Date: September 30, 2015

To: Amy Wilson, Technologist
The Regional District of Central Kootenay, HB Tailings Facility

Cc: Diane Howe, Deputy Chief Inspector, Reclamation and Permitting, MEM
Heather Narynski, A/ Manager, Geotechnical Engineering, MEM

**Re: Review of Letter of Assurance Submission from June 30, 2015**

The Ministry of Energy and Mines (MEM) has engaged a consulting firm to evaluate the consistency and compliance of your letter of assurance in response to the Chief Inspector's orders issued on February 3, 2015. This review has determined that your submission has not satisfied the requirements of the order and further information is required so that the full review can be completed. This is as follows:

Tetra Tech's June 29, 2015 Letter of Assurance, submitted by the mine, has not explicitly provided responses to the following questions:

2. Water balance adequacy;
   a. Including the total volume of surplus mine site water (if any) stored in the tailings storage facility,
   b. The volume of surplus mine water that has been added to the facility over each of the past five years,
   c. Any plans that are in place or that are under development to release surplus mine water to the environment,
   d. Recommended beach width(s), and the ability of the mine to maintain these widths,
   e. The ability of the TSF embankments to undergo deformation without the release of water (i.e. the adequacy of the recommended beach width),
   f. Provisions and contingencies that are in place to account for wet years, and
   g. If any gaps have been identified, a plan and schedule for addressing these issues.

3. Filter adequacy;
   a. Including the beach width and filter specifications necessary to prevent potential piping,
   b. Whether or not the filter has been constructed in accordance with the design, and
   c. If any gaps have been identified, a plan and schedule for addressing these issues."

- Please provide a revised version of Letter of Assurance, in which the Qualified Professional Engineer (QPE) has followed the above numbering system in the response to above items and include schedule for plans proposed to address gaps in the filter design, by November 15, 2015.

Once this information has been received by MEM, it will be reviewed for adequacy.

Below is a summary of the assessment made by your Qualified Professional Engineer with associated plans/schedule to address the gaps identified:

Status of Foundation Condition

> *"These test holes confirm that the foundation includes a zone of soft to stiff glaciolacustrine clayey or sandy SILT overlying compact to dense till. The strength parameters used in the stability analysis to date have been developed from correlations as opposed to direct measurement. In order to provide a better estimate of these parameters, it is recommended that a site investigation program be completed to obtain "undisturbed" samples of the glaciolacustrine materials. Selected samples should be subjected to laboratory testing to establish the drained and undrained parameters."*
>
> The mine has committed to:
>
> - *"It is anticipated that two to four boreholes will be advanced from the embankment surface to the underlying bedrock (2015).*

Status of Water Balance Adequacy

> *"As no further mining or tailings related activities have been carried out at the HB Dam since 1981, the primary source of water recharge to the tailings pond is surface runoff. Specific to the spillway, Tetra Tech has determined that the peak inflow during would be safely conveyed by the spillway."*

Status of Filter Adequacy

> *"The filter compatibility assessment indicated that the current dam filter probably does not meet modern filter design criteria. The filter does not extend above the maximum pond level and critical hydraulic gradients could develop near the crest of the dam."*
>
> The QPE has recommended:
>
> - *"A feasibility engineering study should be undertaken to assess various modifications that could be made to the embankment to reduce its vulnerability to internal erosion. Depending on the outcome of this study, it is possible that a geotechnical investigation would be required during detailed design to confirm the geotechnical properties of the existing dam filter and core materials."*

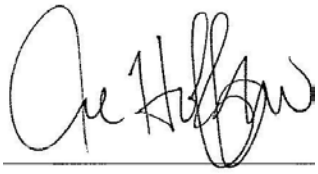
The orders issued on February 3, 2015 have been requested to provide assurance that the conditions at the Mount Polley dam do not exist in other facilities. Please ensure that you are meeting your other ongoing requirements to ensure Tailings Storage Facility safety with respect to the following:

- Satisfying any outstanding orders from previous Ministry inspection reports.
- Satisfying any outstanding recommendations from previous Dam Safety Inspections (DSI) or Dam Safety Reviews (DSR).

It is expected that you will ensure dam safety management is continuously reviewed, improved and refined throughout the life of mine.

Thank you for your submission to the orders of February 3, 2015.

Sincerely,



*Al Hoffman, P. Eng.*
*Chief Inspector of Mines*
*Ministry of Energy and Mines*