Environmental Monitoring Advisory Board

Intervention to the Wek'èezhìi Land and Water Board

on

Diavik Diamond Mines' Water Licence W2015L2-0001 Amendment Proceeding:

Progressive Reclamation

January 18, 2022

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1. Completeness of Amendment Application

EMAB has reviewed Diavik's Water Licence Amendment Application for Progressive Reclamation. The application is intended to:

- allow diversion of water from Lac de Gras to fill mine workings, and
- facilitate uncontrolled discharge into Lac de Gras by decommissioning existing drainage and collection ponds as a form of progressive reclamation. Diavik characterizes the application as "administrative" and its application indicates there are no potential environmental effects of the amendments.

EMAB disagrees that the changes with respect to decommissioning collection ponds and allowing uncontrolled discharge are administrative, are exempt from preliminary screening and have no potential for environmental effects. It is our view that by characterizing the application as "administrative" Diavik has not been able to justify not providing information needed to fully assess the potential implications of the application in a public proceeding, instead putting off review of the details into a less public and less rigorous process. In our view this application is incomplete and leaves us with a number of concerns and questions.

Diavik has stated that the regulatory authorities did not accept a discharge to Lac de Gras for research purposes in its supporting correspondence for the application, but has not provided supporting evidence. Since the purpose of this amendment application is to allow authorization of discharge to Lac de Gras the research proposal identified in Diavik's 2021 Mixing Zone Discussion Paper could have been incorporated into the decommissioning process proposed in this application. Diavik has chosen not to do this. EMAB believe the uncertainties with respect to discharge from decommissioning collection ponds resulting from this application could have been addressed through supporting documentation, which Diavik chose not to provide. These relate in particular to the mixing zones, water quality criteria, and monitoring of the discharge and effects on the mixing zones.

a) General comments on proposed mixing zones

In 2017 Diavik proposed a 25 square kilometer mixing zone around East Island extending for one km from the shore (Version 1.1 of Its Final Closure Plan for The North Country Rock Pile and version 4.0 of its Interim Closure and Reclamation Plan). The WLWB directed that Diavik provide evidence that this was the smallest possible mixing zone. In 2020 Diavik did a more detailed modelling exercise of runoff and seepage into Lac de Gras and identified 16 mixing zones for individual catchments of varying size and shape totaling about two square kilometers. While this was a vast improvement over a 25 square kilometer mixing zone, it still raised concerns for reviewers. In response to these concerns Diavik submitted a Mixing Zone Discussion Paper that modelled the effect of possible source control measures and proposed a program of field monitoring and research of chemical and toxicological responses to controlled release of tested water. This research program was supported by EMAB and other reviewers. The WLWB agreed the program would be helpful in addressing uncertainties about mixing zones; it also gave Diavik direction on water quality closure criteria and mixing zones

In the Mixing Zone Discussion Paper Diavik proposed to provide the details of the research program with the Annual CRP Progress Report in March/April 2021, and EMAB has been looking forward to receiving

the proposal since then. The data from the research would have been compared to model predictions to assess potential effects of discharges and recalibrate the model. We are disappointed that Diavik has failed to follow through with this commitment, and instead pursued a water licence amendment application that would allow them to discharge directly from decommissioned collection ponds into Lac de Gras.

In its Reasons for Decision for ICRP 4.1 the WLWB gave a number of specific directions to Diavik regarding water quality criteria for closure, and mixing zones, ie. Revision 16, 17 and 18. EMAB believes these requirements also apply to this closure-related water licence amendment, and notes that Diavik proposes to provide most of this information after this proceeding is complete, in Decommissioning Plans for specific catchments.

EMAB's view is that this information should have been provided as support for the proposed amendment. The research proposal, and the information on catchment-specific closure criteria and associated mixing zones would have addressed many of the concerns of EMAB and other participants. This is particularly disappointing since Diavik has had most of a year to develop the proposal to monitor the discharge and its potential effects, and several months to prepare the information identified by WLWB.

