## Review Comment Table

<table>
<thead>
<tr>
<th>Board:</th>
<th>WLWB</th>
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<tbody>
<tr>
<td>File(s):</td>
<td>W2015L2-0001</td>
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|             | Diavik - SNP Update Request - Mar 6_18 (545 kB)  
|             | Water Management Plan - Version 14.1 - Email Correspondence - Mar 20_18 (134 kB) |
| Item For Review Distributed On: | Mar 23 at 12:36 Distribution List |
| Reviewer Comments Due By: | Apr 19, 2018 |
| Proponent Responses Due By: | Apr 26, 2018 |

**Item Description:**

Diavik Diamond Mines (2012) Inc. (DDMI) submitted Version 14.1 of its Water Management Plan (the Plan) to the Wek'èezhii Land and Water Board (WLWB) on March 6, 2018. The Plan is required by Part H, Condition 2 of DDMI's Water Licence W2015L2-0001. In Version 14.1 of the Plan, DDMI has addressed outstanding requirements from previous Board directives (e.g., April 4, 2016, April 20, 2017, June 19, 2017, October 24, 2017 and December 13, 2017), as well as operational processes and controls related to water management. DDMI has provided a revision summary list that outlines the additions or changes that have been made in Version 14.1.

Within the Water Management Plan submission, DDMI has also proposed revisions to Schedule 1, Condition 1 and Schedule 6, Condition 1 of the Licence. DDMI has provided a track changes version of the proposed changes with the submission.
After submission of Version 14.1, Board staff followed up with DDMI regarding a Board requirement from the April 4, 2016 decision. The communication between Board staff and DDMI is included in the attachments.

In conjunction with the Water Management Plan, DDMI also submitted a Surveillance Network Program (SNP) Update on March 6, 2018. The SNP Update includes the proposed addition of a new SNP station related to the south Waste Rock Storage Area as was required under the December 13, 2017 Board Directive on the A21 Addendum to the Waste Rock Management Plan, as well as other revisions proposed by DDMI. DDMI proposed changes as a track changes version of the current SNP. A description of the proposed SNP station has also been included in the Water Management Plan.

Reviewers are invited to submit questions, comments, and recommendations on the following:

2. DDMI’s proposed updates to the Schedules; and,
3. The SNP Update.

Questions, comments, and recommendations should be submitted using the Online Review System (ORS) by the review comment deadline specified below.

All documents that have been uploaded to this review are also available on our public registry. If you have any questions or comments about the ORS or this review, please contact Board staff identified below.

Contact Information:

Kassandra DeFrancis 867-765-4581
Sarah Elsasser 867-765-4583
## Comment Summary

### Diavik Diamond Mines (2012) Inc. (Proponent)

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<tr>
<th>ID</th>
<th>Topic</th>
<th>Reviewer Comment/Recommendation</th>
<th>Proponent Response</th>
<th>Board Staff Response</th>
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<tr>
<td>1</td>
<td>General File</td>
<td><strong>Comment</strong> <em>(doc)</em> DDMI Cover Letter - Response to Review Comments on Water Management Plan V14.1</td>
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### Department of Fisheries and Oceans: Angie McLellan

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<tr>
<td>1</td>
<td>General</td>
<td><strong>Comment</strong> Fisheries and Oceans has reviewed the water management plan and SNP update request in accordance with the department’s mandate and has no comments at this time.</td>
<td>Apr 26: N/A</td>
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### Environment and Climate Change Canada: Bradley Summerfield

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<tr>
<td>1</td>
<td>General File</td>
<td><strong>Comment</strong> <em>(doc)</em> ECCC cover letter</td>
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<td>2</td>
<td>Section 1.4.1 - Waste Streams Without Treatment</td>
<td><strong>Comment</strong> Section 1.4.1 is inconsistent in its description of whether runoff is captured or if it is allowed to flow directly to Lac de Gras. The plan indicates that melt and rain water from the ammonium nitrate storage and emulsion plant is confined to the bermed pads, with the potential for residual runoff to be captured in Collection</td>
<td>Apr 26: DDMI apologizes for any confusion resulting from our attempts to respond to WLWB Directive 1 (24 Oct 2017). The overall intent of the items described in Section 1.4.1 is to describe where and how seepage and runoff is captured and contained or managed</td>
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Pond 7. However, the plan goes on to state that residual runoff would attenuate on the tundra or follow natural local flow paths to Lac de Gras. The fate of this residual runoff should be clarified. **Recommendation** ECC recommends that the Proponent clarify the inconsistency in the fate of the residual runoff for the ammonium nitrate storage and emulsion plant.

Environmental Monitoring Advisory Board: ... EMAB

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<td>1</td>
<td>1) Section 1.4.1 waste streams without treatment</td>
<td><strong>Comment</strong> The report does not provide any estimate of the amount of runoff that enters Lac de Gras without treatment, or the predicted quality of the runoff. Most of this runoff comes from infrastructure built with Type 1 rock. Recent predictions of the quality of runoff from the proposed 3 meter</td>
<td><strong>Apr 26:</strong> The mine site is designed to intercept and contain most of the water that comes in contact with mine infrastructure during operations. This water is then managed and treated prior to discharge. DDMI also conducts</td>
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Type 1 rock cover on the WRSA showed that the water quality would be well above AEMP benchmarks. This raises questions about the amount and quality of untreated runoff from these various infrastructure components, including the portion of the airstrip draining north, roads, camp and laydown areas.

**Recommendation** Diavik should provide an estimate of the quantity and quality of waste streams entering Lac de Gras without treatment, along with a description of the methods and assumptions used in calculating the estimate.

| 2 | 2) Site Water Balance - Runoff | **Comment** Appendix C, Attachment 1 p. A1-5 states that "Monitoring results from both the North Inlet and the PKC indicate that actual net runoff may be significantly less than the amount calculated. Actual field investigations/measurements of runoff rates could better constrain runoff estimates in future model simulations, if necessary." Table 1-4 shows the Tributary Runoff to the North Inlet (NI) in 2017 is roughly half of the predicted amount for the following years and Table 1-6 shows a similar pattern for the PKC. In the listing of key assumptions the report states that the model used historical precipitation date to April 26: As noted in the comment, the assumptions for both the NI and PKC state that runoff values are calculated using historical precipitation data until November 2017 and followed by 1:2 year average climate condition. Section 1.2.6 also states that the "predicted runoff rates for a 1:2 year climate condition are greater than the runoff rates observed on-site". The variation between predicted versus actual rainfall accounts for the different runoff values presented in Tables 1-4 and 1-6. The reason for
November 2017 in the runoff calculation. **Recommendation** Diavik should explain the differences in the predictions for runoff for the NI and PKC in more detail. Diavik should measure runoff rates directly to improve the accuracy of the model predictions with respect to runoff.

