Capesize) and therefore carrier size needs to be considered in the estimate. The Proponent provided Attachment 5.3 Black Carbon Memo outlining black carbon shipping emissions under two scenarios: current approved operations after December 31, 2024 (4.2 MTPA) and proposed continuation of 6.0 MTPA shipping. The black carbon estimates provided by the Proponent are for the shipping route within Canadian waters only. ECCC also notes that while discussion of the Heavy Fuel Oil (HFO) Ban is provided, there is no discussion of how the newly approved Canadian Arctic Emissions Control Area (ECA) coming into force in 2026 may affect shipping operations and resulting emissions from the Project. ECCC notes that the International Maritime Organization (IMO) is set to adopt the Canadian Arctic ECA into MARPOL at the 82nd Session of the Marine Environment Protection Committee (MEPC) in October 2024, after which the dates of entry into force will be confirmed. ECCC requires additional information on shipping emissions, specifically, estimates for particulate matter (PM), GHGs, SOx, and NOx. Emissions estimates should be provided for the entire shipping route from Milne Port to the southern tip of Greenland to fully understand the transboundary impacts of the shipping emissions. The Proponent will need to consider all of the relevant shipping regulations coming into force, including the Canadian Arctic ECA, in their calculations.
Information Request:	ECCC requests that the Proponent provide an assessment of shipping emissions (black carbon, PM, NOx, SOx, and GHGs) along the whole



	shipping route (in both Canadian and Greenland waters) for the ore carriers and include: • Consideration for fuel types that will be used to comply with regulations coming into force (i.e., HFO ban and Arctic ECA); • Consideration of ore carrier size, i.e. Panamax, and Capesize, which will affect emission rates; • Comparison with national totals or inventories of emissions for each country; and • Ship track information (i.e., latitude/longitude) preferably at one-hour intervals for all outgoing and incoming ore carrier trips from Milne Port to longitude 43 degrees west (southern tip of Greenland; on the way to European ports) and back for the 2023 shipping season in an Excel or comma-separated values (CSV) format.
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Department of Fisheries and Oceans Canada (DFO)

IR Identifier:	DFO-01
Document Location	Mary River Project – Sustaining Operations Proposal 2 – Main Document
IR Directed to:	Proponent
Subject:	Development of plans and Adaptive Management
Reference:	General comment
Issue/Concern:	It is unclear how the Proponent integrated the information gathered to this day in the proposed project. On the impact of operations and shipping on the marine environment, the Proponent has received technical comments through project changes and extensions, has gathered important information through working group discussions and consultation, and has gathered data through monitoring. These elements should inform the monitoring and management plans proposed.
Information Request:	DFO requests: • The Proponent provide a table of past Technical comments (ERP (2013), PIP (2018), PIPE (2020), PIP Renewal (2022), and SOP (2022)) and describe how these comments were addressed. • The Proponent to describe how monitoring results have informed the proposed project; Specifically include issues with non-indigenous species identification, narwhal monitoring and improvement to monitoring plans, and adaptive management as raised in comments to annual reports. • The Proponent describe how discussion and consultation, including the Marine Environment Working Group, have informed the development of monitoring plans and adaptive management; Specifically, provide a table of action items and issues raised during MEWG meetings and describe how they were addressed.



IR Identifier:	DFO-02
Document Location	Mary River Project – Sustaining Operations Proposal 2 – Main Document PDF pg., 311 part 2 and 3
IR Directed to:	Proponent
Subject:	Ballast water discharges and treatment
Reference:	SOP2 Ballast water Treatment plan
Issue/Concern:	Mandatory ballast water treatment systems implementation. <i>With the implementation of the International Convention for the Control and Management of Ships' Ballast Water and Sediments (Convention; IMO 2017), all ships must install a ballast water treatment system to meet D-2 performance standards and eliminate potential invasive species. Upon the Convention coming into force, new ships must meet the D-2 standard, while the requirements for existing ships will be phased over a period up to 2024 (until renewal of each ship's International Oil Pollution Prevention Certificate [IOPPC]; IMO-MEPC 2017).</i>
Information Request:	DFO requests responses to the following questions: • When will all ships chartered by the Proponent be equipped with chlorine treatment systems for ballast water? • Will all ships entering Milne Port be equipped with a D-2 standard compliant ballast water treatment system for the 2025 shipping season?