It is not clear to EMAB how Diavik can be held accountable to carry out development of its research proposal, but we want to express our concern that Diavik made a commitment to provide a proposal by March/April of 2021 and did not fulfill it.

b) <u>Potential effects on Lac de Gras and Significance determination in Diavik's Environmental Assessment</u>

During this proceeding Diavik has noted several times that the modelled mixing zones represent a tiny percentage of the area of Lac de Gras, and that these effects were not considered significant in the environmental assessment of the Project. It has argued that there was never an expectation that the CCME guideline for the protection of aquatic life would be met prior to discharge either during operation or at closure. Instead, Diavik has said that CCME criteria, which have evolved into the AEMP benchmarks, would be met in Lac de Gras outside allowable mixing zones.

Diavik's proposed mixing zones and aquatic effects benchmarks originate from its Environmental Assessment in 1999. The CEAA Comprehensive Study Report (CSR) defined significant adverse effects as having "a high probability of a permanent or long-term effect of high magnitude, within the regional study area", where a high magnitude of effect for water quality is the concentration of a contaminant exceeding the drinking water and/or the aquatic guideline by more than 20 percent. The CSR defines the local study area for water and fish as "East Island and surrounding water, within 1 km of the East Island shoreline".

The purpose of any environmental assessment is to assess whether the adverse environmental effects of a proposed project are so significant that the project should not proceed, and the extent to which those effects can be mitigated. If the significant adverse effects cannot be mitigated to the point where they are within a defined spectrum of significance, then the project should not proceed.

For the case of aquatic effects predicted to result from the Diavik mine, the setting of a local vs. regional study area, or a scale of magnitudes of impact provides a tool to undertake the assessment. Mitigation was developed so that adverse effects were reduced on the spectrum of significance. It must be recognized that approval of the project to proceed based on the resulting assessment does not provide authorization to potentially compromise aquatic health within Lac de Gras.

Diavik is predicting runoff from decommissioned collection ponds will not meet all AEMP benchmarks before entering Lac de Gras. It is partially justifying relatively large mixing zones by referring to the significant adverse effects criteria from the Comprehensive Study Report (CSR). EMAB disagrees with this approach.

While CEAA assessors may have established significance thresholds based on the boundary between the local and regional study areas, they have no ecological relevance.

Recommendation

1.1 Regulators should not accept arguments that potentially adverse environmental effects that might not have been deemed significant for the purposes of environmental assessment provide a justification for allowing the mine to harm aquatic health.

c) <u>IR #7 and Diavik commitment to treat poor quality water post-closure</u>

As part of information request #7 from WLWB following Technical Sessions for this proceeding Diavik was asked to comment on whether or not it agreed with a statement in the CSR that says "Diavik proposed to collect and treat runoff for as long as water quality parameters exceed aquatic life thresholds. Natural drainage to the lake would be reestablished only after the water quality meets CCME guidelines for the protection of aquatic life". Diavik now says that it does not agree that it made this commitment during the CSR.

The regulatory authorities have provided transcripts of CSR sessions and have said they cannot find any such commitment in the transcripts. EMAB's review indicates that David Milburn from DIAND said Diavik had made this commitment during Technical Sessions on February 23, 1999 (p. 612/1462 in the pdf provided) and no one disagreed with him at that time.

The CSR was published in 1999 and has been part of the public record for more than 20 years. During that time Diavik has not disputed its contents. In addition EMAB submitted the same quote from the CSR in comment 40 on ICRP 4.0 and Diavik's response did not include a denial of having made it. Now as closure approaches and there are concerns about the potential for contaminated discharges Diavik disagrees that it made this commitment.

After consideration, EMAB's view is that too much time has passed for Diavik's disagreement to carry any weight, and that the response should not be considered as credible evidence.

Recommendation

1.2 WLWB disregard Diavik's response to IR #7 from this proceeding, considering the lengthy time period that has passed since the CSR was entered into the public record without any comment from Diavik as discussed in section 1(c) above.

Recommendation Regarding Application
1.3 Water Licence Amendment Application with respect to decommissioning of collection ponds should be rejected as incomplete.

