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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI  
OFFICE DES EAUX DU NUNAVUT

**File: 2AM-MRY1325 – Amendment No. 1  
Modification No. 7**

August 10, 2018

Christopher Murray  
Environmental & Regulatory Compliance Manager  
Baffinland Iron Mines Corporation  
Suite 300 – 2275 Upper Middle Road East  
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Email: [christopher.murray@baffinland.com](mailto:christopher.murray@baffinland.com)

**RE: Licence No. 2AM-MRY1325 Type “A” – Amendment No. 1; Modification No. 7 Application  
by Baffinland Iron Mines Corporation for Proposed Upgrades to Mine Site and Milne Port  
at the Mary River Project**

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Dear Mr. Murray:

**Background**

On March 8, 2018, the Nunavut Water Board (NWB or the Board) received an application (the Application) by Baffinland Iron Mines Corporation (BIMC) for a proposed modification to the amended Licence No. 2AM-MRY-1325 (the Licence) issued to BIMC for the Mary River Project (the Project). The requested modification concerns the upgrades to the mine site and Milne Port at the Project. Namely, the upgrades include:

- **Milne Port Laydown Areas (2018 Work Plan Item No. 1)** - Three of seven laydown areas (LP2, LP3 and LP5) that will be developed in 2018 within the Milne Port area to improve efficiency of material storage and management will require water management structures (berms, ditching, and culverts) to convey water around or through the laydown areas.
- **Mine Site Waste Rock Sedimentation Pond Improvements (2018 Work Plan Item No. 5)** - Installation of a conventional water treatment plant at the waste rock sedimentation pond located north of the mining area, so that effluent discharged from the pond will meet the discharge limits specified in the Type A Water Licence.
- **Truck Shops (2018 Work Plan Item No. 8)** - Construction of a truck shop at the Mine Site, which will be equipped with a sump and a water treatment module, and a truck shop at Milne Port with a portable water treatment system.
- **Milne Port Road Upgrades (2018 Work Plan Item No. 25)** - Construction of up to 3 km of Port Site access roads to improve port traffic management.
- **Milne Port Water Management (2018 Work Plan Item No. 26)** - Improvements to water management at the Milne Port, which includes installation of berms, ditching and culverts.
- **Milne Port Effluent Discharge Point Relocation (2018 Work Plan Item No. 27)** - Relocation

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of the effluent discharge point to the barge landing area to reduce environmental spill risk.

- **Milne Port Marine Fuel Manifold Building Relocation (2018 Work Plan No. 29)** - Relocation of the marine manifold building to upgraded freight dock location.

An additional modification is being requested, which will be included in the 2018 Work Plan addendum to be submitted to the QIA following the submission of this modification request, as follows:

- **Mine Haul Road Cross Cut and Widening** - Realignment and upgrades to the mine haul road between the crusher and the active mining area. This change to the mine haul road is part of the normal evolution of the mine plan.

The NWB distributed the Application on March 9, 2018 for public review. Submissions were received from Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), Fisheries and Oceans Canada (DFO), and the Qikiqtani Inuit Association (QIA). CIRNAC inquired<sup>1</sup> of such issues, as:

- Confirmation of the erosion protection rock size required for ditch erosion protection.
- Clarifications on the proposed culvert installation and distance of culverts extension on the submitted drawings.
- Confirmation of the number and location of all twinned culverts planned as part of modification request for extension on the proposed Mine Haul Road
- Drawings and specifications issued for construction are to be stamped and signed by a qualified Professional Engineer.
- Regarding waste rock pile water treatment facility INAC recommended that in addition to implementing water treatment, BIMC also re-evaluate and update its waste rock management plan so that best practices are applied and implemented and ARD?ML is prevented or managed effectively.
- Clarification of the landfill to be used and sludge disposal.
- Regarding the water treatment plant INAC seeking clarification of dissolved metals that will be precipitated and removed by the treatment process, and whether the proposed treatment plant has ever been tested or operated at mine sites with a similar climate and drainage conditions. How water treatment sludge materials will be managed or disposed of
- Licensee shall install monitoring wells downstream containment ditch in order to ensure that recently constructed containment ditch, below the waste rock stockpile, is capturing all leachate, or a monitoring plan should be developed.

In its response on July 7, 2018, BIMC stated that at the locations where BIMC proposes to build laydown pads 3 and 5, although the site map indicates there are ponds and streams, however, these water bodies are now depressions holding standing water at freshet or during rainfall events. In its response of August 2, 2018, BIMC stated that *Per Section 4.5.3.4 of Appendix 7 (Freshwater Environment) of the FEIS Addendum, "The Milne Port facility will include infrastructure components situated on existing waterbodies" and further the "effects related to Project footprints in the Milne Port LSA on Arctic Char habitat are expected to be negligible and are not considered further". Figure 7.3 in Volume 7 of the FEIS (attached) demonstrates the identified fish bearing waters in the Milne Inlet area, and as can be seen the ponds/watercourses in question have been identified as not fish bearing. While the laydown will result in additional surface disturbance, they are fully contained within the existing assessed Milne Port PDA.*

DFO provided<sup>2</sup> the feedback below:

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<sup>1</sup> CIRNAC, Re: Mary River Project: Modification Request No. 7 under Part G of the Type 'A' Water Licence 2AM-MRY1325, filed on April 11, 2018.

