



Water Resources Division
Resource Management Directorate
Nunavut Regional Office
P.O. Box 100
Iqaluit, NU, X0A 0H0

Your file - Votre référence
2AM-DOH1335
Our file - Notre référence
GCdocs # 103976897

July 6, 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 Comments on Agnico Eagle Mine Ltd.'s. 2021 Annual Report for Type A Water Licences 2AM- DOH1335 and 2AM-BOS1835, and TYPE B Water Licences 2BB-MAE1727, 2BB-BOS1727, and 2BE-HOP1222, for the Doris and Hope Bay Belt Project.

Dear Mr. Dwyer,

Thank you for your April 13, 2022 invitation to review the referenced 2021 Annual Report for the Doris and Hope Bay Belts Project.

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 (NWB) consideration.

If there are any questions or concerns, please contact me at (867) 975-4738 or by e-mail at vincent.okonkwo@canada.ca or Andrew Keim at (867) 975-4550 or by e-mail at andrew.keim@rcaanc-cirnac.gc.ca

Sincerely,

Vincent Okonkwo
Sr. Environmental Assessment Specialist



Technical Review Memorandum

Date: July 6, 2021

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

From: Vincent Okonkwo, Senior Environmental Assessment Specialist, CIRNAC

Subject: **Crown-Indigenous Relations and Northern Affairs Canada Comments on Agnico Eagle Mine Ltd.'s. 2021 Annual Report for Type A Water Licences 2AM- DOH1335 and 2AM-BOS1835, and TYPE B Water Licences 2BB-MAE1727, 2BB-BOS1727, and 2BE-HOP1222, for the Doris and Hope Bay Belt Project.**

Region: Kitikmeot Kivalliq Qikiqtani

A. BACKGROUND

Hope Bay gold mine project is located on a property approximately 20km x 80km along the south shore of Melville Sound in the Kitikmeot region of Nunavut, and continued to be operated by TMAC Resources Inc. (TMAC) in 2021. TMAC was acquired by Agnico Eagles Mines (AEM) on February 2, 2021 and is now a wholly owned subsidiary of AEM. On January 1st, 2022, AEM and TMAC amalgamated and continued to exist under the name AEM. Accordingly, by operation of law and without any further acts or steps necessary, TMAC ceased to exist and continued as Agnico Eagle, and Agnico Eagle possessed all of the property, rights, privileges and franchises and is subject to all liabilities, including civil, criminal and quasi-criminal, and all contracts, disabilities and debts of TMAC.

The Project includes four gold mines with activities covered under AEM Type A Water Licences 2AM-DOH1335 (Doris, Madrid North, and Madrid South) and 2AM-BOS1835 (Boston), two advanced exploration sites covered under Type B Water Licences 2BB-MAE1727 (Madrid) and 2BB-BOS1727 (Boston), and surface exploration covered under the Type B Water Licence 2BE-HOP1222 for 2018 (Hope Bay Region).

AEM submitted Annual Report to the Nunavut Water Board (NWB) for the year 2021 required as per Part B, Item 2 of their Type A and Type B Water Licences 2AM-DOH1335, 2AM-BOS1835, 2BB-MAE1727, 2BB-BOS1727 and 2BE-HOP1222. The 2021 Annual Report covers the activities under all water licences, and was submitted in conjunction with a number of Monitoring Reports and updated management plans.



These documents are listed in Table 2 under Section B. A summary of CIRNAC recommendations can be found in Table 1. Review comments for the 2020 Annual Report are provided in Section C and References are in Section D.

Table 1: Summary of Recommendations

Recommendation Number	Subject
R-01	Potential Future Water Treatment Requirements
R-02	Incinerator Stack Testing
R-03	Suspension of Production
R-04	Closure Planning

B. DOCUMENTS REVIEWED

The following table (Table 2) provides a summary of the documents reviewed under the submission.