2. Water Use for Filling Mine Workings

EMAB accepts Diavik's proposed wording for Part D allowing Diavik to divert water for filling mine workings in accordance with approved closure criteria and has no further comments on this part of the application.

3. Rationale for Decommissioning Ponds

Issue:
Many collection ponds are still active and are used for a variety of reasons, including collecting seepage from the Processed Kimberlite Collection Facility (PKCF), and monitoring runoff water quality from facilities and structures on site.

Background:
Diavik states that the rationale for decommissioning ponds is that decommissioning is required to re-establish pre-development flows. EMAB appreciates that Diavik is required to re-establish pre-development flows as part of closure, however, it is important to consider what each pond is being used for before it is decommissioned, especially considering discharge is proposed to be uncontrolled. For example, Diavik has proposed Pond 7 as the first pond to be decommissioned, and states that its purpose is to collect any seepage that may occur from the PKCF. In Annex 1 Part E under each SNP station in the Water Licence, the specific purpose of each pond is given. While Pond 7 is being used to collect any seepage from the PKCF, it is also to collect and monitor runoff water quality from the Ammonium Nitrate Storage. Diavik is currently storing roughly 2 million kg of ammonium nitrate, with another 3 million kg to be delivered by ice road. It is important to ensure that waste collection ponds are not decommissioned prematurely.

Recommendations:
3.1 Diavik should show sufficient evidence that any runoff from the Ammonium Nitrate Storage and Emulsion Plant will not cause deleterious effects to the receiving environment if Pond 7 is decommissioned.
3.2 Diavik should show that the original purpose of the pond is no longer needed, or will not cause adverse effects to the aquatic environment in their decommissioning plan. Diavik should not be allowed to decommission ponds that still collect waste water from active components of the mine (i.e. start with ponds that collect less water from less significant areas of the mine [pond 7, 1, and 2]).

4. Decommissioning Criteria and Uncontrolled Discharge into LdG

Issue:
Diavik's proposed option for decommissioning collection ponds is to develop new reconnection water quality criteria. This proposed option includes a single round of sampling before decommissioning. After samples meet proposed EQC the pond would be decommissioned and would allow uncontrolled discharge into Lac de Gras (LDG).

Background:
There are three options to regulate discharge that Diavik has presented:

1. Develop numeric EQC for closure runoff, with numbers specific in the water licence – i.e., a table showing EQC for each parameter at each location.
2. Develop numeric ECQ for closure runoff, with the licence containing a reference to Closure Criteria – i.e. the actual numbers would be approved and updated though reviews of Closure and Reclamation Plans, without requiring a licence amendment.
3. Develop pond decommissioning approval process with closure criteria, and transition long-term management to the Aquatic Effects Monitoring Plan including its Response Framework. (Water Licence Application, Attachment 3, Summary of Options Assessment Table).

Diavik prefers option 3 to regulate discharge and stated that option 2 was considered, but the key disadvantage was the challenge to monitor, adapt, and enforce EQC of uncontrolled drainage of surface water. Newly proposed EQC may point to Diavik's new preferred option, however, this is not clear. Option 3 does not allow for proactive planning and response when problematic changes in water quality would first be measurable at locations nearest to mine sources. Instead, responses would not be triggered until changes are measurable at AEMP monitoring sites in LDG, changes that could take extended periods to become measurable, and be reported (see also section on Response Framework).

Another important consideration for the decommissioning criteria is the undisturbed sediment that has settled over many years within the collection pond system. We note that Diavik has proposed development of a sediment sampling plan in Schedule 10. It is likely that the decommissioning process will disturb bottom sediments that may have adsorbed various metals or nutrients. Disturbance of these sediments could result in their deposition into LdG.

