

# Ministry of Energy and Mines

Mines and Mineral Resources Division

**MEMORANDUM** 

Date: September 30, 2015

To: Dean Runzer, General Manager

**Fording River Operations** 

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 satisfies the requirements of the order.

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

## **North Tailings Pond (NTP)**

#### Status of Foundation Condition

"glacio-lacustrine deposits are not expected to be present beneath the NTP Dam. However, investigation records such as drill hole or test pit logs have not been located to confirm the subsurface conditions"

The mine has committed to:

 "Collect data which can be used to confirm foundation conditions during planned 2015 site investigation (Q4 2015)."

### Status of Water Balance Adequacy

"The free water in the tailings facility is due to precipitation and a small immediate catchment area. The emergency preparedness plan for the tailings facilities includes ... as water level approaches the freeboard (1.2 m) all flows entering the pond will be shut off or diverted, water will be pumped from the NTP to the STP facility, and the downstream slope of the dam will be armoured with pit run to minimize embankment erosion in the event of overtopping."

### Status of Filter Adequacy

"Based on the performance of the dam over the last 45 years, piping due to filter incompatible material is not expected to be an issue." However, "It is noted that there are some gaps in construction quality assurance record."

The mine has committed to:

 "Gradation of the underlying flood plain sand and gravel to be confirmed. Collect data via sampling from the planned 2015 drilling program (Q4 2015).

### **South Tailings Pond (STP)**

### Status of Foundation Condition

"Based on review of the design reports, site investigation records, construction reports, and published regional geomorphology data, silt and clay deposits, including glacio-lacustrine deposits, are not present beneath the STP dam."

## Status of Water Balance Adequacy

"No surplus mine water is stored in the STP facility, water redirected to the STP is sent there to be reclaimed for use in the process plant. The emergency preparedness plan for the tailings facilities includes ... as water level approaches the freeboard (1.2 m) all flows entering the pond will be shut off or diverted, the freeboard, water will be pumped from the STP facility to Kilmarnock settling ponds, the downstream slope of the dam will be armoured with pit run to minimize embankment erosion in the event of overtopping."

#### Status of Filter Adequacy

"The compatibility between the till (base soil) and the CR/CCFR shell or flood plan sand and gravel (filter) met the filter compatibility criteria. Based on the performance of the dam over the last 37 years, piping due to filter compatible materials is not expected to be an issue. Continual seepage is evident at the toe of the STP dam, particularly along the West Dam, and has been reported for many years. Cloudy seepage water can indicate internal erosion, but records of the seepage from STP indicate clear water."

The mine has committed to:

 "Measure flows at culvert at north end of West Dam; direct as much seepage as reasonably possible below West Dam to collection points for regular measurements (as per 2014 DSI (Q3 2015).

MEM supports the proposed plan of action. Please ensure that all work as outlined above is completed within the specified timeframe. MEM will be following-up by January 15, 2016 to obtain a status update with respect to the work completed and commitments made.

The orders issued on February 3, 2015 have been requested to provide assurance 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