Table 2: Documents Reviewed

Document Title	Author, File No., Rev., Date
Hope Bay Project 2021 Nunavut Water Board Annual Report	Agnico Eagle, March, 2022
220331 2AM-DOH1335 Appendices 2021 Nunavut Water Board Annual Report-ILAE	Agnico Eagle, March, 2022
220413 2AM-DOH1335 2021 TIA Annual Geotechnical Inspection NWB Submission-ILAE	SRK Consulting (Canada) Inc. & Agnico Eagle, April 14, 2022
220413 2AM-DOH1335 2021 TIA AGI Main Body SRK 2022-ILAE	SRK Consulting (Canada) Inc. & Agnico Eagle, March 2022
220413 2AM-DOH1335 2021 TIA AGI Recommendations and Agnico Responses-ILAE	Agnico Eagle, March 2022
220414 2AM-DOH1335 Hope Bay 2021 Doris-Madrid AGI NWB Submission-ILAE	SRK Consulting (Canada) Inc. April 14, 2022
2AM-DOH1335 & 2AM-BOS1835 CIRNAC Comments To NWB On Hope Bay 2020 Annual Report	CIRNAC, June 25, 2021
220518 2AM-DOH1335 Madrid Sump 1 Notice of Modification Dist-OASE	Nunavut Water Board, May 18, 2022
210827 2AM-BOS1835, 2AM-DOH1335 – 2020 Annual Report AEM Response to Comments-IMLE	Agnico Eagle, August, 2021
Hope Bay_2021 Field Inspections	CIRNAC, September 6, 2021
220425 2BE-HOP1222 Hope Bay Domestic Wastewater Treatment Management Plan March 2022-ILAE	Agnico Eagle March, 2022



Document Title	Author, File No., Rev., Date
220425 2BE-HOP1222 Hope Bay Project Quarry Management and Monitoring Plan 2022 FINAL-ILAE	Agnico Eagle March, 2022
220425 2BE-HOP1222 Hope Bay Quality Assurance and Quality Control Plan FINAL_2022-ILAE	Agnico Eagle March, 2022
220425 2BE-HOP1222 Hope Bay Spill Contingency Plan Mar 2022 FINAL-ILAE	Agnico Eagle March, 2022
220429 2AM-DOH1335 Care and Maintenance Plan-ILAE	Agnico Eagle April, 2022
220429 2AM-DOH1335 Hope Bay Project Explosives Management Plan-C and M-ILAE	Agnico Eagle April, 2022
220429 2AM-DOH1335 O and M and Surveillance Manual-Hope Bay Doris Tailings Impoundment Area-ILAE	Agnico Eagle April, 2022
220429 2AM-DOH1335 Hope Bay Project Doris and Madrid Water Management Plan-ILAE	Agnico Eagle April, 2022
050331 NWB1DOH---- Patch Lake _AR Plan-IMLE	Miramar Hope Bay Ltd. March, 2005

C. RESULTS OF REVIEW

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) commends the work AEM put into the 2021 Annual Report. CIRNAC general comment is that requirements are covered and the information provided is clear. The following comments and recommendations are provided for the Nunavut Water Board's consideration.

1. Potential Future Water Treatment Requirements

Comment

Regarding water quality in the Tailings Impoundment Area (TIA), the following five parameters have consistently been flagged as potential water quality challenges: TSS, total arsenic, total copper, total cyanide, and unionized ammonia. Monitoring data and water quality predictions from 2021 reinforce that each of these parameters will need to be monitored closely to determine if additional water treatment and/or other mitigations become necessary.

Based on our review of the 2021 Annual Report, it is unclear to CIRNAC what steps AEM is already taking to proactively prepare for potential exceedances of each parameter of concern. For example, AEM's future management strategies for annual



TSS spikes and predicted exceedances of the MDMER arsenic criterion are not described in the 2021 Annual Report. While CIRNAC appreciates that these uncertainties do not need to be resolved during the current temporary closure, an update on the options under consideration to manage these potential water quality exceedances would be helpful.

Recommendation

CIRNAC recommends that AEM summarize the treatment options and other mitigations that have already been considered to manage the predicted increases of parameters of concern in the TIA.

2. Incinerator Stack Testing

Comment

Schedule B of Water Licence 2AM-DOH1335 provides a checklist of activities that shall be reported in the annual reports for the NWB submission. With regard to incinerator operation, Item 11 of the checklist requires that AEM report the results of incineration stack testing.