Diavik has proposed new EQC's for discharge from components of the collection pond system in Part G, 33 of the proposed Water Licence amendments as part of their response to an Information Request. The proposed EQC's do not meet AEMP benchmarks, and many parameters that are included in the AEMP benchmarks are not included in the proposed EQC's. The AEMP benchmarks are set to ensure the protection of aquatic life. Allowing discharge from the Collection Pond System and Waste Rock Pile using the currently proposed EQC's in Part G(33) could increase the likelihood of water quality that is above AEMP Benchmarks and threaten aquatic health. It is important to keep in mind the Site Wide Closure Objective, SW2 "Surface runoff and seepage water quality that will not cause adverse effects on aquatic life or water uses in Lac de Gras or the Coppermine River". The WLWB's Reasons for Decision on ICRP 4.1 provided several comments and direction to Diavik regarding SW2 that would help Diavik ensure the closure criteria is met. Criterion 6, of the 13 decision criteria set out in section 3.0 of the Guidelines for

Effluent Mixing Zones, states that "Conditions within the mixing zones should not cause acute toxicity to aquatic organisms". Diavik stated it will test representative discharges for acute and chronic toxicity and that it "will not discharge water that is acutely toxic based on the results of the toxicity testing" (Response to Mixing zone Discussion Paper ECCC comment 2). The WLWB found that since the runoff discharge is uncontrolled, it will not be possible to test and store the water before toxicity results are received. Furthermore, the WLWB stated that "additional information or rationale is needed to assess compliance of the proposed SW2-1 closure criteria to mixing zone criterion.

Recommendations:

4.1 Given there are already approved EQC's in the water licence, it is unnecessary to propose additional EQC's for decommissioned ponds, especially ones with higher allowable concentrations. EMAB recommends removing G (33) and instead apply G (32) EQC's for decommissioned ponds.

4.2 Regulation of discharges following Option 2 appears to be a practical and feasible approach that will provide clear discharge standards for each catchment, without requiring a specific licence amendment to address site-specific EQC for each catchment. To achieve this, licence condition Part G (32) should be revised to include a requirement for DDMI to continue to meet the Closure Criteria proposed in 4 (a) of Schedule 10 Decommissioning Plan when discharge is occurring from a decommissioned pond.

4.3 EMAB believes a controlled release is a more prudent approach. Diavik should install a mechanism to control releases from decommissioned ponds until Diavik demonstrates it consistently meets water quality criteria, then implement a slow release of pond water and monitor effects to receiving environment closely (i.e. mixing zones).

4.4 Diavik should conduct multiple rounds of sampling during periods of highest contamination levels in the past and show compliance with water quality criteria for approval of decommissioning plan

5. Lack of research program and monitoring plan details for effects of discharge on mixing zone catchment area

Issue:

The application references monitoring of discharge from decommissioned collection ponds through Performance Assessment Monitoring (PAM). It includes proposed wording for PAM in Decommissioning Plans item 4(c) in Schedule 10 of Diavik's proposed wording for the amended water licence. EMAB would have preferred to see the draft research program plan discussed above under Completeness of Application section. In the absence of the research plan EMAB would like to see much more detail on the sampling plan, methods etc. than is currently provided or included in Schedule 10.

Background:

A detailed research plan is needed to thoroughly test Diavik's modelled predictions for water quality and extent of mixing zones for each catchment, as well as to assess the effects of the discharge on aquatic life. This is particularly important for the first few collection ponds that are decommissioned, to allow an assessment of the accuracy of the model predictions.

EMAB contracted North-South Consultants (NSC) to prepare a technical memo identifying key components of a research program (attached) to assess effects of discharge on mixing zones. This information would inform item 4 of draft Schedule 10 on Decommissioning Plans.

Recommendations:

5.1 Diavik currently proposes to sample once from three stations in a collection pond before decommissioning to verify its water quality – one round of sampling is not sufficient, multiple rounds should be considered, in a variety of conditions, particularly freshet.

5.2 Need for research within proposed mixing zones → this would enable Diavik to study how decommissioned pond runoff impacts aquatic life, and determine the mixing characteristics within proposed mixing zones

5.3 Research & monitoring

5.3.1 Instead of performance assessment monitoring of uncontrolled discharge, Diavik should perform initial research on water quality effects in mixing zones from a controlled release of pond water.

