

Project Name: Crawford Nickel Project

Document Type: Review of Proponent's response to the deficiency report

ECCC Review/Response Related to: Water quality, water quantity, accidents and malfunctions, wildlife, species at risk and migratory birds.

Document Summary

This document was prepared at the request of the Impact Assessment Agency of Canada (IAAC) for the Crawford Nickel Project and provides information related to Environment and Climate Change Canada (ECCC)'s review of Canada Nickel Company's (the Proponent) response to the Deficiency Report issued by IAAC in May 2025. ECCC expert groups have reviewed the information provided with a focus on identifying main issues, information gaps, and areas requiring clarification or follow-up to understand effects within federal jurisdiction.

Main Issues Identified

1. Issue 1 – Surface water levels and flows modelling uncertainty

The information supporting hydraulic and hydrologic modelling (inputs, calibration/validation, sensitivity, spatial/temporal representativeness) is limited, creating uncertainty in predicted changes to water levels and flows and, by extension, effects on fish and fish habitat and Indigenous water use. Additional monitoring across the full hydrologic range and reevaluation/recalibration of models are identified as key follow-up needs.

2. Issue 2 – Reliability of low-flow estimates used for water quality predictions

Low-flow metrics used to inform mixing zone length and water quality effects appear uncertain and may not align with available on-site observations, raising the potential for under- or mischaracterization of exposure conditions. Further hydrometric data collection, refinement of rating curves, and more conservative low-flow assumptions (and associated discharge decision triggers) are identified as areas requiring clarification.

3. Issue 3 – Flow-related habitat effects characterization, including bankfull assumptions

Uncertainty in estimating bankfull depth and related flow–water level relationships may affect conclusions about when and where flow changes could alter fish habitat conditions (e.g., channel vs floodplain responses). Clear methods, supporting evidence, and evaluation of habitat implications under relevant flow conditions are flagged for follow-up.

4. Issue 4 – Seepage water quality at points of entry to fish-bearing waters:

The seepage assessment raises issues regarding interpretation of toxicity risk at seepage discharge points, the treatment of certain contaminants (including omissions/limited discussion), and how exposure locations are defined relative to fish habitat. Clarification is needed on predicted concentrations and pathways, and on how seepage-related risks will be monitored and managed to address potential federal Fisheries Act considerations.

5. **Issue 5 – Implications for habitat supporting species at risk, migratory birds, and species important to Indigenous peoples:** Uncertainties in hydrology and water management assumptions limit confidence in the characterization of riparian/wetland habitat change and associated availability of habitat features supporting federally protected species and Indigenous uses. A robust follow-up program with clearly defined monitoring, effectiveness verification, and adaptive management/offsetting triggers is identified as an area needing further development.

Additional Information

This document provides a high-level summary of ECCC's response to the Proponent's response to IAAC's deficiency report. ECCC's full response is available in the official language in which it was originally written. Should you wish to receive the document in Canada's other official language, please contact the Impact Assessment Agency of Canada (IAAC). The original document was developed by ECCC; this summary was prepared and translated using AI-supported tools, with the original summary developed in English.