The discrepancy between tributary runoff values in 2017 vs future years is because of the differences in modelled effective precipitation. The model takes the historic measured precipitation and subtracts evapotranspiration and sublimation to find the effective precipitation. Both evapotranspiration and sublimation are essentially fixed, thus, the impact from a low precipitation year (i.e. 2017) is amplified when reviewing effective precipitation and runoff. It should also be noted that for this reason the model tends to conservatively overpredict runoff which DDMI considers to be acceptable for planning purposes. In addition, input volume of tributary runoff is minimal in comparison with pit/underground/PK slurry water inflows and will continue to decrease in the future. In DDMI’s opinion, additional efforts to directly measure runoff rates are not warranted at this time. Operational monitoring data will continue to assist with refining these estimates over time.
3) Site Water Balance “WRSA”

**Comment** Appendix C, Attachment 1 p. A1-4 states that half of the runoff from the WRSA-NCRP is directed to the NI system and half to the PKC. The model description includes runoff from the NCRP as inputs to these systems. Tables 1-4 and 1-6 of the attachment combine runoff to the NI and PKC from the WRSA-NCRP with other runoff under the heading "Tributary Runoff" and "PKC Runoff" respectively. It would be helpful to have a water balance for the WRSA-NCRP when considering potential runoff post-closure.

**Recommendation** Diavik should break out the amount of runoff attributed to the WRSA-NCRP in Tables 1-4 and 1-6 of Appendix C, Attachment 1. Diavik should provide an estimated water balance for the WRSA-NCRP.

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**GNWT - ENR: Central Email GNWT**

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<tbody>
<tr>
<td>4</td>
<td>General File</td>
<td><strong>Comment</strong> [doc] ENR Letter with Comments and Recommendations <strong>Recommendation</strong></td>
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<tr>
<td>1</td>
<td>Topic 1: 1.4 “Authorization to Discharge”</td>
<td><strong>Comment</strong> Section 1.4 proposes that certain water may be discharged directly to Lac de Gras provided that it meets the EQC in the Water Licence and is authorized by the inspector. Section 1.4 references Part H, Item 27 for the EQC. The discharge points</td>
<td><strong>Apr 26:</strong> DDMI’s preference is that these stations remain 'inactive'. We acknowledge that the current wording could cause confusion. DDMI suggests that the sentence in Section 1.4 be amended to read,</td>
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include the A154, A418 and A21 DPS well water which are identified as SNP stations 1645-52 to 54. ENR notes that the status of SNP stations 1645-52 and 53 was switched to "Inactive" on DDMI's request in 2013 as all dike seepage water into the A154 and A418 Pits is reportedly transferred to the North Inlet, and will therefore be captured under SNP 1645-13. DDMI has presently requested to change 1645-54 (in A21) to inactive for the same reason. Maintaining the option to discharge from these SNP stations within the Water Licence appears to contradict the rationale used to support these stations being switched to "Inactive". **Recommendation** 1) ENR recommends that DDMI remove the wording in Section 1.4 that permits discharge of dike seepage water directly to Lac de Gras. Alternately DDMI could re-activate the pit DPS SNP stations, i.e. 1645-52 to 54. "The following waters may be authorized for discharge without treatment provided that the SNP station is 'active'".

### 2. Topic 2: Section 2.1.5 – A154/A418 Flow Control and Monitoring

**Comment** ENR understands that this section relates to surface water flows in the pits, as opposed to underground flows which are discussed in subsequent sections of the plan. Section 2.1.5 identifies that SNP water samples of the A154/418 flows are obtained in accordance with the requirements and frequency outlined in the Water Licence. ENR was unable to identify active SNP stations that relate specifically to the underground flows.  

**Apr 26:** The active SNP stations referenced in this section (Mining Water Systems) for the A154 and A418 mines are the underground SNP sampling stations as water that flows into the open pits drains into the underground.
to A154/A418 surface flows in the Schedule E SNP Site Quick Reference Table. ENR notes that there are active SNP stations associated with underground dewatering flows pumped to the North Inlet or NIWTP. **Recommendation** 1) ENR recommends that DDMI clarify which SNP stations are being referred to in Section 2.1.5 of the Plan.

| 3 | Topic 3: 1 in 500 year Event Volumes | **Comment** DDMI indicates that some of the water management infrastructure (e.g. Pond 3, PKCF, North Inlet) has the capacity to store a 1 in 500 year event. The storage volumes of these structures are provided, but the volumes that would need to be contained during a 1 in 500 year event are not. This makes it difficult to confirm DDMI’s assertion that there is sufficient capacity to manage these extreme events. ENR notes that the 1 in 100 year freshet volumes are provided for the collection ponds, and similar information should be provided for the 1 in 500 year events. **Recommendation** 1) ENR recommends that DDMI provide the 1 in 500 year extreme event volumes in order to support the assertion that the water management infrastructure is able to manage these extreme events. | **Apr 26:** The inflows from the catchment area and flows diverted from the PKC to Pond 3 via the emergency spillway during a 1 in 500 year, 24-hr extreme event have been estimated as follows: - 370,000 m3 inflow to PKC from catchment area; - 190,000 m3 inflow to Pond 3 from catchment area; and - 560,000 m3 total potential inflow to Pond 3. The remaining Collection Ponds are not designed to handle a 1 in 500 year event and pond water would have to be actively managed by DDMI. Additional contingency measures are further outlined in Section 3.6.6.1. |
1 | Schedule 1 updates: Proposed Conditions 1(l)i and 1(l)ii  
   | **Comment** DDMI has currently proposed two sub-conditions under Schedule 1, Condition 1(l) (i.e., Condition 1(m) in the Water Licence). These two sub-conditions relate specifically to PHC F3 concentrations in sediments while proposed Condition 1(l) requires a summary describing important trends, notable events or other significant interpretations of the SNP data. As proposed, the inclusion of the two sub-conditions may suggest that only PHC F3 analysis is required under this condition. Perhaps these two sub-conditions should be separate conditions.  
   | **Recommendation** (1) Please clarify that DDMI will provide a summary of any important trends, notable events, or other significant interpretations of all SNP data.  
   | (2) Would DDMI be opposed to separating these sub-conditions into two conditions and if so, please provide rationale for opposition.  
   | **Apr 26:** DDMI confirms that the edited wording in 'l' was to clarify that the report would include a summary of important trends, events or interpretations of SNP data. We are not opposed to possibly listing the two PHC F3 items as separate requirements.  