- Pumping specified amount/rate of water to study mixing characteristics and aquatic effects

5.3.2 Diavik should design and propose a tracer study in proposed mixing zones to further understanding of the characteristics of individual mixing zones

5.3.3 Sediment samples should be taken before and after decommissioning ponds.

- Sedimentation has likely occurred in collection ponds, and may be disturbed during, and after, the decommissioning process.
- Sediment in mixing zone area should be characterized prior to discharge to enable effects of discharge to be measured.

5.3.4 EMAB supports the research program approach, which was proposed by Diavik in early 2021 and supported by WLWB in its decision on ICRP 4.1. Components of research / monitoring program should include (see NSC memo for more details):

5.3.4.1 Runoff

- Continuous flow monitoring
- Water quality including routine chemistry, total & dissolved metals, nutrients, in situ parameters, and include lead, mercury and total nitrogen
- Toxicity testing

5.3.4.2 Mixing zone dimensions

- Plume mapping during peak flow: freshet, high precipitation events
- Conductivity might be a possible tracer; use conductivity loggers during break-up and freeze-up.

5.3.4.3 Mixing zone water quality

- Targeted sampling during periods of maximum predicted effects
- Sample same parameters as for runoff

5.3.4.4 Mixing zone sediment quality

- Characterize prior to discharge
- Metals, nutrients, supporting parameters

5.3.4.5 Benthic invertebrates

- Follow MDMER guidance

5.3.4.6 Fish

- Follow MDMER guidance

Add the above list to relevant items in draft Schedule 10 section 4.

6. Development of water quality criteria

Issue:

The only water quality criteria proposed for pond decommissioning is in Part G(33) of the proposed water licence amendments. These criteria reflect the Metal and Diamond Mine Effluent Regulations (MDMER) standards, which allow for much higher concentrations than AEMP benchmarks. In addition Diavik proposes to develop criteria in its decommissioning plans (schedule 10, item 4a).

Background:

Schedule 10 (3) outlines information Diavik will provide associated with effects predictions related to pond decommissioning, such as historical SNP data, water quality predictions for the catchment as a whole and at the point of discharge. It also proposes to provide a description of any results from additional work undertaken to better understand the potential impacts to aquatic life within the mixing zone. We hope that Diavik will show that these predictions will meet AEMP benchmarks within catchments, possibly through additional research.

There is a need to develop water quality criteria that will protect the health of aquatic organisms, as described in the site wide closure criteria SW2. The currently proposed EQC which reflect the MDMER are not protective of aquatic life.

Recommendations:

6.1 Proposed water quality criteria should ensure that AEMP benchmarks will be met.

6.2 Diavik should specify in Schedule 10 (3) that the post-closure water quality predictions being made for the catchments will meet AEMP benchmarks and provide evidence (either through modelling results or a research program).

6.3 Diavik should identify the type of data that will be collected in its sampling programs, and how it will inform adaptive management in their decommissioning plan.

6.4 Updated model results for each catchment as the basis for rationale for their criteria

7. Monitoring of discharge in a timely way, and ability to respond rapidly

Issue:
Modelling shows much of the contamination from decommissioned ponds will be concentrated in a few days around freshet and precipitation events. Diavik is proposing to conduct "Performance Assessment Monitoring" as the main avenue to monitor runoff discharge from decommissioned ponds.

Background:
The AEMP framework was designed to monitor aquatic effects within Lac de Gras over a long period of time, which is not suitable for managing runoff from decommissioned collection ponds. After decommissioning collection ponds, runoff will occur in a relatively short period of time into catchments. Diavik is proposing to monitor the discharge from decommissioned collection ponds through "Performance Assessment Monitoring", under the ICRP.

The AEMP has a lag time between when runoff enters Lac de Gras to when an AEMP sampling event may occur, and when the data are analyzed and reported. This may lead to delayed response times to any action levels that may be triggered in the AEMP Response Framework. Furthermore, the AEMP sampling stations are located relatively far offshore (closest are roughly 1 km offshore) of East Island. This would increase lag times and would not help monitor the effects within many mixing zones. Sampling is limited to a short period in summer and winter and reporting is annual. The current program is more suited to monitoring effects of discharge from NIWTP on Lac de Gras as a whole.

