

APPENDIX 3
SELF ASSESSMENT OF SIGNIFICANCE AGAINST NIRB CRITERIA –
CONTINGENCY ICEBREAKER

Table 1. Ice Escort Contingency – Self-Assessment of Proposed Amendment to Approved Project

Self-Assessment Criteria	Baffinland Self-Assessment
<p>A sufficiently detailed scope of project components and activities to be undertaken during the proposed modification contrasted with the scope of the original project as previously considered by the NPC, the NIRB and/or the NWB</p>	<p>BIM is chartering a second ice breaker (MSV Fennica) to ensure our ability to safely escort vessels out at the end of the season in adverse ice conditions like those experienced in October 2022. The conditions experienced in 2022, where multiyear ice flushed into Eclipse Sound through Navy Board Inlet in early October, are rare compared to the last 25 years of recorded ice conditions in the area. As such, the MSV Fennica will be present as a contingency and anchored at Milne Port unless conditions trigger the need for its use.</p> <p>The use of two icebreakers are intended to increase the availability of ice escorts along the shipping route within the marine Regional Study Area, allow shipping to continue through to October 31 while still remaining within the shipping conditions permitted under Project Certificate 005 Term and Condition 187 (no breaking land fast ice). We have overall limited the charter period on both ice breakers to half of what we have chartered in previous seasons. Between 2018 and 2022 Baffinland contracted the MSV Botnica for 120 days and in 2023 the two icebreakers will not arrive in the marine RSA until the end of September.</p> <p>The use of a second icebreaker was specifically assessed and submitted to the NIRB on March 5, 2023 as a response to the NIRB’s 2019-2020 Mary River Project NIRB Annual Monitoring Report and Recommendations.</p> <p>Within the capabilities of the second icebreaker and within applicable regulations:</p> <ul style="list-style-type: none"> (1) Escort ice-breaking for bulk cargo vessels, tankers or other vessels which are loading or unloading or performing operations at Milne Port (2) Ice management in the vicinity of the terminal at Milne Port in the Mary River area of Baffin Island, Nunavut, Canada (3) Loading, storage, deployment, recovery, cleaning and discharge of pollution cleanup and containment gear such as spill booms, absorbent pads, skimmers. Equipment and personnel to be supplied by the Charterer. (4) Provision of emergency services to other ships, including oil spill response, fire fighting and damage control

	(5) Assistance accessing any ship chartered by Charterers or its facilities
Information demonstrating the proponent has considered the significance of the potential impacts associated with the proposed modification using the factors for determining significance as set out in s. 90 of the NuPPAA reflecting any other guidance or information requirements of the NPC, the NIRB and/or the NWB to evaluate the significance of the proposed modification;	See Table 2
The proponent should also identify whether any new or modified permits, licenses or other approvals are anticipated to be necessary for the proposed works or activities	<p>Under the Flag Waiver obtained by Baffinland, Transport Canada and possibly the Canadian Border Service Agency (CBSA) will inspect the vessel to ensure it meets all applicable standards. Once the vessel has been cleared a certificate will be issued.</p> <p>No new or modified permits, licenses or other approvals are required to support the proposed activities.</p> <ul style="list-style-type: none"> • Appendix P of the North Baffin Regional Land Use Plan does not specify vessel size; Cape size trial conforms to Appendix P and does not require amendment. • There is no Project Certificate Term and Condition that dictates vessel mix or maximum vessel size. No amendment to the PC is required; the use of a second icebreaker was explicitly assessed and submitted to NIRB in March 2021 • There are no implications for water or waste, no amendment or modification is required to the Type A or B Water License.
For proposed modifications to approved projects with a NIRB Project Certificate, information should also be provided as to whether the grounds for a reconsideration of the existing Project Certificate terms and conditions have been met	<p>The chartering of a second icebreaker for the stated purpose does not meet the definition of ‘project’ under the Nunavut Planning and Project Assessment Act (NuPPAA). The activation of a second icebreaker in the Fall has been previously defined as part of the existing Project and assessed.</p> <p>According to the NIRB’s April 8th guidance document ‘Approaches to Assessment of Proposed Amendments to Approved Projects’, the proposal is manifestly insignificant and does not require submission to the NPC or NIRB for further review.</p> <p>The potential use of a second icebreaker in the Fall will be subject to Baffinland’s existing marine monitoring program. No changes to</p>

	the monitoring program are required to account for the modified activities.
--	---