<sup>2</sup> DFO, Subject: 2AM-MRY1325 Distribution Review & Comment Request Response to Comments on Modification No. 7 Qikiqtani Region-OLAE, filed on August 1, 2018.

- The Milne Port laydown area modifications have the potential to cause negative impacts to fish and fish habitat for several of the ponds that are proposed to be modified. DFO-FPP notes that Baffinland has stated that “*none of the ponds or drainages are fish-bearing*”, however DFO-FPP also notes that limited baseline information has been provided to support this conclusion. DFO-FPP is unclear what information, baseline data/ studies were used to inform the non-fish bearing status of the ponds and drainages. In the absence of adequate baseline surveys conducted for each of the ponds and drainages affected by the modification proposal, DFO-FPP is unable to adequately assess Baffinland’s conclusions of impacts. However, should the noted ponds be determined to be fish bearing, DFO-FPP would require Baffinland to submit a ‘Request for Review’ prior to construction of the laydown areas.

In its response of August 2, 2018, BIMC stated that baseline information was provided in the FEIS Appendix 7C “Freshwater Aquatic Biota and Habitat Baseline Synthesis Report 2005-2011” (North/South Consultants, January 2012). Figure 7-3 from this report (appended), demonstrates the identified fish bearing waters in the Milne Inlet area, and as can be seen the ponds/watercourses in question have been identified as not fish bearing.

QIA expressed<sup>3</sup> its concern of the following:

- Baffinland has not provided any changes to relevant management and monitoring plans. If Baffinland does not consider any relevant management and monitoring plans require changes, QIA recommends supporting this assumption with a relevant analysis.
- The provided engineering drawings are not stamped and signed and none are for construction.
- Environmental monitoring should be further detailed based on the planned activities to ensure no unforeseen environmental impacts occur.

In its response of August 2, 2018, BIMC confirmed that *material used for construction will be either clean waste rock or quarry material from approved sources, which undergoes QA/QC and is tested for geochemical stability prior to use on Site consistent with the relevant Quarry Management Plans, in accordance with Part D, Item 12 of the Type A Water Licence. New water management infrastructure will be assessed during the bi-annual geotechnical investigation, consistent with Part D, Item 18 of the Type A Water Licence.* BIMC indicated that Issued for Construction (IFC) drawings will be provided sixty (60) days prior to construction per Part D, Item 2 of the Type A Water Licence.

Copies of all documents received in support of the Application can be accessed through the NWB’s Public Registry and FTP site using the following Link:

[ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-MRY1325%20BIMC/3%20TECH/6%20MODIFICATIONS%20\(G\)/Modification%20No.%207%202018%20Upgrades%20Mine%20Site%20&%20Milne%20Port/](ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-MRY1325%20BIMC/3%20TECH/6%20MODIFICATIONS%20(G)/Modification%20No.%207%202018%20Upgrades%20Mine%20Site%20&%20Milne%20Port/)

#### NWB’s Review and Decision

The NWB, having fully reviewed the Licensee’s request in the context of the BIMC’s self-assessment, interveners’ comments and recommendations, potential impact of the proposed activities on the freshwater environment, and consistency of the proposed activity in relationship to the scope of the Licence, determined that the upgrades proposed in the application for Modification No. 7 are consistent with the scope of activities considered under the Licence issued to the Project. Therefore, by way of this correspondence and in accordance with **Motion No. 2018-A1-010** and Part G, Item 1 of the Licence, the

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<sup>3</sup> QIA, RE: BAFFINLAND IRON MINES CORPORATION’S MARY RIVER PROJECT MODIFICATION REQUEST No. 7 – 2018 UPGRADES AT THE MINE SITE AND MILNE PORT, filed on March 29, 2018.

Board authorizes BIMC to undertake the upgrades proposed for the Mine Site and Milne Port in accordance with BIMC's Application.

While the Board notes that there are water bodies that will be affected by the Milne Port Laydown Area in contravention of Licence Part D, Item 25 and Part E, Item 17, the Board is also of understanding that those water bodies are "depressions holding standing water at freshet or during rainfall events"<sup>4</sup> and that the issue was assessed in BIMC's Final Environmental Impact Statement Addendum.

In conclusion, the Board advises the Licensee that in accordance with Part G, Item 2 of the Licence's terms and conditions, changes in excess of that allowed under the modification authorized above, may constitute a separate potential modification or amendment to the Licence, which may require respective determination(s) from the Nunavut Planning Commission (NPC) and/or the NIRB prior to receiving any consideration(s) and/or determination(s) from the NWB. Further, in keeping with Part G, Item 4 of the Licence's terms and conditions, the submission of post – construction information, including as-built plans and drawings, remain applicable to this authorization. The Board would like to emphasize that in the future, the Licensee ought to take into account all Licence conditions when designing its infrastructures and planning activities.

Should you have any questions regarding the above, please contact the NWB Licensing Department by email to [licensing@nwb-oen.ca](mailto:licensing@nwb-oen.ca) or by phone at (867) 360-6338.

Sincerely,

Lootie Toomasie  
Nunavut Water Board, Chair

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Enclosure:      Comments – CIRNAC, DFO and QIA

Cc:                Distribution List – Mary River

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<sup>4</sup> BIMC, RE: Response to Comments Mary River Project – 2018 Work Plan - Modification Request No. 7 Type 'A' Water Licence - 2AM-MRY1325 - Amend. No. 1, filed on August 2, 2018.