2 | Schedule 1 updates: Proposed Condition 1(l)ii  
   | **Comment** The proposed Condition 1(l)ii is worded as "sample PHC F3 in sediments of SNP station 1645-19 during the open-water season and to analyze those results and present and discuss this analysis (23 September 2016 WLWB Directive)". Since Schedule 1 details the reporting requirements, perhaps the proposed condition could be written as follows:  
   | **Apr 26:** We have no concerns with the proposed text.
"present the PHC F3 results from sediment collected during open-water season at 1645-19 and provide a discussion on the analysis of that data."

**Recommendation** Does DDMI have any concerns with the suggested text?

| 3 | Schedule 6 updates: Condition 1d | **Comment** DDMI has proposed to remove the requirement for an overall water balance from the Water Management Plan (i.e., Schedule 6, Condition 1d) and include this requirement under Schedule 1 instead because the requirement to update the Water Management Plan annually is no longer a requirement under the current Licence (as was the case under the W2007L2-0003 Licence).

**Recommendation** Discuss any implications for the Water Management Plan if the water balance is removed (i.e., pros and cons for removing). |
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<td>4</td>
<td>Section 3.1.2: Collection pond summary</td>
<td><strong>Comment</strong> In Section 3.1.2, DDMI describes inflows to the North Inlet, including: &quot;direct or indirect water transfers from all Collection Ponds and Sump E21, as required&quot;. Table 3-1 provides the &quot;Typical pumping configurations&quot; that &quot;are subject to change in response to environmental conditions or engineering considerations&quot;. As described in the SNP under the rationale for the collection ponds: &quot;Discharge cannot</td>
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<td><strong>Apr 26:</strong> As noted previously, one advantage for DDMI and reviewers is to reduce the frequency with which the Water Management Plan requires updates and reviews. DDMI does not foresee an impact on the content or execution of the Water Management Plan by removing the water balance. The Annual Reports are readily available on the WLWB Registry for reference.</td>
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|   |   | Apr 26:** There is potential for water collected in the ponds to be transferred between other collection ponds or facilities, depending on water levels, environmental/engineering considerations and DDMI’s operational needs. Water transferred between ponds or facilities remains in containment and ultimately |
occur if there is water or waste from the facilities identified in Part H, Items 21b [PKC Facility], 22b [Drainage Control and Collection System], 23d [west dike of the North Inlet] and only in accordance with Part H, Item 27 [i.e., all other authorized discharges to Lac de Gras shall meet the EQC]."

**Recommendation** Is there potential for water collected in the ponds to be diverted to other ponds, not as described in Table 3-1? If so, discuss the implications of diverting water amongst the ponds in consideration of Part H, Conditions 21b, 22b and 23d.

DDMI understands the intent of this description as being applicable to the discharge of these ponds directly to the receiving environment (as per the WL2015L2-0001 definition of "Discharge") and not applicable to the transfer of water within the water management system whereby treatment occurs prior to discharge.
If this has been interpreted differently by the WLWB based on the definition of discharge in the License, i.e. "the direct or indirect release or deposit of any water or Waste to the Receiving Environment", DDMI requests to amend the wording in the SNP to read "Once prior to the commencement of direct discharge which can only occur in accordance with Part H, Item 27".

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<th>5</th>
<th>Section 1.4 Authorization to Discharge: SNP stations 1645-52 and 1645-53</th>
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<td><strong>Comment</strong></td>
<td>In Section 1.4, DDMI has listed water that may be authorized for discharge to Lac de Gras without treatment (provided that it meets the EQC in Part H, Condition 27 of the Licence). The list includes waters from SNP stations 1645-52 and 1645-53, both of which were changed to inactive stations in 2013 because &quot;any water that is collected is transferred to the North Inlet via the underground pumping system and subsequently sampled at station 1645-13.&quot; (Aug 12_13 Amendment to SNP). 1645-52 represented Seepage from the inside toe of the A154 Dike and 1645-53 represented Seepage from inside toe of the A418 Dike. There appears to be a contradiction between the rationale for why these stations were changed to inactive (i.e., being pumped directly to the North Inlet)</td>
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<td><strong>Apr 26</strong>: Please see response to ENR-1. The current management strategy is to intercept and direct all dike seepage to the North Inlet. If a change to this strategy occurs, DDMI will seek to re-activate these stations. By way of an example, DDMI may request direct discharge of dike seepage water if large volumes of high quality seepage were to occur. In this situation, it may be more practical to discharge this water directly to Lac de Gras, rather than the North Inlet. While this situation did not occur with A154/418, it is still too soon to determine if it may occur at A21.</td>
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and what is included in the Water Management Plan (i.e., authorized for discharge to Lac de Gras).

**Recommendation** Can DDMI please clarify the apparent discrepancy? In the response, please discuss the circumstances for when the Dike Seepage would potentially be discharged to Lac de Gras rather than pumped to the North Inlet for treatment.

6. **Section 1.4 “Authorization to Discharge”**

**Comment** DDMI states that "other waters may be authorized for discharge without treatment, provided that it meets the effluent quality criteria (EQC) in Part H Item 27 of the Water License and that sample results are provided to, and authorized in writing by the Inspector prior to discharge (Part H Item 33)." DDMI includes the Collection Ponds (SNP 1645-42, 44-47, 67-69, 74, 76) as waters that "may be authorized for discharge without treatment". In the SNP, under the sampling frequency, it states that "Discharge cannot occur if there is water or waste from the facilities identified in Part H, Items 21b, 22b, 23d and only in accordance with Part H, Item 27." DDMI does not provide this detail from the SNP in the Water Management Plan. In Section 3.2.4, DDMI also states that "If Collection Pond water meets the water license quality criteria, they may be discharged directly to Lac de Gras.

