Info

From: Unger, Peter (NRCAN/RNCAN) <peter.unger@canada.ca>
Sent: Thursday, June 13, 2019 1:39 PM
To: Info
Subject: NRCan statement in response to Commitment 37 for the Technical Meeting for the Whale Tail Expansion Project

Dear Nunavut Impact Review Board,

Please find below the text of the statement read by Peter Unger, representing Natural Resources Canada, on June 13 at the Technical Meeting for the Whale Tail Expansion project.

The text is as follows:

Hydrogeological characterization in permafrost context is complex and data are difficult to collect. Based on the collected data, the proponent has developed a conceptual model illustrating the general conditions of the hydrogeological system including permafrost distribution and groundwater dynamics. NRCan is satisfied with the cross sections of the conceptual models provided for all three scenarios as it shows the groundwater flow dynamics. A numerical model of the system has provided groundwater discharge estimates (quantity and quality) to the pit and the underground. NRCan requested AEM to substantiate whether model refinements could affect groundwater quantity. NRCan agrees that these estimates seek to minimize the uncertainty due to conservative approach used for the hydraulic conductivity which is the most sensitive parameter based on a sensitivity analysis. NRCan is satisfied with the information provided on log-linear variation of hydraulic conductivity with depth on modelling results and agrees that the value is conservative. The expedited low discharge rate, less than 2 m3/day, suggests a significant dilution of potential mineralized groundwater to the surface water. The impact on surface water and ecosystems are expected to be low due to the dilution and long groundwater travel times with the current condition and knowledge of the project area. At post closure the effect to groundwater discharge to lakes would be negligible compared to surface waters. Uncertainty still remains, but monitoring plan will help to validate the prediction and detect any adverse issue(s).

Please do not hesitate to contact Peter Unger at peter.unger@canada.ca should you have comments or questions regarding NRCan's review of this project.

Thank you,

Peter Unger
Natural Resources Canada