In 2021, AEM waste management operators attempted to optimize incineration conditions to address past exceedances. A stack test to assess the techniques applied was planned for 2021 with equipment shipped to site for September 2021. However, as all site visits were cancelled, the stack testing was not performed or reported in 2021.

AEM did not provide time lines as when the when the stack testing will be performed in 2022.

Recommendation

CIRNAC recommends that AEM provide:

- Timelines for the stack testing in 2022; and
- The summary of the stack testing results in the 2022 Annual Report.

3. Suspension of Production

Comment

In October 2021, AEM stopped Doris milling operations. In February 2022, AEM announced its decision to place the Doris Mill into Care and Maintenance and suspend production of the Hope Bay Project. On March 30, 2022, Agnico Eagle provided the Nunavut Water Board with formal written notice of Care and Maintenance for the Doris-Madrid operations under Part J, Item 4 of the Water Licence 2AM-DOH1335 (Water



Licence). As required by Part J, Item 5 of the Water Licence, AEM developed and submitted a Doris-Madrid Care and Maintenance Plan.

The Care and Maintenance Plan describes the activities to be implemented for the maintenance of mine site facilities, management and monitoring measures, and procedures to be implemented in accordance with temporary closure goals and regulatory requirements.

While the Care and Maintenance Plan describes the operational approaches that will be followed by AEM, it does not provide information and timelines on the decision-making process that AEM will use to determine whether to re-initiate operations at the Hope Bay Project.

AEM's decisions regarding the future of the Hope Bay Project have potential environmental impact implications.

Recommendation

CIRNAC recommends that AEM provide further details on:

- The technical, logistical and/or financial factors that contributed to the decision to suspend production;
- The evaluations that AEM is undertaking to inform decisions regarding the operational future of the Hope Bay Project;
- Currently anticipated timelines for the decision-making process; and
- How the company plans to engage/inform NIRB, NWB, CIRNAC and other interested parties throughout the decision-making process.

4. Closure Planning

Comment

AEM's decision to place the Doris Mill into Care and Maintenance and suspend production of the Hope Bay Project is an important development when considering closure planning. This is addressed through Part J Item 6 of NWB Type A Water Licence 2AM-DOH1335 which specifies that the following requirement shall be met within twelve months of AEM providing notice of its intent to enter into Care and Maintenance:

“Should the Project remain, or be in Care and Maintenance, submit to the NWB an updated estimate of total mine closure restoration liability, and continue to do so every three (3) years thereafter”



Based on this requirement, AEM will be required to submit an updated liability estimate by March, 2023. Linked to this requirement, CIRNAC notes that there have been significant inflationary pressures across the entire Canadian economy. These inflationary pressures are likely to have a major impact on the unit costs of goods and services that are required to implement mine closure.

Recommendation

CIRNAC recommends that AEM:

- Clarify if the temporary suspension of production will eventually transition into a permanent closure or there will be resumption of production prior to the full closure;
- Ensure that the current temporary suspension of operations is addressed in the next iteration of the Interim Closure and Reclamation Plans (ICRP) for the Hope Bay Project. Specifically, the ICRP should include options that involve the temporary production suspension transitioning into a permanent suspension requiring full closure earlier than previously planned;
- Should undertake a comprehensive update of all unit costs used in the preparation of its updated liability estimates, when developing an updated cost estimate of total mine closure 12 months after the current production suspension (per Part J Item 6 of NWB Type A Water Licence 2AM-DOH1335), to address recent inflammatory pressures for goods and services within the mining industry; and
- Proactively engage with NWB, KIA and CIRNAC to ensure that the next iteration of the Hope Bay Project ICRPs and updated cost estimates address the potential that the current temporary production suspension will become permanent.

D. REFERENCES

Department of Crown-Indigenous Relations and Northern Affairs Act (2020)

Nunavut Waters and Nunavut Surface Rights Tribunal Act (2019)

Nunavut Water Board, February 2020: Amended and Renewed Type A Water Licence Nos: 2AM-DOH1335, Pgs. 26, 41, 42 and 2AM-BOS1835, Type B Water Licence 2BE-HOP1222