



Water Resources Division
Resource Management Directorate
Nunavut Regional Office
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Your file - Votre référence
2AM-WTP1830
Our file - Notre référence
GCdocs #99783204

December 20, 2021

Mr. Richard Dwyer
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0B 1J0
sent via e-mail: licensing@nwb-oen.ca

Re: Crown-Indigenous Relations and Northern Affairs Canada's (CIRNAC's) Review of the Commission and Construction of Whale Tail Emulsion Plant Proposal; Submitted by Agnico Eagle Mines (AEM) for Type A Water Licence No. 2AM-WTP1830.

Dear Mr. Dwyer,

Thank you for your December 14, 2021 invitation to review the commission and construction of Whale Tail Emulsion Plant proposal, submitted by Agnico Eagle Mines Limited, for Type A Water Licence No. 2AM-WTP1830.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the Report and its attachments pursuant to its mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Crown-Indigenous Relations and Northern Affairs Act*. Please find CIRNAC comments and recommendations in the attached Technical Memorandum for the Nunavut Water Board's consideration.

CIRNAC appreciates the opportunity to participate in this review. If there are any questions, please contact John Onita at john.onita@rcaanc-cirnac.gc.ca; or (867) 975-3876 or Andrew Keim at (867) 975-4550 or andrew.keim@rcaanc-cirnac.gc.ca

Sincerely,

John Onita
Regional Water Coordinator



Technical Review Memorandum

Date: December 20, 2021

To: Richard Dwyer, Manager of Licensing, Nunavut Water Board

From: John Onita, Regional Water Coordinator, CIRNAC

Subject: Crown-Indigenous Relations and Northern Affairs Canada's (CIRNAC's) Review of the Commission and Construction of Whale Tail Emulsion Plant Proposal; Submitted by Agnico Eagle Mines (AEM) for Type A Water Licence No. 2AM-WTP1830.

Region: ☐ Kitikmeot ☒ Kivalliq ☐ Qikiqtani

A. BACKGROUND

In 2016, Agnico Eagle proposed to develop the Whale Tail Pit Project to continue mine operations and milling at the Meadowbank mine. AEM initially requested that the Whale Tail Pit Project be regulated as an amendment to the Meadowbank Gold Mine Project. However, the NIRB determined that the proposed Whale Tail Pit project proposal had not been assessed as part of the original Meadowbank Gold Mine Project and, due to its location outside of the original Meadowbank Gold Mine Project footprint, the Project would require a separate screening assessment. Upon completion of the screening assessment, the NIRB determined that the Project required further assessment best facilitated through a full environmental review. The environmental review concluded on 15 March 2018 with the issuance of Project Certificate No. 008.

Additional infrastructure to support the Whale Tail Pit Project was built at the Amaruq site (truck shop/warehouse, fuel storage and an additional camp facility) and the Amaruq satellite deposit was mined as an open pit with commercial production beginning in September 2019. Amaruq ore is transported using long haul off-road type trucks to the mill at the Meadowbank site for processing. All tailings generated from Amaruq ore are also deposited at the Meadowbank site.

In 2018, Agnico Eagle proposed to increase gold production from the original Whale Tail Pit Project by expanding mining activities at the Whale Tail Pit site as proposed in the Expansion Proposal. The Expansion Proposal suggested further developing the Whale Tail Pit open mine in addition to the development of an Underground pit. The



Amaruq Phase 2 expansion started in October 2018 with an application to the Nunavut Planning Commission (NPC). Following public hearings on the proposed expansion in August 2019, the NIRB concluded that the proposed amendment to the Whale Tail Pit Project could proceed to the Type A Water License amendment phase with the NWB. The Minister of Northern Affairs approved the amended Project Certificate Report from the NIRB (October 18th decision) on 20 January 2020, completing the NIRB process. The Project Certificate No. 008 Amendment No. 1 was issued by NIRB on 19 February 2020 to reflect significant modifications to the Whale Tail Pit Project as proposed in the Whale Tail Pit Expansion Project (i.e., revisions to Terms and Conditions #1, 27, 28, 30, 46 and 51; new Terms and Conditions #65 to 68).

Since existing gold processing and accommodations infrastructure at the Meadowbank Gold Mine site are required to support mining operations at the Whale Tail Pit, NIRB identified existing terms and conditions in the amended Project Certificate No. 004 that will continue to apply to the Whale Tail Pit project infrastructure associated with the Meadowbank Gold Mine site, even after the closure and reclamation of the developed pits at the Meadowbank Gold Mine site.

The NWB Water License amendment process for the Whale Tail Pit Expansion Project was completed on 12 May 2020 and Water License Amendment No. 2AM-WTP1830 was issued. Commercial production under the Whale Tail Pit Expansion Project was achieved on 31 December 2020.

On December 14, 2021, AEM Limited wrote to the Nunavut Water Board (NWB) to provide a 60-day notice for the commission and construction of an Emulsion Plant for the Whale Tail Pit Project under Type A Water Licence (2AM-WTP1830).

According to AEM, the new plant will produce emulsion at a rate of 40,000 kg per day, while having a capacity to store 135,000 kg of emulsion (3x45,000 kg stainless steel silos) within the existing building. The general layout will respect the quantity distances as prescribed by the *National Standard of Canada CAN/BNQ 2910-510/2015 Explosives – Quantity Distances*.

