Environmental Protection Operations Directorate
Prairie & Northern Region
5019 52nd Street, 4th Floor
P.O. Box 2310
Yellowknife, NT X1A 2P7

ECCC File: 6100 000 012
NWB File: 2AM-MEL1631

November 6, 2020

via email at: licensing@nwb-oen.ca

Richard Dwyer
Manager Licencing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Richard Dwyer:

RE: 2AM-MEL1631 Agnico Eagle Mines Ltd. - Meliadine Water Licence Amendment Application

As requested by the Nunavut Water Board (NWB), Environment and Climate Change Canada (ECCC) has completed a thorough technical assessment of the Application for the amendment for water licence 2AM-MEL1631 by Agnico Eagle Mines Ltd (AEM).

ECCC's specialist advice is based on our mandate pursuant to the *Canadian Environmental Protection Act* and the pollution prevention provisions of the *Fisheries Act.*

The following comments are provided:

1. Characterization of Actiflo treatment sludge deposited to CP1

Reference(s):

- Water Management Plan; Section 4.3; Table 15
- 2AM-MEL1631 Water Licence Amendment Information Request Responses submitted by AEM to the NWB Sept. 30, 2020

Background:

In ECCC-WL-IR-1, ECCC requested timelines for development of options for alternative sludge disposal and analytical results for sludge characterization. AEM responded that "*Alternative options is ongoing and additional detail would be provided prior to the technical meeting.*" and that "*A more complete characterization of the sludge will be provided prior to the technical meeting*."

ECCC Comments/Recommendations:

ECCC looks forward to receipt of the requested information prior to the technical meetings.

2. Clarification of water balance re: application for additional volumes.

Reference(s):

- Water Management Plan; Table 13 Estimated Effluent Flow Rates over Mine Operating Life
- Meliadine Site Water Balance and Water Quality Model; Section 2.1.2 Freshwater Consumption
- 2AM-MEL1631 Water Licence Amendment Information Request Responses submitted by AEM to the NWB Sept. 30, 2020

Background:

Predicted annual discharge volumes from CP1 range from a low of 350,200 m^3 in 2022 to a high of 690,000 m^3 in 2026 (not including the 2020 discharge). ECCC requested clarification whether the volumes reflect the increased water withdrawals that are being applied for, and if those will affect effluent volumes. As outlined in the main application document, freshwater consumption is to be increased from 318,000 m^3/year to 741,706 m^3/year due to increased mill water use. The Site Water Balance figures do not explicitly include water from the mill; some process water would be in the tailings and report to CP-3, but it is not clear if there are other losses of process water. In ECCC-WL-IR-2, ECCC noted that the potential for increased Total Dissolved Solids (TDS) loadings from the Tailings Storage Facility (TSF) has been identified in the modeling report (Section 3.1.1) but has not been included in the model. In the event of increased volumes of water coming from the TSF, it is not clear if there will be a concurrent increase in TDS loadings. ECCC requested clarification of whether the increased freshwater volumes applied for had been included in the water balance, and if so, how the additional process water would affect the water balance and TDS.

AEM responded that "The increased freshwater volumes have not been included in the water balance. The reclaim water from the tailings is recovered by the filter press and the increase in freshwater consumption do not result in additional surface contact water to manage in the Contact Ponds."

ECCC's Recommendation(s):

ECCC requests clarification as to where the additional freshwater volumes of water end up, and how the process water that reports to the tailings will affect TDS loadings going into CP3 and CP1.

If you need more information, please contact Victoria Shore at Victoria.Shore@canada.ca.

Sincerely,

Margaret Fairbairn, Acting Regional Director
Environmental Protection Operations Directorate, Prairie Northern Region

cc: Brian Asher, Acting Head, Environmental Assessment North (NT and NU)