IR Identifier:	DFO-03
Document Location	Mary River Project – Sustaining Operations Proposal 2 – Main Document PDF pg., 453
IR Directed to:	Proponent
Subject:	Transboundary Impacts
Reference:	N/A
Issue/Concern:	There are concerns of potential impacts that extend outside of the Regional Study Area (RSA) to fish and marine mammal populations in transboundary waters. The scopes of the ERP (2013), PIP (2018), PIPE (2020), PIP Renewal (2022), and SOP (2022) discussed Transboundary Impacts, but did not extend beyond the Nunavut Study Area (NSA) or RSA. The Impact Assessment Approach and Methodologies Valued Component Table identifies that spatial boundary/RSA for Marine Mammals, Narwhal, Ringed Seal, Walrus, and Anadromous Arctic Char is smaller than the potential distribution of



	those species/ Valued Components. Impacts to valued components in the RSA could also result in impact to valued components outside of the RSA.
Information Request:	DFO requests: • The Proponent provide a table with comments on transboundary impact from DFO and Greenland for phase 2 and provide information on how they were addressed for SOP2s. • The Proponent provide risk assessments for potential transboundary impacts from activities within and outside the Regional Study Area. This should include, where available, population estimates for fish and marine mammal populations for which habitat extends to transboundary waters, as well as details on potential impacts of extended shipping and cumulative effects over a longer time than initially assessed.

IR Identifier:	DFO-04
Document Location	Shipping and Marine Wildlife Plan, Document #: BAF-PH1-830-P16-0024, PDF pg., 75 Baffinland's response to Annual Report Comments, PDF pg., 141
IR Directed to:	Proponent
Subject:	Narwhal population monitoring frequency and Marine Mammal Trigger Action Response Plan (TARP)
Reference:	- BIM Response - Response to Comments on Baffinland's 2023 Annual Report to the NIRB - August 2024, Table A.1: Response to QIA Comments on Baffinland's 2023 Annual Report to the NIRB, page 141 - Shipping and Marine Wildlife Plan, Document #: BAF-PH1-830-P16-0024, pages 75 - Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2024. COSEWIC Wildlife Species Assessments (detailed version), May 2024. (https://cosewic.ca/images/cosewic/pdf/2024-Wildlife%20Species%20Assessmentsdetailed-May-en.pdf)
Issue/Concern:	In August 2024, the Proponent responded to DFO's annual report comments (2024 BIM, PDF pg., 141) with a quote from a COSEWIC Report: <i>The overall population of this Arctic, ice-loving toothed whale is large (> 161,000 total, 93,500 mature individuals) and, although there is uncertainty about population structure, stock numbers, and trends, there is no evidence for a decreasing trend in abundance (COSEWIC 2024a).</i> The Proponent left a critical part of the quote out of the statement when they took it from the COSEWIC report. The whole statement included: <i>The overall population of this Arctic, ice-loving toothed whale is large (> 161,000 total, 93,500 mature individuals) and, although there is uncertainty about population structure, stock numbers, and</i>



	<i>trends, there is no evidence for a decreasing trend in abundance. Current levels of hunting are thought to be sustainable. <u>Abundance may have declined in some areas coincident with increased shipping, but these likely reflect a redistribution of animals rather than a decline in abundance. Threats anticipated to increase in future include noise pollution from ship traffic and ice-breaking, and climate change. These could present challenges if narwhal are not closely monitored.</u></i> COSEWIC directly states that close monitoring is required, especially for populations impacted by shipping. Project Certificate Term and Condition 101 states: “The Proponent shall incorporate into the appropriate monitoring plans the following items: b. Efforts to involve Inuit in monitoring studies at all levels. c. Monitoring protocols that are responsive to Inuit concerns. d. Marine monitoring protocols are to consider the use of additional detecting devices to ensure adequate monitoring through changing seasonal conditions and daylight; e. Schedule for periodic aerial surveys as recommended by the Marine Environment Working Group (MEWG).” The Marine Mammal Trigger Action Response Plan (TARP) states 3 performance Indicators including decrease in stock abundance, change in relative abundance, and change in proportion of immature to relative population. How does the Proponent’s reduced monitoring to a three-year cycle ensure that overall populations of Narwhal are not impacted rather than redistributing away from the Proponent’s shipping? How will the Proponent monitor the reduction of Narwhal available to local harvest in Eclipse Sound?
Information Request:	DFO requests the Proponent provide details on their three-year cycle monitoring plan: • What contingencies will be undertaken if the aerial surveys are not completed or do not occur when Narwhal are in the Sound; • How the plan will be modified if local Narwhal populations decline; • How the plan will incorporate cumulative effects; and • How lower frequency surveys will capture potential changes in Narwhal distributions and availability to local harvest over the extended shipping operations and how this reduced data will be responsive to Inuit concerns of changed Narwhal use and distributions?