**Apr 26:** 1) Please refer to response to WLWB-4. DDMI’s preference is to amend the wording in the SNP. 2) There have been numerous improvements to the Collection Pond pumps and piping system over the years and DDMI has not needed to directly discharge Collection Pond water to the environment for many years. However, there is a possibility that a combination of environmental conditions (e.g. rain/melt) and operational issues (damaged pumps/pipeline) may result in a need to discharge a pond to the environment.
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<th>Section 1.4.1 Waste Streams without Treatment</th>
<th>Comment</th>
<th>Apr 26: As noted in the area descriptions under Section 1.4.1, the approved design for the Diavik site collects and manages the majority of water across the mine site. In addition to that, DDMI staff also actively monitor and manage other potential water and waste issues, e.g. pumping areas with surface ponding during rain events, facility seepage monitoring, etc. However, it is not practical to capture and contain all runoff from all areas at all times of year. For example, complete capture of all surface seepage and runoff would require the entire mine site to be encircled with lined drainage ditches (i.e. every roadway and the outer edge of infrastructure such as dikes and laydowns). Please refer to WLWB-8 for additional information. If such water does exist</th>
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<td>Gras with approval by the Inspector as described in the Water Licence and Section 1.4 of this Plan.</td>
<td><strong>Recommendation</strong> (1) Please clarify how Section 1.4 aligns with Part H, Conditions 21b, 22b and 23d with regards to the Collection Ponds; (2) Describe the circumstances for when Collection Ponds would be discharged to the environment.</td>
<td>In Section 1.4.1, DDMI describes how the majority of surface runoff and seepage water is intercepted and actively managed through DDMI's Drainage Control and Collection System. DDMI also states that there are &quot;additional waste water streams with potential to be discharged directly or indirectly to the receiving environment without treatment&quot;. <strong>Recommendation</strong> Can DDMI explain why some of the surface runoff and Seepage falls outside of the Water Management System?</td>
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outside of the Water Management System, the Aquatic Effects Monitoring Program is designed to monitor potential impacts to Lac de Gras from various sources, including these inputs.

| Section 1.4.1: Residual runoff | Comment | In the majority of the descriptions of the waste streams without treatment, DDMI indicates that residual water that is not collected within the Drainage Control and Collection System would attenuate on the tundra or follow flow paths to Lac de Gras. It is unclear if this residual water is sampled before it is discharged. Recommendation (1) Is the residual water sampled and reported? (2) How is the residual water identified (e.g., inspections, monitoring)? | Apr 26: In this section, DDMI is attempting to account for the small amounts of water that are not able to be controlled by DDMI, e.g. snow melt or rain water from the outside of road berms or dikes (see WLWB-7). 1) DDMI samples and reports snow from the perimeter of the mine site for water quality and dust deposition. A lichen and vegetation monitoring program is also carried out in areas adjacent to the mine. Rain water that runs off the site during a rain event is not sampled directly; amounts of rain are reported. 2) The volumes of water referred to in this section are minimal and are generally not identifiable through monitoring / inspections (i.e. moisture on the ground surface, not flowing as a stream). |

| Section 1.4.1: Runoff/Seepage | Comment | Under the description of “Seepage and runoff bypassing collection |

Apr 26: It is DDMI's opinion that these contingencies should remain
| Section 1.4.1: Contingency Plan | **Comment** Under the description of "Seepage and runoff bypassing collection systems" DDMI stated that "the management and response to runoff/seepage outside of the Water Management System is further discussed in Table 2 of the most recently approved Contingency Plan".  
**Recommendation** Can DDMI be more specific on what part of Table 2 would apply to this waste stream and why these management actions and contingencies apply? | **Apr 26** The "Dam seepage; compromised or failure of containment area; spillway discharge; seepage control system/pond/pipeline failure" section would apply, though DDMI's preference is to not reference a specific row or title, as the Contingency Plan may be updated from time to time. |
| 11 | Appendix C, Attachment 1: Pit inflows and ammonia concentrations | **Comment** The estimated annual pit inflows to A21 appear to be similar to the amount of water in the A154 pit during the period when ammonia levels were elevated due to higher-than-predicted pit inflows. For example, in the 2005 Annual Report, DDMI reported that in 2004 and 2005 there was approximately 4 million m³ and 5 million m³, respectively, of pumped A154 Pit Water. In Attachment 1 of Appendix C of the Water Management Plan, DDMI describes that predicted groundwater inflows to the A21 pit for 2018 will be 14,544 m³/day which equates to approximately 5 million m³ of inflow water per year. **Recommendation** Does DDMI anticipate ammonia losses due to high volumes of water in the A21 pit, similar to open pit mining in A154 and A418? | **Apr 26:** DDMI anticipates that there will be ammonia losses from blasting in the A21 open pit. Ammonia management and blasting practices developed for A154/A418 open pit mining practices are being applied at A21, as noted in the Ammonia Management Plan V6.1, and we have no reason to expect that we will not have similar performance. |
| 12 | Attachment 1, Appendix C: Flow Proportions Based on 2017 Model | **Comment** The volume of water transferred from the Collection Pond 3 to the North Inlet almost doubled from 2015 to 2017 (i.e., 422,040 m³ in 2015 to 806,650 m³ in 2017). **Recommendation** Can DDMI explain the increase in the output from Pond 3 in 2017? | **Apr 26:** Assumptions relating to A21 dewatering activities were the reason for the increase in Pond 3 water volumes. |
| 13 | SNP Proposed Updates: | **Comment** DDMI has proposed that "1645-54 [Seepage collection from inside toe of | **Apr 26:** Please see the response to ENR-1 and WLWB-5. |
| Proposed status change of SNP 1645-54 | A21 Dike] become 'inactive' for the same reasons explained for similar stations 1645-52 and 1645-53 in the A154 and A418 pits, respectively" because "these stations are intended to apply only if dike seepage water reports to Lac de Gras". DDMI also stated that "DDMI intercepts and collects potential seepage water in the dike pumping stations (DPS) wells and transfers it to the North Inlet". In Section 1.4 of Version 14.1 of the Water Management Plan, DDMI has listed water that may be authorized for discharge to Lac de Gras without treatment (provided that it meets the EQC in Part H, Condition 27 of the Licence). The list includes water from 1645-54. There appears to be a contradiction between the rationale for why this station would be changed to inactive (i.e., because the Seepage is pumped directly to the North Inlet) and what is included in the Water Management Plan (i.e., authorized for discharge to Lac de Gras). **Recommendation** Can DDMI please clarify the apparent discrepancy? In the response, please discuss the circumstances for when the Dike Seepage would potentially be discharged to Lac de Gras rather than pumped to the North Inlet for treatment. |
| 14 | SNP Proposed Updates: 1645-81 A/B | **Comment** DDMI has added "A/B" to the SNP Site number "to reflect that there are two areas monitored". In the sampling frequency, the description says "checked weekly for Groundwater flow and sampled monthly" but under the "Rationale for Station" it states "to monitor surface runoff water quality.". **Recommendation** Can DDMI please clarify what A and B represent? Should the "Rationale for Station" also include "to monitor Groundwater quality"? | **Apr 26:** There appears to be an existing error that DDMI failed to catch when amending the station description. These sites are not sampled for groundwater. The Sampling Frequency description should read "Checked weekly for surface flow and sampled monthly". A and B represent two separate areas that are checked in relation to the AN storage and Emulsion Plant areas. Please refer to the Annual Seepage reports for more information on the location of these stations. |
| 15 | SNP Proposed Updated: Inactive Station edits | **Comment** DDMI has edited the description of two SNP Stations that are inactive (i.e., 1645-52 and 1645-53). Previously the descriptions were "Seepage collected from inside toe of the A154 Dike" for 1645-52 and "Seepage collected from inside toe of the A418 Dike" for 1645-53. Now the descriptions read "Potential seepage collected.". **Recommendation** Can DDMI explain the benefit to modifying a description of an inactive station? | **Apr 26:** DDMI feels it is beneficial to clarify what is considered seepage versus potential seepage, despite these stations currently being inactive, as volumes of water are still reported as part of the SNP. |
| 16 | Section 3.2.4: the Normal | **Comment** The Board's April 20, 2017 approval of DDMI's PKC spillway modification and freeboard limit was on | **Apr 26:** This question relating to the PKC beach appears to be outside of the scope of the Water Management |
| Operating Water Level | condition that DDMI revise the Water Management Plan (as well as the PKC Facility Plan), as noted in the Revision Summary for Version 14.1 of the WMP. As noted on page 17 of the WMP, the normal operating water level (NOWL) will be at an elevation of 464.6 m (which will also be the elevation of the spillway invert, per DDMI's December 10, 2015 spillway modification request)). It is not clear whether maintaining the PKC pond water level at the NOWL would maintain the beaches between the pond and the dams. **Recommendation** Can DDMI describe any potential implications for the beaches between the dams and the PKC Pond when the water level is at the NOWL? | Plan and relates more to the PKC Facility Plan V4. We therefore suggest that this be addressed as part of the PKCF Plan review. |
Dear Mr. Mackenzie:

