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Kugluktuk
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Bathurst Inlet
Kingaok
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Bay Chimo
Umingmaktok
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Cambridge Bay
Ikaluktutiak
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Gjoa Haven
Okhoktok
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Taloyoak
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Kugaaruk
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July 21, 2011

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, Nu X0B 1J0

Via Email: licensing@nunavutwaterboard.org

Re: 2AM-DOH0713 Notice of Discharge from Tail Lake

Dear Ms. Beaulieu,

The Kitikmeot Inuit Association (KIA) has reviewed the submitted documents and information regarding HBML's request to discharge from the Tailings Impoundment Area (190711). In general, the KIA supports HBML decanting water to protect the structural integrity of the North Dam. However, the request to surpass the 10% decanting rule indicates a need to re-visit the current water balance and hydrology design assumptions to ensure that the final dam freeboard is adequate and that emergency decanting will not be repeatedly required. The assessment of the accuracy of the water balance is critical, as it determines whether the proposed strategy to defer construction of a spillway is prudent. Inaccuracies in the water balance could also lead to design issues in other water management structures hereafter.

The KIA has made the following specific comments:

- a) The KIA would like to know if HBML has prepared an Interim Emergency Response Plan for the North Dam, and whether or not the plan covers the contingency leading to this request. If such a document does not exist, HBML should provide a description of the process.
- b) The KIA supports a re-examination of the need for a spillway for the remainder of the construction period. The current design assumes that a spillway may never be needed; however the current overflow issue encountered suggests that additional attention should be paid to the utility of a spillway. The KIA requests that HBML re-visit the water budget to demonstrate that it predicts the range of variability expected and that design specifications be updated accordingly. Water balance and water management is critical to the operation, and there were uncertainties regarding climate data and climate change scenarios in the original submission. The 10% rule for discharge imposes a need for the designers to have a very accurate estimate of the water budget for Tail Lake and Doris Creek in order to safely manage the discharge. This, in conjunction with the need to check the dam design height, freeboard and spillway construction timing, are sufficient reasons for the KIA to request that the site hydrology be reviewed, and the results of this review can be applied to all water management structures.



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The request to surpass the 10% rule demonstrates that HBML may have underestimated the original water budget. HBML should seek to explain why the variance occurred and if an update is required. The faster than anticipated rise in lake level could be attributed to inaccuracies in the site water balance and hydrology or other factors such as an under-estimated outflow from Tail Lake occurring as seepage through the unfrozen creek bed (and the subsequent interference with this seepage due to dam construction). The KIA is unaware of any water budget reviews or project-wide updates to design parameters for any of the structures under construction since the original water licensing stage; this is recommended to ensure that there is no need for further emergency discharges. Structures should be designed to perform within the range of site conditions predicted by accurate models, with contingency plans reserved only for unforeseen, extreme events.

- c) The KIA recommends a re-review of the final specifications of the North Dam to ensure that it can handle increases in water beyond that predicted, particularly if the original water balance is found to be inaccurate. Additional water management procedures may need to be considered for the project (for example, the design basis for sizing of the sedimentation and pollution control ponds) based on (b). The reduced freeboard of the partially constructed dam may be an issue of concern that needs to be addressed if issues are uncovered during the water budget review (b).
- d) The KIA suggests that HBML and its consultants comment on the sensitivities of Arctic char to the suggested decanting procedure
- e) HBML must ensure that water quality of the discharge does not exceed CCME guidelines.

The KIA would like to thank the NWB and HBML for the opportunity to comment on this file. Please contact us if you have any questions.

Sincerely,

Luigi Torretti
Senior Environment Officer
Kitikmeot Inuit Association
Dep't of Lands & Environment