Health Canada (HC)

IR Identifier:	HC-01
Document Location	Mary River Project Sustaining Operations Proposal 2 (SOP2) Impact Statement (IS) Addendum • Section 7.1.2 - Air Quality (PDF pg., 193) • Section 7.2 - Potential Effects of SOP2 • Appendix 5, Attachment 5.2 – Isopleth Modelling
IR Directed to:	Proponent
Subject:	Air Quality Impacts (Human Health Risk Assessment)
Reference:	Mary River Project SOP2 IS Addendum • Appendix B, Concordance – Section 8.1.2.2 - Air Quality Impact Assessment (PDF pg., 39) • Appendix 3, Attachment 3.2 - Mary River IQ Mapbook • Air Quality and Noise Abatement Management Plan NIRB Concordance Table for Amended Guidelines for the Mary River SOP2 Project Proposal - NIRB File 08MN053 (July 2024) • Section 8.1.2.1 - Air Quality – Baseline Information (PDF pg., 13) • Section 9.4.3 - Air Quality Monitoring & Management Plan (PDF pg., 20)
Issue/Concern:	The Air Quality Assessment does not include all COPCs and does not consider health-based guidelines. The SOP2 IS Addendum does not include an assessment of potential human health effects from project combustion emissions (including idling trains and ships) for the following common air pollutants: nitrogen dioxide [NO₂], sulfur dioxide [SO₂] and Fine Particulate Matter [PM_{2.5}]. Additionally, the assessment does not include a dispersion assessment of Project emissions for NO₂ and SO₂ on a local and regional scale, using appropriate modelling, nor a discussion of related human health impacts and mitigation strategies. HC recommends predicted NO₂, SO₂ and PM_{2.5} concentrations include all project-related emissions and baseline/background concentrations. Predictions should be representative of potential exposure at nearby human receptor locations, including those along the southern corridor. Finally, measured and predicted concentrations should be compared to current health-based standards and guidelines (e.g., Canadian Ambient Air Quality Standards [CAAQS] and World Health Organization guidelines¹). These approaches are needed to assess potential air quality impacts of the Project on human health.



	¹ WHO (2021), WHO global air quality guidelines. Particulate Matter (PM _{2.5} and PM ₁₀), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide.
Information Request:	HC requests the following from the Proponent: • Air dispersion modeling for NO₂ and SO₂ specific to SOP2 (i.e., ongoing shipping as well as incremental construction emissions from Steensby Construction activities); • Isopleth mapping for 1-hour, 24-hour, and annual averaging times for NO₂ and SO₂, including contour lines for health-based and other standards/guidelines used; • Updated 24-hour and annual isopleth maps for PM_{2.5} to include a contour line for appropriate health-based and other standards/guidelines. • A comparison of total and incremental results to the CAAQS and the World Health Organization's standards, where appropriate. This could be achieved as part of a multi-pathway Human Health Risk Assessment;

IR Identifier:	HC-02
Document Location	Mary River Project SOP2 IS Addendum, Appendix 7, Attachment 7.1 – Country Foods Human Health Risk Assessment (CF-HHRA)
IR Directed to:	Proponent
Subject:	Human Health Risk Assessment (HHRA)
Reference:	Mary River Project SOP2 IS Addendum • Section 3.1 – Scenarios Considered • Section 3.3 – Baseline Exposure Point Concentrations • Section 5.2 – Results of the Baseline and Project Related Country Food Modeling • Section 6.2 – Spatial and Temporal Boundaries • Appendix C – Baseline Project Ambient Air Quality Conditions (Tables 1 – 5) • Appendix 7, Attachment 7.1 Country Foods Human Health Risk Assessment NIRB Concordance Table for Amended Guidelines for the Mary River SOP2 Project Proposal - NIRB File 08MN053 (July 2024) • Section 7.1 Baseline Information Collection (PDF pg., 10)
Issue/Concern:	The HHRA does not include all relevant exposure pathways and scenarios. HC recommends that a multi-pathway HHRA be considered when potential risks to human health are identified because of changes to



