Ms. Violet Camsell-Blondin  
Chair  
Wek’èezhíi Land and Water Board  
Box 32  
Wekweeti, NT X0E 1W0

4 May 2016

Re: Water Management Plan V14 Follow-up

The Wek’èezhíi Land and Water Board letter April 4, 2016 requires a response from Diavik Diamond Mines (2012) Inc. (DDMI) in regard to two items as follows:

1. DDMI is to submit a letter to the Board within 30 days of receipt of the Board’s decision which explains in detail what the terms “authorized discharge” or “authorized for discharge” means to DDMI when used in relation to each item listed in section 1.4 of Version 14 of the WMP.

2. DDMI is to submit details of how it manages the PKC Facility to meet the design specifications outlined in the PKC Facility Plan and to avoid water ponding against the dams.

Item 1 – Section 1.4 of the Water Management Plan

Section 1.4 was added to the Water Management Plan with the intent of addressing the new Plan requirement specified in Schedule 6 Item 1b of Water License W2015L2-0001:

b) a complete list of Waste streams that are discharged to Lac de Gras without treatment;

Upon review, DDMI has identified that what was provided in Section 1.4 of Water Management Plan Version 14 was not a list of Waste streams that are discharged to Lac de Gras without treatment but rather a list of waters that may be authorized for discharge and that it is this difference that may have created “concerns” for the Board.

Under the Water License and Waters Act, “waste” are those waters which exceed the water quality requirements described in Part H Items 26 through 29. DDMI does not discharge waste streams to Lac de Gras without treatment.

DDMI proposes replacing Section 1.4 of the Water Management Plan with Attachment #1.

Given that DDMI misinterpreted the requirement for Schedule 6 Item 1b when developing Section 1.4 of the Water Management Plan, we are of the opinion that a revised version of Section 1.4 satisfies the Board’s April 4, 2016 request.
Item 2 – PKC Facility Plan

Attachment #2 describes how the PKC facility is managed to avoid water ponding against the dam. DDMI’s preference is to include Attachment #2 in the PKC Facility Plan. DDMI will be submitting the PKC Facility Plan on May 6, 2016.

Regards,

[Signature]

David Wells

cc Ryan Fequet (WLWB)
Sarah Elsasser (WLWB)
Attachment #1 Replacement to Section 1.4 Water Management Plan Version 14

1.4 Waste Streams without Treatment

Section 1.4 was added to the Water Management Plan to address the new Plan requirement specified in Schedule 6 Item 1b of Water License W2015L2-0001:

b) a complete list of Waste streams that are discharged to Lac de Gras without treatment;

DDMI is not aware of any Waste streams that are Discharged to Lac de Gras without treatment.

Following are the relevant definitions from Part A Item 2 W2015L2-0001.

"Discharge" means the direct or indirect release or deposit of any water or Waste to the Receiving Environment.

"Unauthorized Discharge" means any Discharge of any Waste not authorized by law or under this Licence.

"Waste" has the meaning set out in section 1 of the Act.

For clarity we note the following:

- For the purpose of Diavik’s Water Management water is not a Waste if it meets the water quality specified in Part H Items 26 through 29 as appropriate.
3.2.3 Pond Location and Size

FPK slurry is piped from the Process Plant and is deposited into the PKC Facility from a series of spigots installed at regular intervals along the upstream edge of the perimeter dams. Supernatant water from the FPK slurry collects in a settling pond that is maintained in the center of the PKC Facility surrounding a floating reclaim barge that is accessed via a rock fill causeway from the south perimeter dams. The volume of the settling pond is be controlled so that it is large enough to allow adequate settling time to maintain the low turbidity requirements for reclaim ore processing water, while still maintaining adequate FPK beach lengths upstream of the PKC Facility perimeter dams.

Deposition modelling of the FPK is conducted using industry standard models to assist in facility planning. The pond level is surveyed daily and the entire PKC Facility, including the FPK beaches and pond bottom, is surveyed every summer. This yearly topographic survey data is used as a base for the subsequent years’ FPK deposition modelling. Short and medium term FPK deposition planning and modelling is divided up into winter and summer deposition, as the FPK slurry behaves differently at low temperature conditions. These model results are used to schedule the FPK deposition sequence for individual spigots. Longer term FPK deposition modelling is used to plan and schedule infrastructure upgrades such as dam raises, FPK pipeline moves, and reclaim barge causeway raises. The constant in all stages of FPK deposition planning and modelling is control of the pond location. A one year plan will predict and control the location of the pond at the end of the yearly deposition cycle, but the short term FPK deposition planning and modeling will predict and control the location of the settling pond on a month to month basis throughout that yearly deposition cycle.

All deposition plans and deposition status updates are presented to and reviewed by the PKC Facility Management Committee which meets monthly and whose members include representatives from the DDMI Fixed Plant, Mine Technical Services, A21-Construction, and Health, Safety and Environment Departments as well as Golder Associates in their capacity as Engineers of Record for the PKC Facility.

The FPK pipelines and active spigot locations are inspected daily by Process Plant and Mine Technical Services-Geotechnical personnel, and detailed weekly geotechnical inspection reports are filed by Mine Technical Services-Geotechnical personnel.

In addition to managing the location of the pond, the volume and level of the pond can be controlled by adjusting the PKC facility water inputs and outputs. The current PKC Facility water management system consists of the following components:

- The reclaim barge can be used to supply water to the Process Plant or be used to send surplus water to the North Inlet via the East Side Pipeline.
- The North Inlet via the same East Side Pipeline can be run in reverse to supply water to the Process Plant or can be used to send water directly to the PKC Facility via the reclaim barge.
- The Seepage Collection and Upstream Depressurization Well system on the east side of the PKC Facility is tied into the East Side Pipeline and can be used to either send PKC Facility water to the Process Plant, or send water to the North Inlet.
- Water sent to the Process Plant is then discharged to the PKC Facility with the FPK slurry.

If water ponding against a PKC dam were to occur, DDMI has two management controls. One is to strategically relocate an FPK spigot to direct deposition to the low area of FPK beach where the ponding is occurring. Second is to lower the PKC Pond water elevation by pumping water to the North Inlet from
the Reclaim Barge. The current system allows for control over the PKC facility pond level and volume under all but the most extreme runoff conditions.

The processes and physical systems that are currently in place allow for tight control over the pond location and level, as well as FPK beach lengths. Diligent control over these aspects of deposition planning and PKC Facility management effectively reduce the risk of water ponding against the PKC facility dams.