



July 16th, 2020

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

Re: Agnico Eagle Mines – South Basin Treated Water Design Report- Comments

Mr. Dwyer,

As requested, the following responses are intended to address the comments made in the below letter attached in an email sent July 14th, 2020,

- Crown-Indigenous Relations and Northern Affairs Canada's comments on Agnico Eagle Mines Limited's Whale Tail South Basin Treated Water Diffuser Design Report for water licence #2AM-WTP1830 - Whale Tail Pit Project

Should you have any questions or require further information, please do not hesitate to contact us.

Best regards,

Robin Allard
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General Supervisor Environment



1 Crown-Indigenous Indigenous Relations and Northern Affairs Canada (CIRNAC)

Comment 1: The report contains conflicting information on whether the diffusers will be used during the winter. Section 1.1 states "... a diffuser is required when discharging treated water from the Amaruq Arsenic Water Treatment Plant (AsWTP) to Whale Tail Lake South Basin (WTS) during the summer months (i.e. open water season) and when required, during the winter." However, section 2.2 specifies "No discharge of the stored water is expected during the winter months."

Should discharge occur during the winter, the diffuser's performance is not specified. The only information CIRNAC found was for open water conditions – in section 3.1 the report specifies "The diffusers are designed to provide a minimum dilution factor of 16.7 for total phosphorus with a water depth of at least 7.3 m under open water conditions and a flow rate of 800 m³/h."

Recommendation 1: CIRNAC recommends the licensee clarify their plan with regards to possible use of the diffuser during winter. Should winter discharge be a possibility, they should further clarify what the dilution factor would be when Whale Tail South Basin is ice covered.

Agnico Eagle's Response:

Agnico's primary strategy for water management during winter is to store all contact water in the Whale tail and/or IVR attenuation ponds until early spring. This strategy is aligned with the latest water balance. Nevertheless, if winter inflows are greater than expected by the model, some excess water might need to be treated and discharged to Whale Tail South Lake through the diffuser during the winter. Prior to discharge, an evaluation of the projected impact on the receiving lake will be performed. Winter discharge to Whale Tail South will only be carried out if the projected water quality meets the 2AM-WTP1830 licence and MDMER requirements. Furthermore, the annual report will present an updated water quality forecast as well as a validation the parameters and assumption used.



Comment 2: Two diffuser lines will be built, each designed for an 800 m³/h discharge flow. Section 2.2 specifies “One of the two 14-in HDPE pipeline and diffuser shall be insulated and heat traced to allow for the rapid start-up of the AsWTP at the end of the winter/start of the spring freshet to allow the transfer of treated water to WTS. The discharge flow to WTS during this period shall be up to 800 m³/h.”

This end of winter/start of spring discharge would likely occur in June, and Table 2-1 indicates the month with the highest monthly averaged discharge volume is also June. Specifically, the average discharge volume for June is estimated at 864 000 m³, which is equivalent to a pumping rate of 1200 m³/h over 30 24-hour days.

Depending on when the thaw occurs in June, it is not evident a single heat traced diffuser will have sufficient capacity to discharge the estimated volumes in the spring.

Recommendation 2: CIRNAC recommends the licensee clarify why they are only heat tracing a single diffuser when the second diffuser may not be usable at the time of year when it is most needed. They should also clarify how they plan to manage the treated effluent should they not be able to discharge all effluent due to diffuser capacity issues in the spring

Agnico Eagle’s Response:

The experience acquired in operating the Mammoth Lake diffusers in spring 2020 was integrated into the submitted design report of the Whale Tail South diffusers. The need for a second diffuser occurs only in the second half of June which is consistent with the volumes mentioned as it represents 1 diffuser @ 800 m³/h for 30 days + 1 diffuser @ 800 m³/h for 15 days. At mid-June, if the diffuser that is not equipped with heat trace is still frozen, manual de-icing (steaming) would be performed. This practice is used currently and successfully at our sites as part as an adaptive water management strategy.