

Water Licence Renewal Application: Public Hearing Intervention

Independent Environmental Monitoring Agency

June 13-15, 2023 | Behchokò Ko Gocho Centre (Sportsplex)



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Intervention Topics

Expiry Date of Water Licence

Definitions

Water Use

Waste Disposal

Construction

Closure and Reclamation

Surveillance Network Program

Expiry Date of Water Licence



IEMA-1

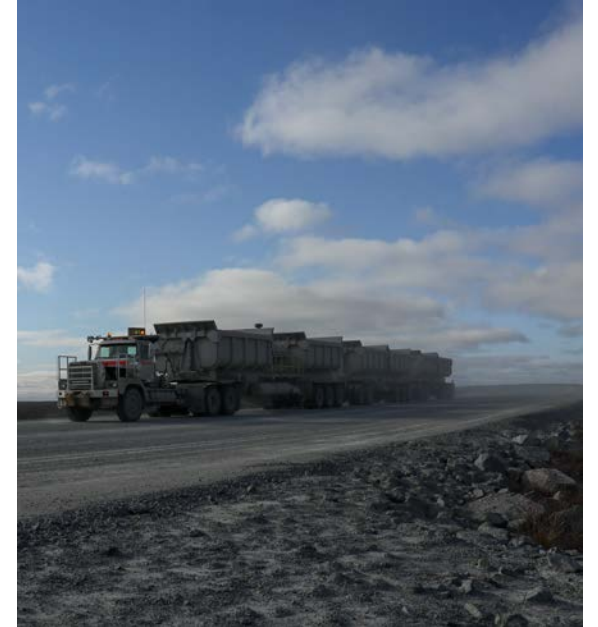
Expiry date of Water Licence

- The term should reflect the operating status
- Current end of mine life is projected to be 2029
- If Ekati were to enter a closure and reclamation phase, then scope of Licence would change
- The commercial use of URM technology would require preliminary screening and amendment to the licence

Recommendation

The term of the Water Licence should be 7 years with an expiry date of 18 October 2030.

Definitions



IEMA-2

Closure and Reclamation

- The definition of the terms 'Closure and Reclamation Plan' and 'Component Specific Closure and Reclamation Plan' should be consistent

Recommendation

The definition of 'Closure and Reclamation Plan' should be expanded to include:

"a document, developed in accordance with this Licence and the MVLWB/AANDC Guidelines for the Closure and Reclamation of Advanced Exploration and Mine Sites in the Northwest Territories, that clearly describes the Closure and Reclamation for the Project"

IEMA-3

Discharge

- The definition should include the direct or indirect deposit or release of Waste to Receiving Waters - in addition to the deposit or release of Water and Wastewater.

Recommendation

The definition of 'Discharge' should be expanded to include:

"a direct or indirect deposit or release of any Water, Wastewater or Waste to Receiving Waters".

Part D: Conditions Applying to Water Use



IEMA-4: Condition D.1 – Withdrawal of Water

- Arctic Canadian should continue to use recycled water for process plant operations
- Augmenting the water supply with fresh water from Upper Exeter Lake will increase the on-site inventory of mine-impacted water. This water will require management actions at closure and therefore increases the closure liability.

Recommendation

Authorization to use water from Upper Exeter Lake to augment Process Plant water supply should not be authorized at this time. If Arctic Canadian wishes to pursue this, it should provide a water supply options analysis that describes the options considered and the criteria used for selection. This should be supported by appropriate evidence to support evaluation of options, for example, water quality data and constraints, cost analysis, pit stability analysis, etc.

Part F: Conditions Applying to Construction



IEMA-5

Condition F.10 - Delineation Programs

- The current wording requires the identification of pre-construction soil, rock and ground ice conditions in foundations for the Sable, Pigeon, Beartooth and Lynx developments
- This is specific to containment structures and diversion channels
- The condition currently does not apply to the Point Lake Project

Recommendation

The scope of Condition F.10 should be expanded to require the identification of soil, rock, and ground ice conditions prior to the construction of any new containment structures and diversion channels.

IEMA-6

Condition F.21 through F.23

- Independent review is an important part of best management practices for tailings storage facilities that rely on dams for tailings and water containment
- This should be a requirement for the LLCF
- The LLCF is used for water management and includes several dams that retain both tailings and water - this presents risks

Recommendation

Condition F.21 through F.23 of the Water Licence should include standard conditions requiring the establishment of a Tailings Review Panel.