Subject: DDMI Response to Review Comments on the Water Management Plan, Version 14.1


DDMI notes that some review comments were seeking clarification regarding residual runoff/seepage water. In an effort to address WLWB Directive 1 of 24 October 2017, DDMI attempted to account for the small amounts of water that are not able to be controlled by DDMI, e.g. snow melt or rain water from the outside of road berms or dikes. DDMI wishes to note that there are many operational controls in place to minimize the amount of runoff and seepage water that could enter the receiving environment. These include mine design and engineering controls, water management practices and infrastructure inspections, monitoring and maintenance practices. The volumes of water referred to in Section 1.4.1 of the WMP V14.1 are minimal and are generally not identifiable through monitoring / inspections (i.e. moisture on the ground surface, not flowing as a stream). We wish to be clear that it is not practical to capture and contain all runoff from all areas of the mine at all times of year. However, should residual waste water exist outside of the Water Management System and eventually report to Lac de Gras, the Aquatic Effects Monitoring Program is designed to monitor potential impacts to Lac de Gras from various sources, including these inputs.

These responses have also been posted to the Wek’èzhii Land and Water Board On-line Review System. Should you have any questions regarding this submission, please contact the undersigned.
Yours sincerely,

Sean Sinclair
Superintendent, Environment

cc: Kassandra DeFrancis, WLWB
    Anneli Jokela, WLWB
    Sarah Elsasser, WLWB

Attach: DDMI Response to Review Comments on the WMP V14.1
Environmental Protection Operations Directorate (EPOD)
Prairie & Northern Region (PNR)
5019 52nd Street, 4th Floor
P.O. Box 2310
Yellowknife, NT X1A 2P7

April 17, 2018

ECCC File: 5100 000 015/006
WLWB File: W2015L2-0001

Kassandra DeFrancis
Regulatory Specialist
Wek’èezhii Land and Water Board
#1-4905 48th St.
Yellowknife, NT X1A 3S3

via online review system


Dear Kassandra DeFrancis,

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Wek’èezhii Land and Water Board regarding the above-mentioned plan and is submitting comments via the online review system. ECCC’s specialist advice is provided based on our mandate, in the context of the Canadian Environmental Protection Act, the pollution prevention provisions of the Fisheries Act, the Migratory Birds Convention Act, and the Species at Risk Act.

Should you require further information, please do not hesitate to contact me at (867)669-4707 or Bradley.Summerfield@canada.ca

Sincerely,

[original signed by]

Bradley Summerfield
Senior Environmental Assessment Coordinator

cc: Georgina Williston, Head, Environmental Assessment North (NT and NU),
PNR-EPOD
April 19, 2018

Sarah Elsasser  
Regulatory Manager  
Wekeezhii Land and Water Board  
#1-4905 48th Street  
Yellowknife, NT  
X1A 3S3

Dear Ms. Elsasser,

Re: DDMI Diavik  
Water Licence – W2015L2-0001  
Water Management Plan - Version 14.1 (the Plan)  
Request for Comment

The Department of Environment and Natural Resources (ENR), Government of the Northwest Territories has reviewed the request at reference based on its mandated responsibilities under the Environmental Protection Act, the Forest Management Act, the Forest Protection Act, the Species at Risk (NWT) Act, the Waters Act and the Wildlife Act and provides the following comments and recommendations for the consideration of the Board.

Topic 1: 1.4 – Authorization to Discharge

Comment(s):

Section 1.4 proposes that certain water may be discharged directly to Lac de Gras provided that it meets the EQC in the Water Licence and is authorized by the inspector. Section 1.4 references Part H, Item 27 for the EQC. The discharge points include the A154, A418 and A21 DPS well water which are identified as SNP stations 1645-52 to 54.

ENR notes that the status of SNP stations 1645-52 and 53 was switched to “Inactive” on DDMI’s request in 2013 as all dike seepage water into the A154 and A418 Pits is reportedly transferred to the North Inlet, and will therefore be captured under SNP 1645-13. DDMI has presently requested to change 1645-54 (in A21) to inactive for the same reason. Maintaining the option to discharge from these SNP stations within the Water Licence appears to contradict the rationale used to support these stations being switched to “Inactive”.

1
Recommendation(s):

1) ENR recommends that DDMI remove the wording in Section 1.4 that permits discharge of dike seepage water directly to Lac de Gras. Alternately DDMI could re-activate the pit DPS SNP stations, i.e. 1645-52 to 54.

Topic 2: Section 2.1.5 – A154/A418 Flow Control and Monitoring

Comment(s):

ENR understands that this section relates to surface water flows in the pits, as opposed to underground flows which are discussed in subsequent sections of the plan. Section 2.1.5 identifies that SNP water samples of the A154/418 flows are obtained in accordance with the requirements and frequency outlined in the Water Licence. ENR was unable to identify active SNP stations that relate specifically to A154/A418 surface flows in the Schedule E SNP Site Quick Reference Table.

