



Water Resources
Nunavut Regional Office
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June 20, 2014

Phyllis Beaulieu
Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0A 1J0

Your file - Votre référence
8BC-MRY1314
Our file - Notre référence
CIDM# 806240

Re: 8BC-MRY1314 - Baffin Iron Mines Corporation – Mary River Site Preparation Project – Renewal and Amendment Application

Dear Phyllis Beaulieu:

Aboriginal Affairs and Northern Development Canada (AANDC) has performed a review of Baffinland Iron Mines Corporation's application to renew and amend Type B water licence 8BC-MRY1314 (Mary River Site Preparation Project) submitted to the Nunavut Water Board (NWB) on May 14, 2014.

The following advice has been provided pursuant to AANDC's mandated responsibilities for the enforcement of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA) and the *Department of Indian Affairs and Northern Development Act* (DIAND Act). In conducting our review, AANDC Water Resources referred to the documents on the NWB's FTP-site under 8BC-MRY1314.

Should you have any questions or comments, please do not hesitate to contact me at (867) 975-4738 or by e-mail at Jean.Allen@aadnc-aadnc.gc.ca.

Sincerely,

Original Signed By

Jean Allen
Water Management Specialist

Cc. Murray Ball, Manager of Water Resources, AANDC
Erik Allain, Manager of Field Operations, AANDC
Karen Costello, Director of Resource Management, AANDC

Technical Review Memorandum

To: Phyllis Beaulieu – Manager of Licensing, Nunavut Water Board

From: Jean Allen – Water Management Specialist, AANDC

Re: 8BC-MRY1314 - Baffin Iron Mines Corporation – Mary River Site Preparation Project – Renewal and Amendment Application

A. Background

On May 24, 2013, the Nunavut Water Board (NWB) issued Type B water licence 8BC-MRY1314 to Baffinland Iron Mines Corporation (Baffinland) to allow for spring-summer construction activities ultimately required for the Mary River Project while the Type A water licence application was still under review. Baffinland's Type A water licence 2AM-MRY1325 was issued by the NWB on June 10, 2013 and approved by the Minister on July 15, 2013.

On October 10, 2013, Baffinland requested to cancel their Type B water licence 8BC-MRY1314 (8BC-MRY1314 or Type B licence) and the cancellation request was later withdrawn on April 28, 2014. On May 14, 2014, Baffinland applied to renew and amend 8BC-MRY1314 to accommodate expected temporary water use and waste deposition demands during peak construction activities associated with the Early Revenue Phase (ERP). It is Baffinland's intention that this will act as a bridging water licence until the Type A water licence 2AM-MRY1325 (2AM-MRY1325 or Type A licence) is amended to include the changes to the Mary River Project included in the ERP.

The Mary River Site Preparation Project (Project) is located on Crown and Inuit Owned lands and is located approximately 160 kilometers (km) south of Pond Inlet and 1000 km northwest of Iqaluit. Baffinland is requesting amendments to the Type B licence to proceed with the following activities:

- Withdrawal of freshwater not to exceed 299 cubic metres per day (m³ / day) for combined domestic and construction use from Phillips Creek (summer only) and/or Km 32 Lake (winter and summer).
- Expansion of the existing Matrix Camp in Milne (existing 120-person construction camp)
- One additional polishing waste stabilization pond, if required
- Construction and operation of a permanent ore dock, ship loading facility, ore stockpile and associated sedimentation ponds, and ore reclaiming conveying equipment.

B. Results of Review

AANDC Water Resources Division offers the following comments/ recommendations for the Board's consideration.

General

1. Baffinland requested a licence term of just over 2 years (July 1, 2014 to September 31, 2016). AANDC notes that the proposed term will provide sufficient timing to complete the Type A amendment process if they submit an amendment application for 2AM-MRY1325 in July 2014 as committed to in the 8BC-MRY1314 application.
2. AANDC notes that all activities within the existing scope of the Type B licence have been transitioned into the Type A licence. Baffinland indicates that the scope will include the construction and operation of an ore stockpile, permanent ore dock and ship loading facilities (Section 1.0 and 3.0, Project Description). It is our interpretation that the scope of the proposed Type B licence amendment would not allow mining or operation-type activities, but would allow only construction activities related to the ERP. While the Type A licence does allow mining activities and provides water use and waste deposition limits for operation phases, it does not authorize activities specific to the ERP. Should the Type B licence amendment be approved, therefore, an amendment to the Type A licence will still be required to authorize ERP activities.
3. Baffinland intends the renewal and amendment of 8BC-MRY1314 to act as a bridging water licence until 2AM-MRY1325 is amended to allow ERP activities. AANDC supports allowing construction activities for ERP under the 8BC-MRY1314 licence, provided that all proposed activities under the Type B licence amendment application, including all potential environmental liabilities, will transition to the Type A licence once it is amended.