	one or more biophysical components of the environment (e.g., air quality, water quality, country foods). The HHRA submitted as part of the SOP2 IS Addendum only considers country foods and is focused on the incremental change from <u>current</u> (operational) conditions under the Sustaining Operations Proposal amendment rather than the <u>pre-development phase</u> or <u>Early Revenue Phase</u> baseline conditions. HC notes that the Baseline Scenario described in Section 3.1 of the Country Foods HHRA was generated from data collected as recently as 2021-2023 (Tables 4-8, Section 3.3), which omits baseline data from pre-project and/or pre-production increase project phases. Without quantifying the potential cumulative adverse health effects from exposure to elevated contaminants of potential concern (COPCs) via multiple routes of exposure and from existing or past project phases, there is a high level of uncertainty in the assessment conclusions regarding potential human health impacts resulting from Project operations. HC recommends that the updated HHRA: • Include all COPCs where 95th percentile concentrations in environmental media exceed relevant health-based guidelines; • Assess the pre-project phase, pre-production increase (i.e., Early Revenue) phase, and current/existing phase baselines, as well as the future application case (project plus baseline(s)).
Information Request:	HC requests the following from the Proponent: Update the HHRA to include: • All relevant exposure pathways (e.g., inhalation, ingestion) and environmental media (e.g., air, drinking water, soil, dust, country foods), or provide a robust rationale for their exclusion; • Characterization of pre-project (i.e., prior to Mary River project development) and pre-production increase (i.e., Early Revenue Phase – 4.2 Mtpa) baseline conditions for relevant environmental media (e.g., soil, dust, water quality); • Assessment of potential health risks from pre-project and pre-production increase scenarios and comparison to the current SOP and predicted SOP2 hazard quotients presented in Table 13, Section 5.2 of the CF-HHRA.



IR Identifier:	HC-03
Document Location	Mary River Project SOP2 IS Addendum • Section 11.2.8 Human Health and Well-being • Stakeholder Engagement Plan (BAF-PH1-830-P16-0025)
IR Directed to:	Proponent
Subject:	Risk Communication
Reference:	Mary River Project SOP2 IS Addendum • Section 11.2.8 - Human Health and Well-being (PDF pg., 431) • Section 11.3.12 - New Mitigations and Benefit Enhancements for SOP2 (PDF pg., 450) NIRB Concordance Table for Amended Guidelines for the Mary River SOP2 Project Proposal - NIRB File 08MN053 (July 2024) • Section 4.1 Presentation (PDF pg., 3) Government of Canada, Technical Review Comments/Final Written Submissions for the Reconsideration Process for Baffinland's Sustaining Operations Proposal (June 2023), PRI #345863
Issue/Concern:	The Stakeholder Engagement Plan does not include plans to communicate risks to the public. HC recognizes that existing and potential future impacts of the Mary River Iron Mine on the safety of country foods and surface water, particularly with regard to potential contamination via dust, has been a key community concern during previous project certificate reconsiderations (e.g., the Phase 2 Development Proposal) and remains a concern of community members for the proposed SOP2 (Section 11.2.8, PDF pg., 431). To address these concerns, HC notes from Section 11.3.12 of the SOP2 IS Addendum: <i>"Baffinland is proposing to move forward with the development of a Risk Communication Strategy under SOP...focused on gathering and dissemination of information to Inuit related to the Mary River Project, and possible linkages between the Project and human health..."</i>. HC previously commented on a preliminary strategy as part of its Final Written Submission for the Sustaining Operations Proposal (comment HC-TRC-01), but the Addendum for SOP2 does not include an updated Risk Communication Strategy for review. Human health risk information is not presented in a clear and accessible format. HC concurs with the Board's preliminary conformity review comment regarding Guideline Section 4.1 - Presentation (Concordance Table, PDF pg. 3) and potential to improve conformity with this guideline. The SOP2 Addendum references numerous documents from previous



	iterations of the Project and does not include a comprehensive multi-pathway HHRA. For improved communication with the public and successful implementation of the Risk Communication Strategy, conclusions in the FEIS should either be able to stand alone or discuss whether previous predictions have been validated by monitoring data.
Information Request:	HC requests the following from the Proponent: • An updated Risk Communication Strategy (provided updates have been made since the 2023 version to incorporate previous feedback). • A comprehensive multi-pathway HHRA and an updated FEIS with stand-alone conclusions to allow for greater review and engagement by Stakeholders. This could include an update to the IS Addendum's executive and plain language summaries.