ENR notes that there are active SNP stations associated with underground dewatering flows pumped to the North Inlet or NIWTP.

Recommendation(s):

1) ENR recommends that DDMI clarify which SNP stations are being referred to in Section 2.1.5 of the Plan.

Topic 3: 1 in 500 year Event Volumes

Comment(s):

DDMI indicates that some of the water management infrastructure (e.g. Pond 3, PKCF, North Inlet) has the capacity to store a 1 in 500 year event. The storage volumes of these structures are provided, but the volumes that would need to be contained during a 1 in 500 year event are not. This makes it difficult to confirm DDMI’s assertion that there is sufficient capacity to manage these extreme events.

ENR notes that the 1 in 100 year freshet volumes are provided for the collection ponds, and similar information should be provided for the 1 in 500 year events.

Recommendation(s):

1) ENR recommends that DDMI provide the 1 in 500 year extreme event volumes in order to support the assertion that the water management infrastructure is able to manage these extreme events.
Comments and recommendations were provided by ENR technical experts in the Water Resources Division and the North Slave Region and were coordinated and collated by the Environmental Assessment and Monitoring Section (EAM), Conservation, Assessment and Monitoring Division (CAM).

Should you have any questions or concerns, please do not hesitate to contact Patrick Clancy, Environmental Regulatory Analyst at (867) 767-9233 Ext: 53096 or email patrick_clancy@gov.nt.ca.

Sincerely,

Patrick Clancy
Environmental Regulatory Analyst
Environmental Assessment and Monitoring Section
Conservation, Assessment and Monitoring Division
Department of Environment and Natural Resources
Government of the Northwest Territories
Hi Kassandra,

According to the current SNP schedule, all EQC parameters will be sampled/analyzed prior to discharge. The license does not specify a minimum timeline between the sampling event and the authorization to discharge from the Inspector. This is for a number of reasons, including the challenges associated with sample turnaround times in the North. WL2015L2-0001 Part H Item 33 states: The Licensee shall provide water sampling results to an Inspector prior to any authorized Discharge to the Receiving Environment. Discharge shall not commence until authorized in writing by an Inspector. In addition, Part H Item 27 states: All other authorized Discharges to Lac de Gras shall meet the Effluent Quality Criteria as specified in Part H, Items 26 and 29. Thus, prior to discharge the inspector will have a full set of chemistry results to review, where all sample results are less than 1-month old based on the current SNP schedule. At that time the Inspector will use the most recent sample results to authorize discharge. The Inspector has the authority to require additional sampling under Part C (2) of the SNP if it is determined that additional sampling is required. I have spoken with the Inspector Jamie Steele about this and he is in agreement that the current SNP does not need to be altered to satisfy license requirements for discharge at these locations.

Regards,

Sean Sinclair, M.Sc., B.Sc., M.I.T. (NAPEG)
Superintendent, Environment, HSE

Rio Tinto

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**Subject:** Potential SNP update - Collection Ponds

Good Afternoon Sean,

Board staff noticed a potential error in the SNP. For the Collection Pond SNP stations (including 1645-87), the description under “Sampling Frequency” includes “once prior to the commencement of Discharge” and “Discharge cannot occur if there is water or waste from the facilities identified in Part H, Items 21b, 22b, 23d, and only in accordance with Part H, Item 27”. Part H, Condition 27 requires “all other authorized Discharges to Lac de Gras shall meet the Effluent Quality Criteria as specified in Part H, Items 26 and 29”. Under this sampling frequency, the parameters to be sampled do not include all of the parameters listed under Part H, Conditions 26 and 29. Board staff think that the full list of parameters may have been mistakenly left out when the SNP stations for the collection ponds were last modified (September 23, 2016). As DDMI indicates in Section 1.4 of the Water Management Plan, the collection ponds would only be authorized for Discharge without treatment “provided that it meets the effluent quality criteria (EQC) in Part H Item 27 of the Water License and that sample results are provided to, and authorized in writing by the Inspector prior to discharge (Part H Item 33)”. Therefore, Board staff are proposing to add the parameters listed under Part H, Condition 26 to the list of parameters under each collection pond (SNP 1645-42, 44-47, 67-69, 74, 76, 87) where the sampling frequency refers to Part H, Condition 27. Does DDMI have an opinion on the addition of these parameters to these stations?

If DDMI could respond as soon as possible that would be appreciated.

Thanks

**Kassandra DeFrancis, BEng., BSc., EIT**  
Regulatory Specialist  
**Wek'eezhii Land and Water Board**  
#1-4905 48th St. | Yellowknife, NT | X1A 3S3  
ph 867.765.4581 | fax 867.765.4593  
✉️ kdefrancis@wlwb.ca | www.wlwb.ca

*All correspondence to the Board, including emails, letters, faxes and attachments are public documents and may be posted to the public registry.*
Hi Kassandra,

DDMI would like to deactivate SNP station 1645-41 and transition to using the active SNP station 1645-51 (Note about this station in the SNP: Will only apply at the time A21 Pit is developed – i.e. now). This will be the same physical sample point with the same sampling frequency and parameters and essentially just be a name change based on the transition from construction dewatering to operational sump dewatering.

I would recommend this request be considered along with the other SNP updates that were submitted with the Water Management Plan.

Let me know if you have any questions.

Regards,

Sean Sinclair, M.Sc., B.Sc., M.I.T. (NAPEG)
Superintendent, Environment, HSE
Rio Tinto

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Thank you Sean for the notification. Now that construction dewatering has ended, can DDMI confirm if this has any implications for the SNP station related to A21 pool dewatering (i.e., 1645-41)?
Hi Jamie,

Please see attached notification regarding the completion of A21 construction dewatering.

Regards,

Sean Sinclair, M.Sc., B.Sc., M.I.T. (NAPEG)
Superintendent, Environment, HSE

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Hi Kassandra,

DDMI would like 1645-87 included in the list of stations identified in section 1.4 of the Water Management Plan. The list should read:

- A21, A154, A418 DPS well water (SNP 1645-52, 53, 54)
- Water from all Collection Ponds (SNP 1645-42, 44-47, 67-69, 74, 76) and Sump E21 (SNP 1645-87)

Regards,

Sean Sinclair, M.Sc., B.Sc., M.I.T. (NAPEG)
Superintendent, Environment, HSE

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sean.sinclair@riotinto.com www.riotinto.com

Hi Sean

We have another question for DDMI related to the new proposed SNP station 1645-87 (Sump E21). In the proposed SNP update, DDMI indicates in the sampling frequency for 1645-87 that sampling would “occur once prior to the commencement of Discharge”. Version 14.1 of the Water Management Plan does not include this as an authorized Discharge in Section 1.4. Please clarify this
apparent discrepancy.