Water Use

4. The hydrological assessment completed by Knight Piesold on behalf of Baffinland (Appendix 4) determined that the daily withdrawal rate of $367.5 \text{ m}^3 / \text{day}$ ($68.5 \text{ m}^3 / \text{day}$ allowed under 2AM-MRY1325 and $299 \text{ m}^3 / \text{day}$ proposed under 8BC-MRY1325) will have minimal impact on the river flows and lake levels. The hydrological assessment is based on the extrapolation of data obtained from a gauged tributary to Phillips Creek in 2006 to 2008, and 2011. More information is requested on the field verification methods used to confirm that the hydrological modeling completed for the Phillips Creek monthly discharge accurately reflect the hydrological conditions for the Phillips Creek watershed.

Management Plans

5. AANDC notes that there are no management plans specific to the proposed 8BC-MRY1314 amendment. Four management plans, submitted for both Type A and Type B activities, are currently approved under the licence, and the application references a revised Spill Contingency Plan and a new Interim Abandonment and Reclamation (A&R) plan, both of which were submitted with the 2013 Annual Report. AANDC accepts that activities proposed in this application will be managed in accordance with management plans approved under the Type A water licence and expects they will be updated to include the ERP activities proposed.

Monitoring

6. Schedule I of 2AM-MRY1325 includes a monitoring station for bulk sample stockpile area seepage. Laydown areas were constructed under 8BC-MRY1314 using crushed ore from the bulk sampling stockpile under 2BB-MRY1114. In their response to the 2013 AANDC Inspection Report submitted in the 2013 Annual Report, Baffinland commits to monitoring downstream of crushed ore stockpiles (monitoring of bulk sample stockpile area seepage is currently required under Schedule I of 2AM-MRY1325). It is understood that the potential for acid rock drainage (ARD) or metal leaching (ML) was low in 2007 and that monitoring would be implemented to confirm this. AANDC requests an update from Baffinland on the potential for the crushed ore for ARD or ML and clarification as to whether additional monitoring will be required to fully characterize potential impacts from the laydown areas.
7. Schedule I of 2AM-MRY1325 requires monitoring of Phillips Creek and Km 32 Lake for the summer and winter months respectively. AANDC recommends that an amendment include monitoring requirements for reporting volumes of all fresh water withdrawn from Km 32 Lake during winter months in addition to summer months. AANDC further recommends that reported water quantities be broken down by water licence (2AM-MRY1325/8BC-MRY1314), water use (domestic/industrial) and water source (Phillips Creek/km 32 Lake).
8. Section 2.0 of the Project Description noted that all surface runoff from the ore dock and stockpile facilities will be deposited to the ocean and regulated in accordance with the *Fisheries Act* and its regulations. AANDC requests confirmation that the stockpile runoff will be monitored prior to discharge into the ocean.

Reclamation Cost Estimate

9. The Minister of AANDC currently holds security of \$122,019 for water licence 8BC-MRY1314. Baffinland estimated a financial liability of \$279,000 for ERP in

their 2014 Work Plan submitted for the Annual Security Review. Baffinland estimates a total of \$146,826.10 (\$122,019.26 currently held by AANDC plus a proposed marginal increase of \$24,806.84) for closure and reclamation activities required under the proposed amendment. More details are required to confirm that all reclamation activities associated with the Type B water licence are included in the calculation of the reclamation cost estimate. For instance, clarification is requested on whether the reclamation cost estimate (\$164,826.10) includes activities such as building and associated infrastructure removal and municipal effluent disposal costs, in the event that the reclamation activities are required prior to the carry-over of the Type B water licence activities into the proposed Type A amended water licence.

Section 2.0 of the A&R memo notes that ERP facilities related to the on-land ore stockpiling and loading facilities were captured in the 2014 Marginal Closure Cost Estimate. AANDC confirms that the ore stockpile reclamation costs have been considered under the 2014 Marginal Reclamation and Closure Security under the Milne Port estimates as "Other (ore stock pile pad)". However, it is unclear whether the ship loading facility, the sedimentation ponds associated with the ore stockpile and the ore conveying equipment are covered in the reclamation cost estimate.

10. Baffinland proposes that the security be held by the Qikiqtani Inuit Association (QIA) because the activities proposed are on Inuit Owned Land (IOL). AANDC would like to clarify that the marine infrastructure proposed would be located on Crown land and as such, it is recommended that the security for the ore dock be held by the Minister and addressed as part of the AANDC Lands Administration review.
11. In Section 9.0 of the Project Description and Section 2 of the A&R Memo, Baffinland requests to incorporate the proposed facilities into the next Annual Security Review process and that it is their intention for all closure and reclamation security associated with the Mary River Project to be solely held under the Type A water licence. AANDC agrees that incorporating all water licences into the next Annual Security Review could be an efficient and effective means of reviewing security for the Mary River Project, so long as separate reclamation cost estimates will be provided for each licence and that security will be held separately for each licence in accordance with their terms and conditions.