



August 29th, 2019

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

Re: Agnico Eagle Mines – Whale Tail Project Responses to South Channel and Road 24 Design Report Comments

Dear Mr. Dwyer,

As requested, the following responses are intended to address the comments made in the below letter:

- CIRNAC – August 20th, 2019: Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) comments on Agnico Eagle Mines Limited's (AEM's) South Whale Tail diversion Channel Design Report – Whale Tail Pit Project under AEM's Type "A" Water Licence No. 2AM-WTP1826.
- DFO – August 21st, 2019: Fisheries and Oceans Canada's comments regarding Licence No. 2AM-WTP1826 South Whale Tail Diversion Channel and Road 24 design reports.

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

Best regards,

Marie-Pier Marcil
Marie-pier.marcil@agnicoeagle.com
819-759-3555 x 4105836
Senior Compliance Technician

Cc Nancy Duquet Harvey, Superintendent Environment
Robin Allard, General Supervisor



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

1.1 Peak Flow and TSS or Sediment Control

Comment 1: Surface water quality can be significantly affected by soil erosion and high concentration of Total Suspended Solids (TSS) or sediments in water during freshet or heavy rain events. CIRNAC could not find clear information on erosion and TSS controls being provided in the design report.

CIRNAC acknowledges that AEM has referenced the Water Management and Water Quality plans in the design report to find the information, however for ease in reviewing the documents all applicable documentation should be incorporated into one document, rather than looking through other documents to find the applicable information.

Recommendation 1: CIRNAC recommends that AEM consider adding and explaining the erosion and TSS controls in the design report

Agnico Eagle's Response:

The South Whale Tail Channel was designed with a riprap protection on its bottom and sides to avoid erosion problems due to the flow velocity. The riprap mean diameter was computed in the channel, during the design storm event, function of the maximum flow velocity (computed with the HEC-RAS hydraulic model). Figure 6-1 (Report Client ref. AEM-651298-2900-40ER-01) shows the required riprap diameter for the different channel sections. This methodology will prevent erosion and ensure possible, if any, TSS releases are limited and mitigated.

As per the Water License 2AM-WTP1826, water flowing through the South Channel (ST-WT-13) (non-contact water) is to be monitored at minimum on a monthly basis during open water for Group 3 (MDMER parameters (arsenic, copper, lead, nickel, zinc, total suspended solids, pH), sulphate, turbidity and total aluminum) and is subject, as per Water License Part F, Item 6, to effluent quality for TSS. Weekly inspection of the channel will also be completed. During freshet and after heavy rain event, monitoring would be increased and if planned regular visual inspection/water monitoring show indications of water quality issues, as part of the Whale Tail (WT) Freshet Action Plan, sampling would be increased. If quality is found to be non-compliant, an action plan would be put forward that would prevent contaminant from reaching the receiving environment. Strategy could include, but not limited to, adding turbidity barrier and silt fence in the South channel and the receiving Mammoth Lake.

2 Fisheries and Oceans Canada (DFO)

Comment 1: DFO-FFHPP is submitting comments regarding concerns with the inconsistent reporting of water levels and associated assessment of effects on downstream watercourses and waterbodies (see details below). DFO-FFHPP references the ongoing and concurrent NIRB and NWB assessment



processes regarding AEM's Whale Tail Expansion Project, specifically information previously provided as part of the NIRB process.

In the Diversion Channel Design Report, Section 3.1, Design basis and criteria it states:

"The water operation-levels established previously in SNC-Lavalin (2018a) to divert the flows from SWTL to Mammoth Lake will be adopted in the design phase as follows:

- *Normal operating water level (NOWL) 156.0 m*
- *Maximum water level (MWL) 157.0 m (emphasis added)*
- *Channel Inlet-invert elevation 155.8 m*
- *Initial water elevation in South Whale Tail Lake at the start of the design event of 155.8 m"*

Section 4.1.1 and Appendix D Section 3.4 also mention the maximum water level of 157masl in South Whale Tail Lake (SWTL). Section 4.1.1 indicates the total lake area of SWTL at maximum water level will be approximately 470ha, and Figure 4-1 indicates that the change in active volume of the SWTL from 156masl to 157masl is approximately 4.0Mm³.

However, in their response to Technical Comments submitted to NIRB by DFO on May 14, 2019 (DFO 3.4.1 and 3.4.2), AEM states: "There are no water management scenarios where 156.00 masl will be exceeded. The elevation of Whale Tail Lake (South Basin) will be controlled by the Whale Tail Lake (South Basin) diversion channel, set at 156.00 masl. The water level is therefore expected to remain at this elevation with some slight fluctuations during wet and dry periods" (emphasis added) and, "To avoid the exceedance of 156 masl, Agnico Eagle rely on the Whale Tail South Channel, which divert Whale Tail South Basin toward the Mammoth Lake as per the Approved project."