CIRNAC provides the following comments and recommendations pertaining to the proposed Commission and Construction of Whale Tail Emulsion Plant. A summary of the subjects of recommendations can be found in Table 1. Documents reviewed as part of this submission can be found in Table 2 of Section B. Detailed technical review comments can be found in Section C.



Table 1: Summary of Recommendations

Recommendation Number	Subject
R-01	Signed and Stamped issued for construction (IFC)
R-02	Detailed foundation plan
R-03	Quality Control / Quality Assurance (QC/QA) plan
R-04	Fill materials plan
R-05	General layout / Site map
R-06	Permafrost degradation prevention plan

B. DOCUMENTS REVIEWED

The referenced document in table 2 associated with AEM's Proposed Whale Tail Emulsion Plant Construction Project was reviewed.

Table 2: Document Reviewed during the Review of AEM's Proposed Whale Tail Emulsion Plant Construction Project

Document Title	Author, File No., Rev., Date
211214 2AM-WTP1830 -60-Day Notice Whale Tail Emulsion Plant	Agnico Eagle Mines (AEM); December 14, 2021

C. RESULTS OF REVIEW

CIRNAC provides the following comments and recommendations for the Board's consideration:

1. Signed and Stamped Issued For Construction (IFC)

Comment

CIRNAC understands that the attached engineering drawings to AEM's notification letter to the NWB for the proposed Whale Tail Emulsion Plant construction, was purposely issued for review by the NWB and intervening parties. Therefore, CIRNAC requests that AEM provide a site plan/drawing that includes the anticipated dimensions of the work areas.

Recommendation

(R-01) CIRNAC recommends that AEM provide signed and stamped issued for construction (IFC) drawings by a registered engineer, showing anticipated work areas with dimensions, for the Whale Tail Emulsion Plant.



2. Detailed Foundation Plan

Comment

Having a clearer understanding of the foundation on which AEM plans to erect structural items anticipated to support the Emulsion Plant Super-Structure, is critical to understanding the anticipated impacts that the project would have on ground water.

CIRNAC has identified that the engineering drawings attached to AEM's notification letter to the NWB for the proposed Whale Tail Emulsion Plant construction did not provide information on the design criteria. Ideally, these design criteria are supposed to include a description on how all the indicated foundations (i.e. hopper foundation and crane foundation), structural stand and 6" precast concrete; are originally planned to be put in place. CIRNAC is also identified that the provided grading plan in the notification letter, is not for construction.

Recommendation

(R-02) CIRNAC recommends that AEM should provide a detailed foundation plan that clearly specifies all the structural items anticipated to support the Emulsion Plant super-structure in addition to an IFC version of the provided grading plan.

3. Quality Control / Quality Assurance (QC/QA) Plan

Comment

CIRNAC notes that AEM's notification letter to the NWB for the proposed Whale Tail Emulsion Plant construction did not include any mention of what AEM anticipates for Quality Control and Quality Assurance during the construction phase of the project; in order to ensure that the new facility will be erected in accordance with engineering best practices.

CIRNAC requests that AEM provide its Quality Control/Quality Assurance narrative for the Emulsion Plant and that the narrative include protection for ground water and nearby water bodies within the Whale Tail Pit Project infrastructure footprint. This will ensure that the quality of anticipated structural items supporting the Emulsion Plant Super Structure are erected in accordance with engineering best practices and are capable of mitigating against potential impacts on both the underground and nearby water bodies.



Recommendation

(R-03) CIRNAC recommends that AEM provide a detailed Quality Control / Quality Assurance (QC/QA) plan / narrative in a detailed report.

4. Fill Materials plan

Comment

CIRNAC is not sure how AEM plans to put in place all the indicated fill materials for berm and anchor trenches (e.g. compaction lift thickness, soil compaction, machinery etc.). Also, CIRNAC identified that AEM did not provide specifications for the engineered fills indicated in the drawings and does not know how AEM plans to protect the ground water in the Emulsion Plant against contamination.

Recommendation

(R-04) CIRNAC recommends that AEM provide:

- A detailed narrative on how it plans to put in place fill materials for berm and anchor trench (i.e. fill materials plan);
- Specifications for engineered fills indicated in the attached drawings to AEM's notification letter to the NWB

5. General Layout Site Map

Comment

CIRNAC would like to see a general layout / site map of the proposed Whale Tail Emulsion Plant construction site showing explosives quantity distances from the nearest water body.

Recommendation

(R-05) CIRNAC recommends that AEM should revise the general layout / site map of the proposed Whale Tail Emulsion Plant construction site showing explosives quantity distances to include setback distance for the new construction from the nearest water body within the Whale Tail Pit project infrastructure footprint.



6. Permafrost Degradation Prevention Plan

Comment

In the notification letter to the NWB and attached engineering drawings, CIRNAC could not find any reference as to how AEM plans to prevent permafrost degradation during the construction phase of the proposed Whale Tail Emulsion Plant Project.

Recommendation

(R-06) CIRNAC recommends that AEM should:

- a) Incorporate best practices to prevent or mitigate against permafrost degradation during the construction phase of the Whale Tail Emulsion Plant into the IFC design (i.e. permafrost degradation prevention plan) and;
- b) Report these best practices in future annual reports.

D. REFERENCES

2AM-WTP1830 -60-Day Notice Whale Tail Emulsion Plant to Nunavut Water Board;
Agnico Eagle Mines (AEM); December 14, 2021