Thanks.

Kassandra DeFrancis, BEng., BSc., EIT
Regulatory Specialist
Wek’èezhii Land and Water Board
#1-4905 48th St. | Yellowknife, NT | X1A 3S3
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See responses below in red.

Hi Patty,

Hi Sean,

We have a couple follow-up questions related to the PKC Facility Plan. At this stage, we are considering the overlap between related submissions (e.g., Water Management Plan, submissions related to Part F, Condition 9, the spillway modification, etc.) to ensure the Board will have a good understanding of how these submissions relate.

1. The Board’s April 20, 2017 approval of DDMI’s PKC spillway modification and freeboard limit was on condition that DDMI revise the Water Management Plan and the PKC Facility Plan.
Since that directive, DDMI has requested permission to temporarily accumulate water against the dams under certain conditions. As noted in Version 14.1 of the WMP and Version 4 of the PKC Facility Plan, the normal operating water level (NOWL) will be at an elevation of 464.6 m. This is also the elevation of the spillway invert, per DDMI’s December 10, 2015 spillway modification request. To ensure the Board understands how the restrictions around water accumulation relate to the PKC Facility Plan, the spillway modification, and the Water Management Plan relate, please answer the following: when the PKC pond water level is at the NOWL (464.6 m), will beaches between the pond and the dams be maintained, or will the PKC pond accumulate against the dams when the pond is at the NOWL?

The PKC pond water would not rise above the FPK beaches or the perimeter CPK berm, with the exception of a runoff event in excess of the design flood event. FPK is deposited downstream of the approximately 100 m wide CPK berms that line the perimeter of the PKC Facility, so the pond would not accumulate against the dams and would remain, on average, a minimum of approximately 100 m from the dam at NOWL 464.6 m.

2. On page 20 of Version 4 of the PKC Facility Plan, it says: “If DDMI identifies the need to move water from the PKCF during operations, water pumped from the PKCF pond for release to the receiving environment will meet all applicable effluent quality criteria specified in the Type A Water License W2015L2-0001.” Version 14.1 of the Water Management Plan does not list this as an authorized discharge in Section 1.4. Please clarify this apparent discrepancy.

This statement was included in the PKCF Plan V4 to address Schedule 6 Item 2(b) which requests a description of any proposed physical or chemical treatment of Waste or wastewater prior to Discharge from the PKC Treatment Facility to the Receiving Environment. It is not something that has been done during operations and DDMI does not wish to include this option in the list of authorized discharges and would prefer to omit this sentence from the PKCF Plan V4.

Please let us know when you think you will be able to get back to us.

Thanks,

Patty Ewaschuk, P. Eng
Senior Technical Advisor
Wek’èezhii Land and Water Board
416-432-6066
Hi Kassandra,

See responses below in red.

Let me know if you have any questions.

Regards,

Sean Sinclair, M.Sc., B.Sc., M.I.T. (NAPEG)
Superintendent, Environment, HSE
Rio Tinto

Hi Sean

I wanted to follow-up on our discussion yesterday on the dike pumping stations (DPS) that intercept lake water moving into the dikes. You indicated that there is water that moves into those interception wells which is then ultimately pumped to the North Inlet for treatment. You also confirmed that the Monthly SNP Reports report the volumes of water that are intercepted at both the A154 DPS and A418 DPS. Board staff did a quick check of the Monthly SNP Reports for 2017 and it appears that in all months in 2017, there was water reporting to both DPS (except for February 2017, where only the A154 DPS reported water).
SNP Stations 1645-52 (Seepage collected from inside toe of the A154 Dike) and 1645-53 (Seepage collected from inside toe of the A418 Dike) were changed to inactive in August 2013. The Board’s decision was based on two reasons: “Seepage through the dikes is inconsistent and any water that is collected is transferred to the North Inlet via the underground pumping system and subsequently sampled at station 1645-13.” The Board also stated that “no samples have been collected from station 1645-52 since prior to 2008 due to a lack of flow and station 1645-53 was never even established”.

There appears to be a change to the consistency of water in these DPS (i.e., water collecting here appears to be consistent now). Can DDMI comment on the appropriateness of changing these stations back to ‘active’ status?

DDMI does not agree that it is necessary to change these stations to ‘active’ status.

Can DDMI provide any supporting evidence or rationale for why these stations should remain ‘inactive’ in consideration of the Board’s previous decision from August 2013?

While water flow to the DPS wells may have been more frequent during 2017, the volume of water still remains insignificant in the grand scheme of the Site Water Balance and it is lake water from Lac de Gras entering our Water Management System. In accordance with the Board’s directive, any water that is collected is still transferred to the North Inlet via the underground pumping system and subsequently sampled at station 1645-13. DDMI’s interpretation of the Annex 1: SNP is that these dike stations should only be sampled if water is being discharged to the Environment (as per the definition of discharge: “means the direct or indirect release or deposit of any water or waste to the receiving environment”). The sampling frequency for these SNP stations is: “Once prior to discharge” or “daily during discharge”. Given that a discharge scenario is not within our plan, DDMI believes there no need for these stations to remain active. Should DDMI consider changing our approach to managing this water to report directly to Lac de Gras (as discharge), we would request to re-activate the SNP sampling stations prior to any such changes.

If you could get back to me before the end of the week, that would be appreciated.

Thanks

Kassandra DeFrancis, BEng., BSc., EIT
Regulatory Specialist
Wek’eezhii Land and Water Board
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{kdefrancis@wlwb.ca | www.wlwb.ca

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From: Jamie Steele [mailto:Jamie_Steele@gov.nt.ca]
Sent: Tuesday, May 8, 2018 11:48 AM
To: Kassandra DeFrancis <kdefrancis@wlwb.ca>
Subject: RE: DDMI Operational Notification - Completion of A21 Dewatering

I have no concerns with this. Dewatering is complete and A21 is being managed as a sump now.

Jamie Steele
Resource Management Officer III
North Slave Regional Office
Department of Lands
Government of the Northwest Territories
#140 Bristol Avenue, Yellowknife Airport
Yellowknife NT, X1A 3T2

Phone: 867-767-9187 ext. 24188
Cell: 867-447-0184
Email: jamie_steele@gov.nt.ca

From: Kassandra DeFrancis [mailto:kdefrancis@wlwb.ca]
Sent: Tuesday, May 08, 2018 11:35 AM
To: Jamie Steele
Cc: Sarah Elsasser
Subject: FW: DDMI Operational Notification - Completion of A21 Dewatering

Hi Jamie

Just checking in with you on this switch from 1645-41 to 51. Do you see any potential issues?