Recommendations:

7.1 The sampling requirements must allow for monitoring to be conducted in timely way, and allow for a rapid response during and after pond decommissioning.

7.2 Sampling results should be reviewed and reported frequently (especially during/following freshet) so a rapid response to any triggers can be implemented effectively.

7.3 SNP data should be reviewed to ensure sampling includes periods of highest contamination levels in the past

7.4 Monitoring locations should be as close to the point of discharge as possible to enable a rapid response to poor quality runoff.

8. Response Framework

Issue:
Diavik proposes to develop a Response Framework to respond to discharges that affect aquatic health. EMAB is unsure what a Response Framework would look like in a decommissioning plan.

Background:
The AEMP Response Framework is a reactive measure that is implemented over a relatively long time period. The current AEMP Response Framework timelines could allow for an adverse effect to occur before being detected or triggering an action level response. Having discharge meet specified criteria at all times is more proactive and protective. A Response Framework tailored to pond decommissioning should be in place before decommissioning approval is given.

Recommendations:

8.1 Diavik should propose a separate AEMP Response Framework that includes mechanisms that are tailored to modelled runoff discharge from decommissioned ponds and should demonstrate how each action level will be implemented if triggered, including a timeframe.

8.2 Provide in detail the components of the Response Plan for discharge from decommissioned ponds and how they will differ from the current AEMP Response Plan.

8.3 In Diavik's post-closure water quality predictions for each catchment, described in Schedule 10, section 3 of the Decommissioning Plan for Collection Pond, Diavik should show that levels of acute toxicity will not occur anywhere in Lac de Gras.

9. Approval Process for Decommissioning Plans

Issue:
There are still uncertainties surrounding the approval process for Diavik's proposed decommissioning plans.

Background:
Part F (5) of the proposed water licence amendments states that "the Licensee shall submit to the Board for approval a Decommissioning Plan at least ninety (90) days prior to the start of Decommissioning any Engineered Structure that is not already approved in the Closure and Reclamation Plan". EMAB is unsure of how/why the decommissioning of a pond should be approved through a Closure and Reclamation Plan. It would be more consistent to have Diavik submit a Decommissioning Plan for each pond at the appropriate time for decommissioning.

Recommendations:

9.1 Diavik should clarify how pond decommissioning will be approved via the Closure and Reclamation Plan.

9.2 The approval process should include Diavik submitting a Decommissioning Plan each time they plan to decommission a pond regardless of any approvals within a Closure and Reclamation Plan.

9.3 Part F (5) seems to be focused on the decommissioning of collection pond systems, however, the specific wording "…*Decommissioning any Engineered Structure*…" is too broad. There are more engineered structures on site than just collection ponds, and this wording could be interpreted to include other engineered structures. If Part F (5) is specifically directed toward collection ponds, the wording should be revised to refer specifically to collection ponds (see comments in section 11 below).

9.4 Given there are still many active collection ponds, Diavik should only decommission ponds that do not collect water from active or un-reclaimed mine areas, unless they can prove that the pond meets EQC's and SW2 closure criteria.

10. Application Form

Diavik has characterized the amendment as merely "administrative" and Diavik has not identified any potential environmental effects in its application. In addition, Diavik has not provided any information on potential environmental impacts. The application is intended to allow uncontrolled discharges to Lac de Gras, which have potential for environmental effects on that receiving body; this lack of information prevents a full discussion on the potential effects of the discharges on aquatic, human and wildlife health during the proceeding.

Similarly Diavik has not proposed a schedule for decommissioning of each pond in the application, or identified which ponds it proposes to decommission.

11. Comments on Diavik Proposed Wording for Water Licence

Part A

2 – definition of Decommission – this is too broad for the specific scope and purpose of this amendment. Change "engineered structures or components of the Project" to "Collection Ponds"

Part F

4) remove this item - a decommissioning plan should be required for each collection pond regardless of whether it is submitted as a separate document or as part of a CRP.

