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Climate Change Canada

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**Environment and Climate Change Canada's Presentation
to the Mackenzie Valley Land and Water Board
Respecting the Gahcho Kué Land Use Permit and Water
Licence Amendment Applications**

**MV2005L2-0015 &
MV2005C0032
Public Hearing
Yellowknife, NT
July 25-26, 2018**

Overview

- Mandate
- Relevant Acts and Legislation
- Environment and Climate Change Canada's Recommendations
 - Effluent Quality Criteria
 - Cadmium Site-Specific Water Quality Objective
 - Discharge to Lake N11
 - Response Framework and Action Levels
 - Air Quality Standards (PM_{2.5} , NO₂)



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Environment and Climate Change Canada's Mandate

- Monitoring air and water quality and emissions of greenhouse gases
- Controlling the level of toxic substances in commercial products
- Forecasting meteorological patterns and reporting on weather conditions
- Consulting with Canadians, regulated stakeholders, researchers and governments
- Researching and protecting the habitat of migratory birds and species at risk
- Permitting and, when necessary, preventing international trade in hazardous waste, hazardous recyclable materials and endangered species
- Promoting, inspecting and enforcing regulatory requirements

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Relevant Acts and Regulations

- *Department of the Environment Act*
- *Canadian Environmental Protection Act*
- *Fisheries Act – Pollution Prevention Provisions*
- *Migratory Birds Convention Act*
- *Species at Risk Act*



Effluent Quality Criteria

ECCC 4.1 Recommendations:

- a) Evaluate water volumes to be transferred from the Water Management Pond to Area 7 based on monitoring data for water quality in the Water Management Pond and Area 7, and evaluate water volumes within Area 7 and 8, to confirm that effluent quality criteria are achievable and site-specific water quality objectives will be maintained in Area 8.
- b) Report April sampling results for Area 8 with the Surveillance Network Program data in order to confirm water quality during the time when ice cover is at its maximum thickness.



Cadmium Site-Specific Water Quality Objective

ECCC 4.2 Recommendation:

- Use the Canadian Council of Ministers of the Environment Protection of Aquatic Life guideline, rather than the Health Canada Drinking Water Guideline as the objective for cadmium in Lake N11 and Area 8.



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Additional Discharge to Lake N11 in Year 5

ECCC 4.3 Recommendations:

- a) Validate predictions used in developing the effluent quality criteria once further operational data are available, prior to proceeding with a fifth year of discharge to Lake N11.
- b) Compare data from under-ice (i.e. worst-case) water quality monitoring in Lake N11 to modeled under-ice predictions to validate model accuracy and inform water management planning.
- c) Calibrate and update modeling if real-world data differ appreciably from predictions.



Response Framework and Action Levels

ECCC 4.4 Recommendations:

- a) Review Action Levels in the Aquatic Effects Monitoring Program taking into account the revised predictions for water quality and water management provided for the water licence amendment application.
- b) Conduct periodic updates (audits) of water quality modeling, with the model inputs calibrated with monitoring data, and revised predictions compared to the previous ones. Any differences should be evaluated and the results considered in reviews of the Aquatic Effects Monitoring Program and Response Framework.



Canadian Ambient Air Quality Standards

ECCC 4.5 Recommendation:

- Consider how NO_2 and $\text{PM}_{2.5}$ emissions from the Project may affect ambient air quality as compared to the Canadian Ambient Air Quality Objectives for NO_2 and $\text{PM}_{2.5}$.



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Thank you



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