



Water Resources  
Nunavut Regional Office  
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September 15, 2014

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

Your file - Votre référence  
2AM-MRY1325  
Our file - Notre référence  
CIDM# 850852

**Re: 2AM-MRY1325 – Mary River Project – Baffinland Iron Mines Corporation –  
Qikiqtani Region – Interim Mine Closure and Reclamation Plan**

Dear Phyllis Beaulieu:

Aboriginal Affairs and Northern Development Canada (AANDC) Water Resources Division retained SNC-Lavalin Inc. to review Baffinland Iron Mines Corporation's Interim Mine Closure and Reclamation Plan required under their Type 'A' water licence 2AM-MRY1325 for the Mary River Project and our review memo (see enclosed) is based on comments by SNC-Lavalin Inc..

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* and the *Department of Indian Affairs and Northern Development Act*. In conducting our review, AANDC Water Resources referred to the documents on the NWB's FTP-site under 2AM-MRY1325.

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](mailto:Jean.Allen@aadnc-aadnc.gc.ca)

Sincerely,

Jean Allen  
Water Management Specialist

Enclosure

cc. Murray Ball, Manager of Water Resources, AANDC  
Erik Allain, Manager of Field Operations, AANDC

## **Technical Review Memorandum**

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

From: Jean Allen – Water Management Specialist, AANDC

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**Re: 2AM-MRY1325 – Mary River Project – Baffinland Iron Mines Corporation – Qikiqtani Region – Interim Mine Closure and Reclamation Plan**

### **A. Project Description**

Baffinland Iron Mines Corporation (BIMC or Baffinland) holds a total of three water licences: a Type 'A' water licence 2AM-MRY1325 (Type 'A' licence or 2AM-MRY1325) for the approved Mary River Project; a Type 'B' water licence 2BE-MRY1421 for the Mary River Exploration Project and a Type 'B' water licence 8BC-MRY14-16 for the Mary River Preparation Project (for construction related to the Early Revenue Phase). On June 27, 2014, BIMC submitted an Interim Mine Closure and Reclamation Plan (MCRP) as required under Part J, Item 2 of 2AM-MRY1325. The Nunavut Water Board (the Board or NWB) requested interested parties to review the plan and make representations by September 15, 2014.

In response to NWB's request, a preliminary review of the recently submitted BIMC's Interim MCRP for the Mary River Project (dated 27 June 2014) was undertaken. The review focused on whether this revised plan addresses all components of the mine development project as delineated in:

- i. Project Certificate No. 005 (as amended 28 May 2014) including Early Revenue Phase (ERP) activities and infrastructure, and
- ii. BIMC's application for amendment to Type 'A' water licence 2AM-MRY1325 to reflect ERP changes and consolidate their recently issued Type 'B' water licence 8BC-MRY1416 into one licence.

Comparisons have been made to the earlier version of the Interim Abandonment and Reclamation Plan (ARP) (7 June 2013) submitted as part of the Final Environmental Impact Statement (FEIS) Addendum Volume 10, Appendix 10G (and referenced in BIMC's submission for the Annual Security Review in October 2013 and the renewal and amendment application for water licence 8BC-MRY1314 in May 2014) and to the Preliminary MCRP (February 2012) approved under the Type 'A' licence. Comments on closure costing and annual security review estimates are also provided.

As listed in the Type 'A' licence amendment application, the scope of the requested amendment comprises facilities and activities associated with the following infrastructure:

### **Milne Port**

- a. Increase water demand as proposed under the Amendment to Type B Licence 8BC-MRY1314;
- b. Increase fuel storage to include marine diesel as approved under Amendment 1 of the Project Certificate No. 005 (ERP);
- c. Increase size of sewage treatment plant and PWSP pond as proposed under Amendment to the Type B Licence 8BC-MRY1314;
- d. Additional service buildings and desalination plant (no land discharges of waste water or waste);
- e. Construction and operation of outfall for discharge to ocean of treated sewage effluent and desalination plant brine; and
- f. Ore stockpile with associated runoff sedimentation ponds as approved under Amended Project Certificate No. 005.

### **Tote Road**

- a. Water withdrawal from lakes and streams along Tote Road for use as dust suppression on the Tote Road.