Thanks!

Kassandra DeFrancis
ph 867.765.4581 | fax 867.765.4593
✉️ kdefrancis@wlwb.ca | www.wlwb.ca

All correspondence to the Board, including emails, letters, faxes and attachments are public documents and may be posted to the public registry.
Hi Kassandra,

DDMI would like to deactivate SNP station 1645-41 and transition to using the active SNP station 1645-51 (Note about this station in the SNP: Will only apply at the time A21 Pit is developed – i.e. now). This will be the same physical sample point with the same sampling frequency and parameters and essentially just be a name change based on the transition from construction dewatering to operational sump dewatering.

I would recommend this request be considered along with the other SNP updates that were submitted with the Water Management Plan.

Let me know if you have any questions.

Regards,

Sean Sinclair, M.Sc., B.Sc., M.I.T. (NAPEG)
Superintendent, Environment, HSE

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Thank you Sean for the notification. Now that construction dewatering has ended, can DDMI confirm if this has any implications for the SNP station related to A21 pool dewatering (i.e., 1645-41)?

Please get back to us as soon as possible.

Thanks.
From: Sinclair, Sean (DDMI) <mailto:Sean.Sinclair@riotinto.com>
Sent: Friday, April 27, 2018 9:10 AM
To: Jamie Steele <Jamie_Steele@gov.nt.ca>
Cc: Kassandra DeFrancis <kdefrancis@wlwb.ca>
Subject: DDMI Operational Notification - Completion of A21 Dewatering

Hi Jamie,

Please see attached notification regarding the completion of A21 construction dewatering.

Regards,

Sean Sinclair, M.Sc., B.Sc., M.I.T. (NAPEG)
Superintendent, Environment, HSE

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Hi Kassandra,

As a follow up to our discussion about seepage Monday, we would like to determine the process moving forward to seek clarity on the board’s decision. Specifically, there were several statements/interpretations we are concerned with in the December 21, 2017 Board Directive and Reasons for Decision for the 2015 and 2016 Seepage Survey. Specifically I would like to follow up on these WLWB statements:

1) “the Licence does not make the distinction that just because this Seepage does not directly report to the Drainage Control and Collection System (i.e., the Seepage gets pumped out of the Seepage collection wells before the Seepage leaves the embankment), that DDMI does not have to sample that Seepage.” (RfD)

2) “The Board is unclear why DDMI has only chosen to sample the SNP PKC Facility Seepage collection wells and not the other Seepage collection wells given the Licence requirements” (RfD)

3) “Overall, the Board directs DDMI to sample all detected Seepage as required by the Licence” (RfD)

4) “...an inactive SNP station does not necessarily mean that there is no longer any Seepage... This suggests that Seepage reported at the base of the dikes also needs to be sampled.” (RfD)

**Background**

Part H Item 15: The Licensee shall conduct Seepage surveys for all constructed rock piles, stockpiles of Reclamation rock, ore stockpiles, areas constructed with mined or quarried rock, and water retention dikes and dams. The Seepage surveys shall be in accordance with Schedule 6, Item 6.

Licence definitions:
- "Dike Seepage" means any water which passes through a dike
- "Seepage" includes water or Waste that drains through or escapes from any structure designed to contain, withhold, divert, or retain water or Waste.
- "Drainage Control and Collection System" means the ditches, ponds, and associated piping and pumps used for the diversion, collection, and disposal of surface runoff and Seepage.
- "Receiving Environment" means, for the purpose of this Licence, the natural environment that receives any Discharge of Waste, including Seepage and runoff, from the Project.

Merriam-Webster definition:
- “Through” - used as a function word to indicate movement into, at one side or point, and out at another and especially the opposite side of

**DDMI Interpretation**

In response to WLWB statement (1): It is our interpretation of the license that water collected in the various wells located in the PKC Dams, and A154/A418/A21 Dikes is not seepage. It is important to note that in the definition of seepage, water must "drain through or escape" the structure. PKC water has the potential to become seepage (if it escapes and enters the drainage control and collection system or the receiving environment), however it is intentionally, and by design, intercepted and collected by the wells. Because of this, it did not drain through or escape the structure. Likewise the Dikes are designed with pump station wells to prevent seepage of water which drains through or escapes the structure. For these reasons, water samples are not required for each interception, depressurization or pump station well within the PKC or dikes.

In response to WLWB statement (2): The purpose of the PKC pumping wells is to intercept any seepage through the PKC dams as an additional measure to prevent mine-water from entering the receiving environment. DDMI added the referenced PKC well SNP stations in 2013 with the intent of providing water quality data to inform management of potential seepage quality and as an early warning indicator of any potential water quality issues at closure. Additionally, we have clarified in our upcoming submission of the PKC Facility and Water Management Plans that water from these SNP stations is representative of water quality at numerous wells within the same aquifer system, as multiple wells were required for one aquifer due to the limited size of the drill available on site.

In response to WLWB statement (3): Pond SNP stations (Drainage Control and Collection System), in addition to weekly infrastructure surveys by the Geotechnical team are intended to monitor for seepage. If seepage is detected that is reporting to
the receiving environment, DDMI samples this water as per license requirements, notifies the Inspector and works to stop, divert or contain the seepage, as required. DDMI has done this in the past and is committed to continuing this work.

In response to WLWB statement (4): DDMI does not actively monitor or sample inactive SNP stations. Infrastructure surveys by the Geotechnical team are used to detect if seepage is draining through or escaping structures. This may occur in new areas, or in those which were previously monitored by SNP stations. Should this occur, the specific situation would be assessed with input from the Inspector and a new or previously inactive SNP station may be activated/re-activated. In the case of the A154/418 pump station wells, the WLWB directive that approved these stations becoming ‘inactive’ recognized that any intercepted seepage would be pumped to the North Inlet and be captured by sampling at SNP station 1645-13 (Decision from Wek’eezhii Land and Water Board Meeting of August 12, 2013), thereby omitting requirements to directly monitor pump station water quality.

Overall, DDMI acknowledges that the wording in the SNP, facility/management plans and our reports could be misinterpreted because the PKC wells were not specifically described as ‘interception’ wells, but rather as ‘seepage monitoring/collection wells’. Moving forward, we will clarify all text related to the PKC and dike wells in our management plans and reports, as well as in the SNP, to appropriately identify them as seepage interception wells.

I look forward to hearing from you on a process moving forward. Please feel free to give me a call if you want to discuss this further.

Regards,

Sean Sinclair, M.Sc., B.Sc., M.I.T. (NAPEG)
Superintendent, Environment, HSE

Rio Tinto

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