Parks Canada (PC)

IR Identifier:	PC-01
Document Location	https://www.nirb.ca/project/125893 1. Shipping and Marine Wildlife Management Plan with App G: 349405 2. IS Addend Main Document: 351015 3. IS Addend Att 1.2 RDAG Meeting: 350967
IR Directed to:	Proponent
Subject:	Assessing impact of shipping, total number of all project related vessels for each year of SOP2 (2025-2032)
Reference:	1. Draft Shipping and Marine Wildlife Management Plan PDF pg., 27, Section 3.1.3 Construction Shipping PDF pg., 28, Section 3.1.4 Operations Shipping 2. SOP2 FEIS Main document- August 2024. PDF pg., 28. Table 2.2 Summary of Previously Approved Project Activities and Components Related to Northern Transportation Corridor 3. IS Addend Att 1.2 RDAG Meeting Table 2.2: Summary of Previous Project Modifications related to Northern Transportation Corridor
Issue/Concern:	Sections 3.1.3 and 3.1.4 of Draft Shipping and Marine Wildlife Management Plan identified needs for additional voyages to/from Milne Port to support construction and operation. The number of anticipated additional voyages isn't indicated.



	<i>Section 3.1.3 Construction Shipping</i> <i>To support construction activities of the Project, containerized equipment and materials may be shipped to Milne Inlet</i> <i>Section 3.1.4 Operations Shipping</i> <i>During operations, dedicated voyages carrying re-supply materials and equipment will travel to Milne Port. Fuel will be delivered by sealift tankers.</i> Table 2.2 of SOP2 FEIS Main document identified 57 (114 one-way transits) over 4 years for Steensby Component construction in ERP column but not in SOP2 column. Table 2.2 of SOP2 FEIS Main document identified 10 (20 one-way transits) for Freight & Fuel Operations during PIP, PIPE, PIPR and SOP but not in SOP2 column. Table 2.2 of RDAG meeting anticipated for Steensby construction (approximately 26 round trips or 52 one-way transits over 3-4 years) during SOP2. In order to assess the impacts of shipping in the Northern Shipping Route during the 7 years of SOP2, the numbers of voyages of all project-related vessels (not only ore carriers) are needed for each year. The potential additional number of non-ore carrier vessels due to Steensby construction/operation is unclear as there is a discrepancy in the information presented in Table 2.2 of the main FEIS document (SOP2 (2025+) column) compared to the corresponding column in Table 2.2 provided in the RDAG document (Attachment 1.2).
Information Request:	PC requests the following information from the Proponent: - What are the anticipated numbers of voyages to/from Milne Port for each category of project-related vessels (ore carriers, fuel tankers, resupply cargo vessel, icebreakers, tugs) and what is the total number of voyage to/from Milne Port of all project-related vessel combined for each SOP2 year (2025 to 2032).



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Ministry for Agriculture, Self-Sufficiency, Energy and Environment

The Ministry of Agriculture, Self-sufficiency, Energy and Environment comments to the addendum of the Mary River SOP2 report regarding transboundary impacts

The Ministry of Agriculture, Self-sufficiency, Energy and Environment has reviewed Baffinlands definition of transboundary impacts in the addendum of the Mary River SOP2 report. The Ministry emphasizes, that Baffinlands definition of the term *Transboundary* is narrow in scope and only relates to the “*resulting zone of influence of Project activities*”.

According to the Espoo Convention, an Espoo report must describe and assess the transboundary impacts of a project. The definition of the term *transboundary* in the submitted addendum contains, in contrast to what the Espoo Convention states, only an assessments of the project in a limited area.

It is therefore of huge concern to the Ministry, that the Mary River SOP2 project will not take into consideration the potential transboundary impacts across the Baffin Bay, the Davis Strait and in Greenlandic waters. In the ongoing SOP2 project, it is essential to include a transboundary assessment of the environmental consequences of shipping iron ore with large cargo ships through Baffin Bay and along the west coast of Greenland. Transboundary impacts should amongst other topics include impact on marine mammals, vulnerable ecosystems, CO₂-emissions and damage caused by potential larger oil spills.

The Ministry hopes that Baffinlands SOP2 project henceforth will incorporate a more thorough definition of the term transboundary in the coming Espoo report.

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Kind regards

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