Recommendation 1: DFO requests clarification on why the Design Report appears to contradict the statement: "there are no water management scenarios where 156.00 masl will be exceeded" given the maximum water level indicates 157masl is a possible scenario. DFO also notes that in their response to Information Requests submitted to NIRB February 21, 2019 (IR DFO-6) AEM states: "There is no expected change in surface area (hectares) for the South Basin of the Whale Tail Lake, nor any additional surrounding streams, ponds, and lakes will be affected." It is unclear to DFO how an increase of 1m (from 156 to 157masl), and the associated estimated active volume (4.0Mm³) in South Whale Tail Lake may influence downstream water levels and surface areas. DFO also asks for clarification on the difference in South Whale Tail Lake total lake area (ha) when an increase from the normal operating water level of 156masl to the maximum water level of 157masl occurs.

Agnico Eagle's Response:

The inlet of the South Whale Tail Channel is set at El.155.8 and the maximum normal operational water level of Whale Tail South is set at El.156 m. This water level is not exceeded for an average year as per the water balance.

The South Whale Tail Channel act as the outlet of the South Whale Tail Basin formed by Whale Tail Dike. Whale Tail Dike is rated as a high-risk structure as per the Canadian Dam Association System and as a results it is designed to accommodate a design flow event between 1/3 of the 1000 year flood and the probable maximum flood (PMF). For this reason, the cut-off wall of Whale Tail Dike was constructed to El. 157 m.

The design flood routing of South Whale Tail Channel indicate that the water level of the South Basin would reach a maximum elevation of 156.7 m during the design flood and would be over the maximum normal operational level for more than a month (Figure 4-5 of Report Client ref. AEM-651298-2900-40ER-01). This design flood elevation does not represent the normal operating level of Whale Tail South Basin. The peak of the design flood event represents an increase Whale Tail South water volume of 3 Mm³ and an increase in area of 44 Ha.

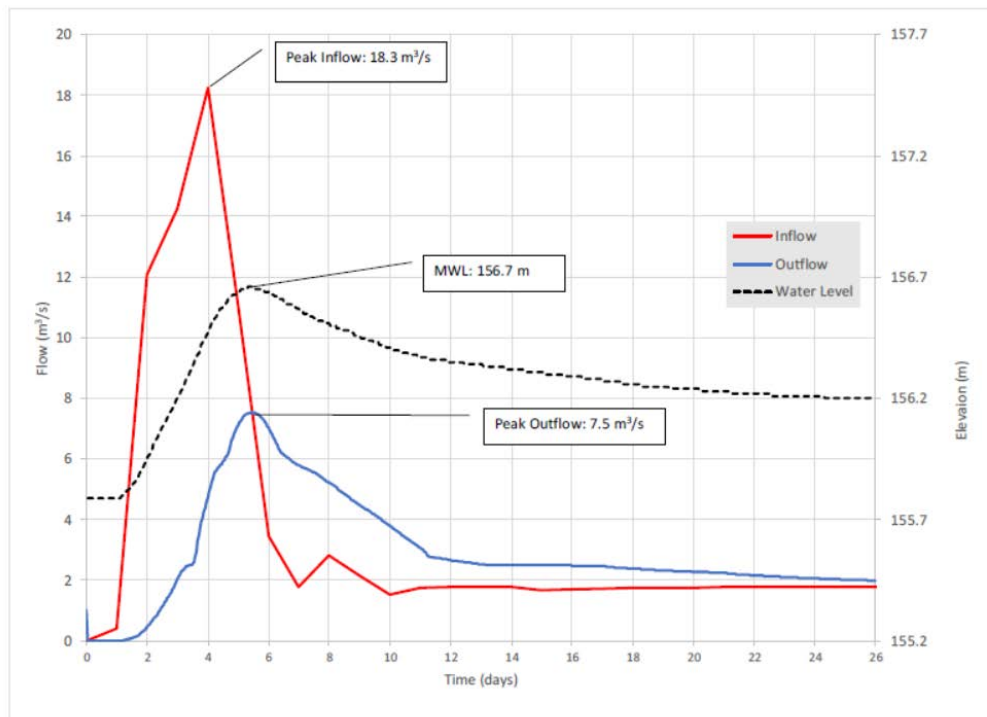


Figure 4-5: Flood Routing IDF – Channel 5.0 m Width