



Water Resources Division
Resource Management Directorate
Nunavut Regional Office
P.O. Box 100
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Your file - Votre référence
2AM-MEL1631

December 4, 2020

Our file - Notre référence
CIDM#

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

sent via email: licensing@nwb-oen.ca

Re: Agnico Eagle Mines (AEM) Application to Amend Type "A" Water Licence No: 2AM-MEL1631 Technical Meeting Follow-up Questions from Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Dear Mr. Dwyer,

As a follow-up to the discussion during the technical meetings on Monday, November 30th, 2020 on Agnico Eagle Mines (AEM) Application to Amend Type "A" Water Licence No: 2AM-MEL1631, CIRNAC would like to provide the following additional questions for AEM to respond.

CIRNAC is concerned by the significant differences presented between the SNC and Golder models. In addition to TDS levels under consideration in this amendment application, these differences may have significant implications on water management systems for the mine site as a whole.

CIRNAC is concerned that the root cause of the elevated TDS in 2019 is has not been clearly identified. As such it is unclear if :

- sources of elevated TDS will continue in future as occurred in 2019
- if flushing to date has reduced source term potential for future releases



- if all reasonable measures have been undertaken to mitigate elevated TDS at the source,

CIRNAC questions the use of the 2019 /2020 monitored data and its extrapolation based on the extreme wet year as appears to have been done by SNC as it likely misrepresents and overstates future conditions.

CIRNAC would appreciate AEM providing additional details and clarification on the SNC model including:

- additional details and description of the assumptions underlying SNC's Appendix 3 Upper Bound calculations
- a tabular summary of all differences in assumptions between the two models
- a breakdown and descriptions of the sub areas that make up "the rest of site" as modelled for 2019/2020 and as modelled for remainder of LOM
- runoff assumptions used for flow and load concentrations from the "rest of site" sub areas as modelled for 2019/2020
- runoff assumptions used for flow and load concentrations from the "rest of site" sub areas as modelled for remainder of LOM
- clarification of some of SNCs memo statements including:
 - Section 3.1 Water Balance 4th paragraph - that the increased loads are due to " *For 2020, no adjustment was required. The runoff coefficient considered at the site were adjusted in the TDS upper bound model to match the trends observed in the monitored water elevation in CP1*"
 - Section 3.2 first bullet states " *the updated model considers a higher TDS loads than the lower bound model, specifically from disturbed area around the site (i.e. WRSF, site, etc) and from the Tailing Storage Facility*" – CIRNAC notes that AEM has stated no water is released from the Tailings Storage Facility area
 - Section 3.2 second paragraph notes that minimum water remaining in CP1 during winter is assumed at 1000m³ – given this small quantity of impacted water, it would seem reasonable to manage it separately and thus reduce the need for discharging these high TDS waters at the start of the discharge season
 - Section 3.2, page 4, 5th bullet states that:
 - the rest of site is (TSF, landfarm, ore pad, landfill, catchment area around CP1, P-Areas) and



- that “This data suggest that the higher runoff volume was flushing out accumulated salts contained in the pore water in the WRSF, the TSF and other sectors on the site” and
- that “The TDS loads from CP3, CP4, CP5 and CP6 ponds (in 202 and rest of LOM) represents in total about 60% of the total TDS load reporting to CP1

Given these statements and the data contained in Table 3.1, it appears that the incremental elevated loads in 2019 came from the rest of site area and is not attributable to increase precipitation but rather unexpected quantities or elevated source terms.

- additional discussion of the implications of the SNC upper bound forecast on other aspects of the site water management systems that were designed and operated based on the FEIS forecast Golder water balance (for example effect on water treatment requirements, sludge generation, pond storage capacities etc.,)

If there are any questions or concerns, please feel free to contact me at david.zhong@canada.ca or Godwin Okonkwo at (867) 975-4550 godwin.okonkwo@canada.ca.

Sincerely,

David Zhong
Regulatory and Science Advisor