Table 2. Change in Factors Related to Section 90 (NuPPAA) Significance Criteria

Section 90 NuPPAA Significance Criteria		Change in Factors Related to Significance of Impacts
a	Size of Geographic Area and Wildlife Habitats Likely to be Affected	The 'Activity' (potential increase in icebreaking operations from 1 to 2 icebreakers during late shoulder season only) remains confined entirely within the PDA for the Approved Project. Therefore, no changes are predicted for any VEC with respect to the size of the geographic area and marine mammal habitats likely to be affected.
b	Ecosystemic Sensitivity of the Area	The activity remains within the existing PDA; no new environmental sensitivities have been identified for marine mammal VECs.
c	Historical, Cultural, and Archaeological Significance of Area	As described in the SOP addendum, the Baffin Region of Nunavut has a rich and visible archaeological heritage dating back many thousands of years. There are many archaeological sites with varying degrees of importance that have been found in the PDA, particularly around Milne Port and Steensby Port, and the transportation corridors between them. However, the activity remains confined to the existing PDA; no new features of historical, cultural or archaeological significance will be affected.
d	Size of Human and Animal Populations Likely to be Affected	The activity is not predicted to more adversely affect the size of animal populations or human demographics in the RSA. The population size of narwhal affected by the activity would be lower in late October than other times of the shipping season (i.e., July/August) as the majority of narwhal would have already completed their outmigration from the RSA and into Baffin Bay (as described in Baffinland 2021). The population size of ringed seal affected by the Activity would remain the same as originally assessed and as described in Baffinland (2021). From a human population perspective, North Baffin communities have grown over the past 20 years although the SOP is unlikely to introduce any additional demographic changes beyond what the current operation of the Approved Project has induced.
e	Nature, Magnitude, and Complexity of Impacts	The activity may result in incremental changes for most of the VECs included in the scope of the assessment; however, these effects are consistent with the Approved Project and will not exceed any significance thresholds or change the determination of significance. See Baffinland response to NIRB Recommendation #5 (Baffinland 2021) for additional details regarding impact on marine mammal VECs as a result of two icebreakers operating during fall shoulder season.
f	Probability of Impacts Occurring	The activity may result in an increase in the probability of environmental effects on certain VECs; however, these are consistent with the Approved Project and will not exceed any significance thresholds or change the determination of significance. See Baffinland response to NIRB Recommendation #5 (Baffinland 2021) for additional details regarding impact of two icebreakers on marine mammal VECs during fall shoulder season.
g	Frequency and Duration of Impacts	The activity may result in a net increase in the frequency and/or duration of icebreaking impacts on marine mammal VECs in the RSA (as described in

		Baffinland 2021); however, these are consistent with the Approved Project and will not exceed any significance thresholds or change the determination of significance.
h	Reversibility or Irreversibility of Impacts	In consideration of the nature of the potential interactions and environmental effects associated with the activity, no changes are predicted for marine mammal VECs with respect to the reversibility or irreversibility of this impact pathways (two icebreakers operating during fall shoulder season).
i	Cumulative Impacts	The cumulative effects assessed for the Approved Project are not evaluated to change as a result of the activity.
j	Any Other Factor that the Board Considers Relevant	Baffinland has taken into consideration community comments share directly from the communities, with QIA and through the NIRB process relevant to the above topics. Baffinland is not aware of any other factor that NIRB considers relevant to the assessment of the significance of environmental effects.

Table 2: Modelled distance to the 120 dB disturbance onset threshold for narwhal and total exposure period >120 dB re 1 uPa per icebreaker transit for three different icebreaker escort scenarios (based on Phase 2 Proposal) in various ice conditions along the Northern Shipping Route

Icebreaker Transit Scenario	Vessel speed (knots)	Ice concentration	Range (R95%) to 120 dB disturbance threshold* (km)	Total exposure period >120 dB per icebreaker transit
2 icebreakers + 2 capesize carriers	4.6	10/10	44.3	10.4 h
	9	3/10	42.5	5.1 h
	9	0/10 (open)	26.3	3.2 h
1 icebreaker + 2 capesize carriers	4.6	10/10	40.3	9.5 h
	9	3/10	37.3	4.5 h
	9	0/10 (open)	25.9	3.1 h
1 icebreaker + 1 capesize carrier	4.6	10/10	40.4	9.5 h
	9	3/10	34.9	4.2 h
	9	0/10 (open)	18.6	2.2 h

*Acoustic threshold for onset of disturbance in narwhal (onset of behavioural responses that can range from subtle changes in swim speed and direction to minor and localized avoidance of a sound source) (NOAA 2013).