### **Mine Site**

- a. Discharge of treated sewage effluent to land during winter months; and
- b. Originally intended life span increased for some of the temporary facilities (transitional construction camp, buildings and fuel storage).

## **B. Results of Review**

A review of the Interim MCRP (27 June 2014) indicates that the facilities and activities associated with the amendment application have been incorporated into the revised plan. For example, Table 3-1 (page 22) of the Interim MCRP identifies the following project components associated with the ERP:

- (Additional) Milne Port site development, road grading , laydown, drainage;
- Milne Port marine diesel fuel tank farm and fuel dispensing facilities;
- Milne Port ore stockpile;
- Milne Port ore handling facilities and associated surface runoff ponds;
- Milne Port ore dock;
- Milne Port freight dock;
- Milne Port relocated air strip;
- Tote Road water withdrawal for dust control; and
- Mine Site transitional ore stockpile and runoff control.

The FEIS Preliminary MCRP (February 2012) did not include the ERP road haul option. The ERP components identified above are covered in Sections 6 and 7 of the Interim MCRP (27 June 2014) which deal with temporary and long-term temporary mine closure, respectively, without being specific to location. In Section 8, Final Mine Closure and Reclamation Measures, these same project components are again addressed (including the removal of buildings and infrastructure, removal of machinery, equipment and storage tanks) on a generic basis.

One deficiency of the Interim MCRP (27 June 2014) is that the financial cost of final closure and reclamation measures as provided in Section 12.1 (page 68) and Appendix B, Table B-13 (page 105) is identical to that provided in the FEIS Preliminary MCRP (February 2012). This means that the estimate provided for final closure cost (\$518,711,208) does not include the ERP. The final closure cost estimate for Milne Inlet of \$7,311,986 (Appendix B, Tables B-13 and B-16) does not include reclamation/closure of more laydown areas, additional camp facilities, the ore stockpile and runoff ponds, the ore dock or the ore handling facilities associated with the ERP. With the ERP infrastructure in place, the Milne Inlet Port final closure cost estimate should be higher.

BIMC acknowledges that the final closure estimate provided in the Interim MCRP (Section 1-Executive Summary, page 11) is the same as the earlier estimate based on the original FEIS project description. BIMC contends that an updated determination of closure and reclamation security is captured on an annual basis during the ASR process. To this end BIMC have provided the “2014 Marginal Reclamation and Closure Security Estimate” (2014 MRCSE) in Attachment 4 of their amendment application. AANDC note however that this marginal security estimate (broken into “approved” and “ERP” components) is the same as originally submitted during the ASR late last year and has not been updated to reflect the comments posted at that time and the outcomes of negotiations earlier this year. Specifically, AANDC prepared a submission on 18 December 2013 to the NWB concerning the water licence 2AM-MRY1325 and the Annual Security Review under Part C and Schedule C of the Type ‘A’ water licence. The submission outlined the agreed-upon increases in security for the “approved” project at that time based on changes to assumptions related to explosives liability and Jet-A fuel tank reclamation. These increases are not reflected in Attachment 4 of the licence amendment package.

In our original review of BIMC’s 2014 Work Plan and marginal closure estimate for ERP activities (prior to their approval), AANDC was of the opinion that the amount of \$279,000 (Table 4-1 of the 2014 MRCSE as reproduced in Attachment 4 of the amendment application) was inadequate to ensure reclamation of the ERP activities proposed for 2014-15. BIMC’s estimate did not account for costs to reclaim the Ore Stockpile Settling Ponds at Milne Port and the decommissioning and disposal of the ore handling and ship loading facilities did not appear to be addressed in the 2014 MRCSE. Our assessment did acknowledge some ERP costs (e.g., re-grading and contouring of Milne Port Ore Stockpile Pad, removal of 2 mooring buoys) had been assigned to the “approved” project at that time. As the 2014 MRCSE has not been modified in the amendment application to reflect agreed-upon changes and to address our original concerns related to ERP security estimation, this aspect of the application needs to be updated.

It is expected that written approval from the NWB will be sought prior to commencement of mining operations in accordance with Part J, Item 2 of 2AM-MRY1325. AANDC will continue to review the Interim MCRP as part of the amendment application and expect that further revisions will be required as a result of the amendment application and ASR processes.