IEMA-7

Condition F.2 - Schedule 5, Condition 3

- The distinction between a 'Dam' and a 'Containment Structure' creates confusion regarding the requirements for managing the containment of water and PK
- According to the *Technical Bulletin: Application of Dam Safety Guidelines to Mining Dams*, all structures associated with the LLCF should be considered dams.
- **Arctic Canadian has acknowledged this change**

Recommendation

The proposed Schedule 5, Condition 3 should be revised to provide only a list of Dams. The structures listed as Containment Structures should be moved to the Dam list, and Dike D should also be added to the list. Condition F.2 can be revised to remove the suggested reference to Containment Structure.

IEMA-8

Condition F.18

- Arctic Canadian has agreed to retain an Engineer of Record for Dams
- Consistent with current best practice for management of TMFs, the proponent should be required to provide notification of the Engineer of Record and the engineer's acknowledgement of the role

Recommendation

Condition F.18 of the Water Licence should be revised to state: "The Licensee shall retain an Engineer of Record for Dams. The Licensee shall submit the name of the Engineer of Record and acknowledgement by the Engineer of Record that they have agreed to accept the responsibility."

Part H: Conditions Applying to Waste Disposal



IEMA-9

Condition H.3

- Condition H.3 prohibits the discharge of Waste and Wastewater to any Watercourse or to the ground surface within 100 m of the ordinary high-water mark of any Watercourse, unless approved by the Board
- Conditions H.5 (deposit of Waste) and H.22 (discharge of Effluent) adequately control the release of Waste and Wastewater to the Receiving Environment
- ***Arctic Canadian has acknowledged their agreement to remove this condition from the Water Licence***

Recommendation

Condition H.3 is redundant and should be removed from the Water Licence.

IEMA-10

Condition H.10

- The term 'Waste Disposal Facilities' is not defined in the Water Licence
- ***Arctic Canadian has acknowledged to include the definition of 'Waste Disposal Facilities' in the Water Licence***

Recommendation

A definition should be provided for the term 'Waste Disposal Facilities' in Part A.2, or the term should be replaced in Condition H.10 using an alternative, defined term.

IEMA-11

Condition H.17

- Operation, Maintenance and Surveillance (OMS) manuals should be updated as operations progress
- The initial manual and any subsequent updates—as directed by the Engineer of Record—should be provided to regulators or interested parties

Recommendation

Condition H.17 of the Water Licence should be revised to include a requirement for submission of any updates to OMS Manuals as part of the Annual Geotechnical Inspection Report for the year in which an update is completed. The Condition should also require that each annual Geotechnical Inspection Report specifically address the need for updates to the OMS Manual.

IEMA-12

Condition H.13(a)(iii)

- An incorrect reference to Point Lake and Lynx Development seepage quality requirements is contained in Condition H.13(a)(iii)
- ***Arctic Canadian acknowledges this change***

Recommendation

Condition H.13(a)(iii) should be revised to require any seepage from collection and settling ponds associated with the Point Lake and Lynx Developments meet the effluent quality specified in Condition H.23(b), and not H.23(a).

IEMA-13

Condition H.13(b)

- Use of the term 'regularly', when applying to the frequency of inspections, is vague and could result in interpretation and enforcement challenges.
- There should be some minimum frequency set in the Water Licence, while recognizing that more frequent inspections may be warranted in some cases.

Recommendation

Condition H.13(b) should establish a required minimum frequency of inspections for collection and settling ponds. The Agency suggests that a frequency of once per month is reasonable and provides acceptable oversight for risks presented by any low-risk facilities. Facilities with higher risks can be inspected more frequently as directed by the engineer.

Part K:
Conditions Applying to
Closure and
Reclamation



IEMA-14

Condition K.2

- A revised ICRP should be submitted for approval every 3 years following the previous approval or as directed by the Board
- Frequent updates are best-practice in mine closure planning

Recommendation

Condition K.2 should require submission of an updated Interim Closure and Reclamation Plan every 3 years following the previous approval, or as directed by the WLWB - consistent with LWB Standard Water Licence Conditions Template Version 2.1 Condition I.2.

IEMA-15

Condition K.4

- There is no condition in the LWB Standard Water Licence Conditions Template Version 2.1 requiring annual submission of Closure and Reclamation Progress Reports
- Progress Reports help inform parties of reclamation and closure planning and activities
- ***Arctic Canadian acknowledges this change***

Recommendation

Condition K.4 should continue to be incorporated in the Water Licence.