5) remove "that is not already approved in the Closure and Reclamation Plan."

- Also change "any Engineered Structure" to "collection pond" – there are many engineered structures on site that encompass more than just collection ponds – wording could be interpreted to include other structures.

6) this doesn't add anything that is not already in the licence, so should be removed.

- If not removed, change to "All activities related to the Decommissioning of any Collection Pond shall be in accordance with the approved Decommissioning Plan"

7) change "any Dams or Engineered Structures" to "Collection Ponds" to stay within the scope and purpose of this amendment application.

Part G

27e) remove "the Closure and Reclamation Plan or"

28g) remove "Closure and Reclamation Plan or"

- Add a requirement that Diavik has demonstrated the pond is no longer required for collection of drainage.

28h) not clear what the purpose of this item is – remove.

- If not removed, change "component" to "collection pond"

32) Add wording so this section also applies to Decommissioned Collection Ponds. Suggested wording "The Licensee shall ensure that all Discharges to Lac de Gras from the Water Treatment Facilities at SNP Station # 1645-18 and 1645-18B, as well as Discharges from any Decommissioned Ponds and their associated SNP stations meet the following Effluent Quality Criteria:"

33) This appears to be potentially inconsistent with direction from WLWB to have catchment-specific criteria, and Diavik proposed wording for Schedule 10 on Decommissioning Plan for Collection Pond items 4(a) and 4(b). EMAB suggests removing G (33) from the proposed amendments and referring to the current EQC's that are already in the approved water licence, as proposed in EMAB's recommendations 4.1 and 4.2.
Alternatively, EMAB suggests changing to "discharge is authorized from components of the Collection Pond System as approved in the Decommissioning Plan, and the licensee shall ensure that all discharges to Lac de Gras meet the approved water quality criteria in the Decommissioning Plan." while stating that the water quality criteria cannot exceed EQC limits.

34, 35) – EMAB requests clarification on the reference to discharges to Lac de Gras vs. authorized discharges to Lac de Gras as referenced in item G(34) and G(35) of Diavik's draft wording for the amended water licence.

36) may need to be revised with respect to proposed changes to G(33), or G(32) if G(33) is removed, and recently published exemption from MDMER

Part I
2) clarify the focus of revision to AEMP Design Plan by adding "to monitor effects of surface water discharge from decommissioned collection ponds"

Schedule 10
3(c)(i) – add "including a map" as directed by WLWB in Revision 17 of RFD for ICRP 4.1.
3(c)(ii)&(iii) – change "200m" to "100m"

Add 3g) – add "*Provide additional analysis (e.g., a risk assessment) of scenarios where runoff quality is at acute guideline levels for uranium or nitrate to show why this would not be expected to cause acute lethality to aquatic life inside the mixing zones."* as directed by WLWB in Revision 16 of RFD for ICRP 4.1.

4a) – SW1 and SW2 closure criteria should take precedence over EQC's in Part G.

4c) this requirement should be much more detailed; also see comments and recommendations under Research Program section above and NSC Technical Memo attached.

- Revise wording as follows "Sampling plan to evaluate effects within the receiving environment including:
  - i) Water sampling plan to demonstrate performance against SW1 and SW2, including chronic and acute toxicity;
  - ii) Targeted water sampling during periods of maximum predicted effects
  - iii) Runoff monitoring

iv) Benthic invertebrates sampling
v) Fish sampling
Include consideration of intermittent nature of the discharge as committed to in IR#3 response on page 4/116 of the pdf.

4d) Revise as follows: “Sediment sampling plan for collection pond and mixing zone prior to, and during, discharge”;

Add 4(g) – add “Monitoring and reporting requirements to confirm the size of the mixing zone.” as committed to in IR#3 response on page 4/116 of the pdf;

- Include consideration of intermittent nature of the discharge as committed to in IR#3 response on page 4/116 of the pdf.

Annex 1 -
Sampling schedule should take into account intermittent nature of discharge.

Attachment

North-South Consultants Technical Memo:
Diavik Diamond Mines: Aquatic Monitoring of Intermittent Runoff
January 12’22