Crown-Indigenous Relations and Northern Affairs Canada
Relations Couronne-Autochtones et Affaires du Nord Canada

Water Resources Division
Nunavut Regional Office
Iqaluit, NU X0A 0H0

Your file - Votre référence
2AM-MEA1526

January 31, 2019

Our file - Notre référence
CIDM# 1240109

Richard Dwyer
Manager of Licensing
Nunavut Water Board
Gjoa Haven, NU X0B 1J0

Sent via email:licensing@nwb-oen.ca

Re: Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) reply to Agnico Eagle Mines Limited (AEM)'s responses to CIRNAC, Environment and Climate Change Canada (ECCC) and Natural Resources Canada (NRCan)'s technical review comments regarding an amendment to Type "A" Water Licence No: 2AM-MEA1526 associated with the In-Pit Tailings Disposal Modification Proposal – Meadowbank Gold Mine Project.

Dear Mr. Dwyer,

Thank you for the email notice, received on January 25, 2019, regarding AEM's responses to CIRNAC, ECCC and NRCan technical review comments regarding an amendment to Type "A" Water Licence No: 2AM-MEA1526 associated with the In-Pit Tailings Disposal Modification Proposal at the Meadowbank Gold Mine; Agnico Eagle Mines Limited.

CIRNAC reviewed AEM's January 23, 2019 and January 25, 2019 responses to CIRNAC, ECCC and NRCan technical review comments pursuant to its mandated responsibilities from the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

As requested by the NWB, the following submission provides the NWB with CIRNAC's perspective regarding whether the NWB should consider waiving the requirement for a Public Hearing for this amendment application, and advises whether Agnico Eagle responses to technical review comments addresses CIRNAC's concerns.

REQUIREMENTS FOR A PUBLIC HEARING

With respect to a technical meeting, CIRNAC feels their comments can be satisfactorily addressed within the written comment period. Therefore, CIRNAC is comfortable in waiving the requirement for the technical hearing.

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With respect to a public hearing, CIRNAC's perspective is that a public hearing should be held. Section 9 (1) (a) of the Nunavut Waters Regulations waives the requirement for a public hearing where there is no change in water use, flow or quality. CIRNAC sees this amendment as a new 'use' of water as it will now serve as a tailings cover. The amendment also risks affecting the quality of water as it involves a new deposition of waste into waters that are meant to be reconnected with the natural environment.

TECHNICAL REVIEW COMMENTS

Flooding Strategy

Resolved.

Interim Closure Reclamation Plan (ICRP) and Security

With respect to the Interim Closure Reclamation Plan (ICRP), CIRNAC's comment is unresolved. CIRNAC expects a term and condition be added to the water licence requiring an updated ICRP be approved by the NWB prior to any deposition of material in either pit specified in the In-Pit Tailings Disposal Modification Proposal. The updated ICRP shall specify that an assessment of the material deposited to date and pore water monitoring will be completed to inform mitigative measures, such as the depth of water cover and details of aggregate cover required, to comply with flooded pit water quality objectives - and that those mitigative measures are carried out in the event the ICRP is implemented.

Further to recent comments provided by ECCC and DFO regarding installation of an aggregate cover over the in-pit tailings, CIRNAC is proceeding with an incremental value of security of $5.9M. For further clarity, AEM's revised security that was submitted to the NWB on December 13, 2018 was for a total of $83,551,136. The existing security for Meadowbank is $86,519,614. Based on this additional $5,876,610, the Meadowbank security will be raised by $2,908,132 for a total security value of $89,427,746.

AEM has not followed-up with CIRNAC to review and finalize security.

Thermal monitoring and hydrogeological connectivity

The performance of the thermal and hydrogeological modelling has been satisfactorily improved. However, CIRNAC is in agreement with NRCan on the ineffectiveness of the current and proposed groundwater monitoring network noting that the sparse monitoring network will be unable to provide information useful for model validation, particularly for the ICRP and prior to closure which informs the Final Closure and Reclamation Plan. CIRNAC therefore agrees with and reiterates NRCan's recommendations #1, #2, #3 and #4, and has the following responses, and terms and conditions to inform the ICRP and Final Closure and Reclamation Plan.

Groundwater Monitoring

1) CIRNAC concurs the current groundwater monitoring plan is for the operation phase, and that the ICRP and Final Closure and Reclamation Plan will address groundwater monitoring commitments during closure and post-closure. During the technical review of the ICRP and Final Closure and Reclamation Plan, the groundwater monitoring plan for closure and post-closure will be assessed. CIRNAC considers this comment resolved.

2) CIRNAC agrees with NRCan that the monitoring well locations should not be selected solely on the basis of the simulated groundwater plume and that they should include consideration of field data such as fracture observation, borehole logging, packer testing and thermal profiling. CIRNAC also agrees that breakthrough curves are a suitable approach to help plan and evaluate groundwater monitoring locations (from the simulation results) as they include the processes of advection, dispersion and diffusion. The current groundwater monitoring wells were located on the basis of groundwater flow paths during the mining of the pits. One should not expect these same wells to be suitably located for future monitoring following the flooding of the pits. CIRNAC therefore reiterates that the breakthrough curve analysis in conjunction with field data be used to select future monitoring well locations, and that the monitoring well locations are installed and monitored as a term and condition in the water licence of the ICRP and Final Closure and Reclamation Plan.

3) CIRNAC is satisfied that AEM has stated that they will consider NRCan's recommendation with respect to the installation of new monitoring wells as part of the ICRP and Final Closure and Reclamation Plan, and that their locations, depths and screen lengths will consider monitoring results and model updates to ensure they intercept the plume. CIRNAC considers this comment resolved.

4) AEM's response does seem to acknowledge the possible presence of sub-permafrost groundwater of sufficient salinity to result in density dependent flow. CIRNAC will further assess the monitoring of sub-permafrost water quality and calibration of the thermal and hydrogeological modelling as part of the ICRP and Final Closure and Reclamation Plan.

AEM has committed in their January 23, 2019 submission to "optimize and adapt the location of the monitoring wells as part of the final closure plan in collaboration with the regulators. In addition, available thermistors and piezometer across the site will continue to be monitored and used to update the hydrogeological model and update the groundwater monitoring plan." CIRNAC reiterates that this commitment be captured as a term and condition in the water licence.

If you have any questions or require further information with respect to this matter, contact me at (867) 975-3877 or email michelle.blade@canada.ca, or Ian Parsons at (867) 222-9278 or email ian.parsons@canada.ca.

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Regards,

Michelle Blade
Regional Coordinator, Water Resource Division – CIRNAC, NRO

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