Schedule 1



IEMA-16

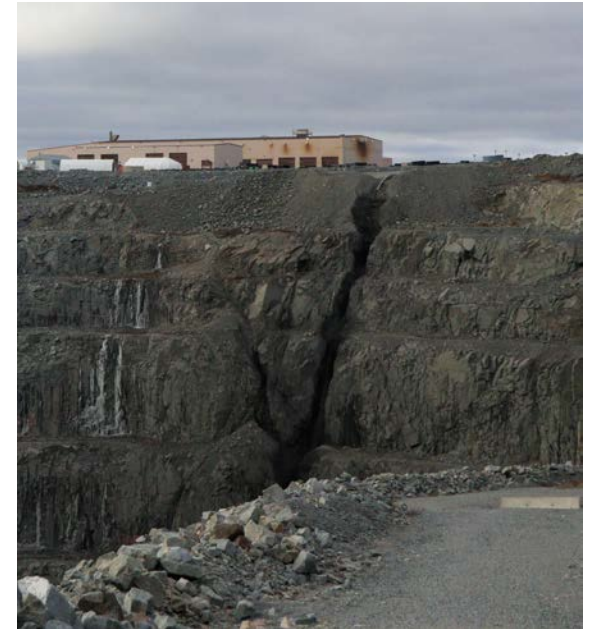
Schedule 1 - Condition B.1(d)

- All waste deposited should be reported in the Water Licence Annual Report
- This condition as written has no requirement to report the quantity of waste deposited in the Beartooth and Panda/Koala processed kimberlite containment areas
- ***Arctic Canadian acknowledges this change***

Recommendation

The scope of Schedule 1, Condition B.1(d) should be expanded to include the Beartooth and Panda/Koala processed kimberlite containment areas.

Schedule 6



IEMA-17

Schedule 6 - Condition H.1(d) through 1(i)

- The Beartooth and Panda/Koala processed kimberlite containment areas are not captured within the scope of the Waste and Processed Kimberlite Management Plan
- ***Arctic Canadian has proposed revised wording for this series of sub-conditions***

Recommendation

The scope of Schedule 6, Conditions H.1(d) through H.1(i) should include the Beartooth and Panda/Koala processed kimberlite containment areas, where appropriate.

IEMA-18

Schedule 6 - Condition H.2(u)

- The Seepage Response Framework must demonstrate that there are effective and timely responses that can be implemented to address unexpected changes in water quality conditions

Recommendation

Schedule 6, Condition H.2(u) should include a requirement for the Seepage Response Framework to describe the range of response actions that could be taken upon exceedance of each Action Level.

Annex B: Part A

SNP Description and Sampling Requirements



IEMA-19

SNP Station 1616-13

- SNP Station 1616-13 monitors the Panda Diversion Channel to ensure compliance with various physical and chemical Effluent Quality Criteria (EQC), including Total Suspended Solids (TSS) – an indicator of channel erosion
- Lower PDC AEMP station monitors potential changes and trends in upper Kodiak Lake comparing it to ecologically-based benchmarks, not EQCs

Recommendation

SNP Station 1616-13 should remain an active sampling station.

IEMA-20

SNP Station 1616-30a

- It is critical to ensure the quality of water discharged from the LLCF is nontoxic to aquatic life.
- A 4-week period gives sufficient time to transport the sample water from Ekati to labs in southern Canada and run the tests prior to discharge to determine possible chronic toxicity to downstream environment.

Recommendation

The requirement at SNP 1616-30a for chronic toxicity testing a maximum of 4 weeks prior to discharge should be retained.

Annex B: Part B SNP Flow and Volume Measurement Requirements



IEMA-21

SNP Condition B.11

- The quantity of minewater pumped from each open pit should be recorded monthly and reported to the WLWB
- The Lynx, Fox and Point Lake open pits are not included in the listing of open pits
- ***Arctic Canadian acknowledges this change***

Recommendation

SNP Condition B.11 should be expanded to include the Lynx, Fox and Point Lake open pits amongst the listed pits.

Annex B: Part C SNP Other Monitoring Requirements



IEMA-22

SNP Condition C.1 through C.3

- The lake evaporation micrometeorology station at Polar Lake provides the only site-specific information on open-water evaporation rates.
- On-site collection of evaporation data should continue
- Including June through October, the interannual variability in evaporation increases compared to the averages used in the modelling.

Recommendation

Collection of Ekati mine evaporation data should continue at the Ekati mine to support calculation of water balances during current mining operations and into post-closure. Arctic Canadian should extend their collection of evaporation data throughout the open water season to better reflect annual variability in evaporation.



Questions