



Mackenzie Valley Land and Water Board Regulation of Tailings Dams

The Mackenzie Valley Land and Water Board¹ (MVLWB) regulates the use of land and water and the deposit of waste through the issuance of water licences and land use permits, as authorized by the Mackenzie Valley Resource Management Act (MVRMA), the Waters Act and Regulations, and the Mackenzie Valley Land Use Regulations. Mining companies must obtain a land use permit and a water licence from the MVLWB in order to conduct mining and milling operations in the Mackenzie Valley. Permits and licences define the scope of the authorized activities and the conditions which the company must satisfy, including requirements for environmentally responsible design, construction, operation, and closure of tailings facilities.

Typically, the Board's permitting and licensing process for a mine begins after the Mackenzie Valley Environmental Impact Review Board (the Review Board) conducts an environmental impact assessment. If the Review Board approves a mining project, the mining company submits an application to the MVLWB for a licence and permit. The MVLWB then initiates a rigorous evidence-based procedure that includes substantial opportunity for the public to participate, including a public hearing. Typically, government agencies, aboriginal groups, and in some cases watchdog organizations, participate in the licensing and permitting process and contribute invaluable scientific information and traditional knowledge. In this way, the Board ensures that regulation of mines, including tailings facilities, is an inclusive and transparent process that benefits from input by a diverse set of interests. The Board then develops the scope and licence conditions for the project, including conditions regarding tailings facilities, and sends the licence to the Minister for signature.

To ensure responsible regulation of tailings dams, the Board relies, in part, on the Canadian Dam Association's *Dam Safety Guidelines*, which are recognized as one of the best available references for dam safety and are widely used across Canada and around the world. They address all aspects of dam safety, including design, construction, operation, inspection, maintenance, emergency preparedness and closure at the end of the mine's life. On their own, these guidelines are not a mandatory requirement for dam owners, however, mining licences issued by the MVLWB include a condition requiring a licensee to follow the Guidelines, which makes the Guidelines legally binding. In addition, water licences for mining and milling operations typically have the following requirements related to tailings dams:

- Tailings facility design documents, which must be approved by the Board before the company can begin construction of the tailings facility. Design documents include geotechnical

¹ Part 3 of the MVRMA establishes regional land and water boards with the power to regulate the use of land and waters and the deposit of waste, including the issuance of land use permits and water licences, so as to provide for the conservation, development and utilization of land and water resources in a manner that will provide the optimum benefit to the residents of the management area and of the Mackenzie Valley and to all Canadians. Part 4 of the Act establishes the Mackenzie Valley Land and Water Board (MVLWB). Regional Land and Water Boards have been established in the Gwich'in, Sahtu and Wek'èezhii management areas and now form Regional Panels of the MVLWB.



investigation data, seepage analyses, geothermal analyses, stability analyses, detailed instrumentation and monitoring plans, key design and performance parameters;

- A tailings management plan that outlines how the facility will be managed and operated such that impacts to the receiving environment are prevented or minimized through the use of appropriate mitigation measures, monitoring, and follow-up actions;
- A geochemical characterization and management plan, to describe the procedures that will minimize or eliminate the potential for acidic drainage and metal leaching;
- Annual reporting of operating and monitoring data;
- Weekly routine inspections;
- Annual geotechnical and geochemical inspections conducted by a professional engineer;
- For dams with significant failure consequences, periodic dam safety reviews, to be conducted by an independent review engineer;
- A response framework that defines action levels that will trigger the company to take appropriate actions such as further investigations, changes to operations, or enhanced mitigation measures;
- A closure and reclamation plan that describes, among other things, how the company will close the tailings facility to leave a chemically and physically stable structure that supports the desired future use of the site;
- A requirement to progressively reclaim parts of the project (including tailings facilities) that are no longer in use, as soon as practical; and,
- Annual closure and reclamation reports to report on the company's closure planning process, including results of reclamation research and community engagement.

The Board's processes during the term of licences and permits continue to be transparent and include frequent opportunities for public input. Many of the submissions required by the licence (as listed above) undergo a public review process where parties may submit comments related to the company's plan or report. Companies must also submit an Engagement Plan to the Board, which outlines how the company will engage affected parties during the life of the project, as described in the [Board's Engagement Policy and Guidelines](#). The Board also maintains a public registry where it posts all documents related to issuance and ongoing administration of licenses and permits.

The GNWT inspects mine sites to ensure companies are complying with their licence and permit. Inspection reports are provided to the Board, who makes them public. The GNWT is also responsible for enforcement of permits and licences, including the issuing Inspector's orders and notices of violation.

Most tailings dams in the Mackenzie Valley are also subject to other laws and regulations outside of the Board's jurisdiction, for example the Government of the Northwest Territories' *Mine Health and Safety Act*.

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