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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

**File: 2AM-MRY1325
Modification No. 8**

September 12, 2018

Christopher Murray
Environmental & Regulatory Compliance Manager
Baffinland Iron Mines Corporation
Suite 300 – 2275 Upper Middle Road East
Oakville, Ontario, Canada L6H 0C3

Email: christopher.murray@baffinland.com

RE: Licence No. 2AM-MRY1325 Type “A”; Mary River Project, Baffinland Iron Mines Corporation; Modification No. 8 - Waste Rock Facility Sedimentation Pond Expansion

Dear Mr. Murray:

On June 26, 2018, the Nunavut Water Board (NWB or the Board) received a request by Baffinland Iron Mines Corporation (BIMC or the Licensee) for a modification (the Request) to the amended Licence No. 2AM-MRY1325 (the Licence) issued to BIMC for the Mary River Project (the Project). The requested modification was for the expansion of the waste rock facility sedimentation pond.

Copies of all documents received in support of the Request 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.%208%20Waste%20Rock%20Facility%20Pond/](ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-MRY1325%20BIMC/3%20TECH/6%20MODIFICATIONS%20(G)/Modification%20No.%208%20Waste%20Rock%20Facility%20Pond/)

On June 27, 2018, the NWB distributed the Request for public review. Submissions were received from Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) on July 16, 2018, Environment and Climate Change Canada (ECCC) on September 6, 2018, and the Qikiqtani Inuit Association (QIA) on July 16 and September 6 and 9, 2018.

CIRNAC recommended¹ BIMC to:

- Include a detailed plan to identify the cause(s) of the observed seepage from the Waste Rock Facility sedimentation pond;
- Obtain the critical information on the Waste Rock Facility pond berm foundation conditions through boreholes and conduct laboratory testing to verify if the strength parameters used in

¹ CIRNAC, Re: Crown-Indigenous Relations and Northern Affairs Canada’s comments on Baffinland Iron Mines Corporation’s Modification Request No. 8 Waste Rock Facility Pond, Water Licence 2AM-MRY1325 – Amendment No. 1, filed on July 16, 2018.

the model are adequate;

- Design the diversion ditches by also taking into consideration that any potential seepage from the ditches needs to be prevented as contact water from the WRF could be acidic and contain high level of dissolved metals; and
- Have management or mitigation measures in place for the appropriate disposal of the sediment in the pond.

On August 27, 2018, BIMC responded to CIRNAC's queries with additional information. On September 5, 2018, CIRNAC confirmed that the provided response was satisfactory.

On July 11, 2018, ECCC responded to the first call for review stating that it had no comments regarding the Request. However, on September 6, 2018, ECCC commented² on the additional information provided by BIMC. ECCC recommended to:

- Develop mitigation measures that will address the concerns with geochemical instability, and
- Clarify how BIMC intends to identify the source of the seepage and any proposed mitigation measures.

On September 7, 2018, BIMC responded to ECCC's recommendations.

QIA expressed³ its concerns regarding the following:

- The joint assessment of security for the Request is currently ongoing;
- The Licensee is to follow the Lease As Built Operations Guide, further detailing expectations of Article 6.4 item c) of the Lease when preparing the As Built Report/Construction Summary Report for the Waste Rock Facility (WRF) Pond;
- Provide information that explains how this modification has incorporated uncertainties with permafrost depth;
- Provide the outcomes of the detailed inspection discussed in the Civil Design Report and any required repair or remediation carried out as part of the construction summary report;
- Provide the construction specifications;
- Provide a site specific geotechnical investigation;
- Provide the maximum discharge rate out of the WRF Pond allowed to ensure stability;
- Provide an Operations, Maintenance, and Surveillance (OMS) Manual/Plan based on requirements of Section 3 of the Canadian Dam Association (CDA) Dam Safety Guidelines;
- Provide construction QA/QC specifications and geomembrane liner installation specifications;
- Provide volume balance to demonstrate that the WRF Pond has sufficient storage capacity and contingency volume;
- Provide the "Design Criteria for 2018 to 2019 Waste Rock Management Pile"⁷ and "A hydrological Study to Support Pond Design Calculations at the Mary River Mine, Baffin Island, Nunavut" Golder reports from 2018; and
- Explain how the Mary River climate station data recommendation will be used to verify the rainfall intensity-duration-frequency statistics in relevant management and monitoring plans.

² ECCC, RE: 2AM-MRY1325 –Baffinland Iron Mines Corporation – Mary River Project – Type A Water Licence - Modification No.8 Request, filed on September 6, 2018.

³ QIA, Re: Mary River Project – Waste Rock Facility Sedimentation Pond Modification Request No. 8. Water Licence 2AM-MRY1325, filed on July 16, 2018.

BIMC responded with a submission on August 27, 2018. In the submission, BIMC provided requested technical information; stating that some of the technical data were not up for a review by the interveners. On September 6, 2018, QIA requested that NWB provide a guidance on whether the technical data in question were required to be reviewed. NWB responded clarifying that if the data are:

part of the final design that is required by Licence Part D, Item 2, and, therefore, are part of the documentation required for review provided these specifications are submitted to comply with the above-mentioned Licence condition... BIMC indicated in their modification request filed on June 26, 2018, that they would like to commence construction in 60 days after the request, so it is reasonable to conclude that all documentation filed as part of the request for a modification must comply with the conditions set out in Part D.⁴

On September 9, 2018, QIA confirmed that it was satisfied with the quality of the data provided.

NWB's Review and Decision

The NWB, having fully reviewed the Licensee's request in the context of interveners' comments and recommendations, potential impact of the proposed activities on the freshwater environment, and consistency of the proposed activity in relation to the scope of the Licence, determined that the upgrades proposed 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-A1-015** and Part G, Item 1 of the Licence, the Board authorizes BIMC to undertake the upgrades in accordance with BIMC's Request.

In addition, the Board advises the Licensee that in accordance with Part G, Item 2 of the Licence, changes in excess of those authorized under this modification, 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, shall remain applicable to this authorization.

Should you have any questions regarding the above, please contact the NWB Licensing Department by email to 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, ECCC and QIA
Cc: Distribution List – Mary River

⁴ Assol Kubeisinova, Technical Advisor, NWB to Fai Ndofor, Regulatory Manager, QIA; Mary River Project - Modification No. 8 WRF Pond - Response to Comments, dated September 6, 2018.