

ALBERTA DAM SAFETY SEMINAR

Stakeholder Update - Mining Association of Canada



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MINING ASSOCIATION OF CANADA

The Mining Association of Canada (MAC) is the national organization of the Canadian mining industry. We represent companies involved in mineral exploration, mining, smelting, refining and semi-fabrication. Our member companies account for most of Canada's output of metals and minerals.

MAC's functions include advocacy, stewardship and collaboration. Our goals are:

- to promote the industry's interests nationally and internationally,
- to work with governments on policies affecting minerals,
- to inform the public, and,
- to encourage member firms to cooperate to solve common problems.

We work closely with provincial and territorial mining associations, other industries, and environmental and community groups in Canada and around the world.

MAC – TOWARDS SUSTAINABLE MINING

Towards Sustainable Mining (TSM) is the MAC's commitment to responsible mining. It is a set of tools and indicators to drive performance and ensure that key mining risks are managed responsibly at our members' facilities.

- The program's core strengths include:
 - **Accountability:** Participation in TSM is mandatory for all MAC members. Assessments are conducted at the facility level where the mining activity takes place.
 - **Transparency:** Members commit to a set of guiding principles and report their performance against the program's 23 indicators annually in MAC's TSM Progress Reports. Each facility's results are publicly available, and are externally verified every three years.

TSM PROTOCOLS

TSM includes 6 Protocols with a total of 23 Indicators.

The Tailings Management Protocol has 5 Indicators:

- Tailings Management Policy And Commitment
- Tailings Management System
- Assigned Accountability And Responsibility For Tailings Management
- Annual Tailings Management Review
- Operation, Maintenance and Surveillance Manual

Performance against the TSM Indicators is subject to self-assessment, audit and external verification.

Scores are assigned from C to AAA depending on the level of performance and external assessment.

MAC - GUIDELINES

MAC has published three guideline documents, which are publically available at:

- <http://mining.ca/towards-sustainable-mining/protocols-frameworks/tailings-management>
 - A Guide to the Management of Tailings Facilities
 - Developing an Operation, Maintenance and Surveillance Manual for Tailings and Water Management Facilities
 - A Guide to the Audit and Assessment of Tailings Facility Management

MAC - INDEPENDENT TASK FORCE

Following the failure at the Mount Polley Mine, which was owned by Imperial Metals, and a MAC member, the MAC board asked “Are there improvements in the tailings protocols under TSM that could have prevented this tailings spill?” and more broadly, what improvements can be made in the TSM tailings management requirements to drive toward the goal of zero major tailings failures?

- MAC commissioned an Independent Task Force (ITF) to review its tailings management requirements and guidance under its TSM initiative.
- The ITF released their report on November 18, 2015, which contained 29 recommendations. The full ITF report is available here:
 - <http://mining.ca/sites/default/files/documents/Report-TSM-Tailings-Review-Task-Force.pdf>

MAC – INDEPENDENT TASK FORCE

Some of the key questions for the ITF were:

- Are the current requirements for Level A designation sufficient to reduce, to near zero, the likelihood of a catastrophic tailings failure as a result of a deficiency or weakness in the tailings management system or regime? If not, what should be added to the TSM Tailings Management Protocol?
- What are the elements of the MAC tailings management Guides that should be considered critical controls necessary to prevent catastrophic failures? Are the appropriate critical controls currently in the Guides? If not, what critical controls should be added to the Guides?
- Is the focus of TSM and the Tailings Management Protocol and Guides on operation management systems appropriate, or should the TSM Tailings Management Protocol and Guides incorporate standards and/or design elements? If so, how?

ITF – SELECTED PRIORITY RECOMMENDATIONS

2.1:

- Consider new criteria for Levels A, AA and AAA for each of the Indicators in the Tailings Management Protocol related to the types of audits and assessments required at each level. Specifically:
 - A: internal audit
 - AA: external audit
 - AAA: external assessment, which includes an element of performance related to it and properly identifies risks

4.1:

- Add criteria to Level A that specifies that:
 - the review includes an identification of deficiencies and a plan for corrective action with timelines.
 - progress towards completing corrective actions are tracked and reported to the accountable executive officer.

ITF – SELECTED PRIORITY RECOMMENDATIONS

7.1:

- Amend the Tailings Guide to require an independent review of site investigation and selection, design, construction, operation, closure and post-closure of tailings facilities.

7.3

- Develop and include definitions and/or guidance related to managing a change of Engineer-of-Record and a change of ownership in the change management section of the Tailings Guide.

7.4

- Include a risk-based ranking classification system for non-conformances and have corresponding consequences. Guidance on risk assessment methodology should be included in the Tailings Guide.

ITF – SELECTED PRIORITY RECOMMENDATIONS

7.5

- Review and amend, as required, the Tailings Guide to include more specific technical guidance related to site selection and design, including how to select objectives and set design criteria.

8.1

- The Emergency Preparedness Planning section of the OMS Guide should be enhanced to provide greater guidance in the development of Emergency Preparedness and Response Plans.

8.3

- Integrate into the guide a requirement that communities directly affected by a potential failure are included in the development of Emergency Preparedness and Response Plans, including training simulations.

MAC - TAILINGS WORKING GROUP

The Tailings Working Group (TWG) was established in 1998, became dormant in 2010 and was re-established in 2014 following the Mount Polley failure.

■ Objectives:

- review the management of tailings and mine waste to develop industry guidelines for the safe and environmentally-responsible operation of tailings and water management facilities.
- contribute to MAC's TSM initiative, specifically with the development and implementation of the TSM Tailings Management Protocol.

The Alberta mining industry is well-represented on the MAC TWG

TAILINGS WORKING GROUP – SUB-COMMITTEES

Sub-committees of the TWG have been established to address the recommendations of the ITF that fall within the purview of the TWG, and specifically to update the MAC “A Guide to the Management of Tailings Facilities”.

- **Risk Assessment Sub-group:** tasked with working on a new chapter 2 of the Tailings Guide focused on risk assessment and establishing a risk-based framework that will carry throughout the revised Tailings Guide.
- **TWG Core Team:** assist in providing advice and direction to TWG and process of revising the guides.
- **Independent Review Sub-group:** draft guidance for independent reviews of tailings facilities.
- **BAT and BAP Sub-group:** develop definitions for Best Available Technology (BAT) and Best Available Practices (BAP), and develop a separate chapter on BAT and BAP that we can test on its own as an early deliverable. Cover selection of BAT and BAP for new facilities (at new or existing mines) and periodic review of BAT/BAP.
- **EPRP Sub-group:** as per the Task Force recommendations, review the requirements in the OMS Guide for Emergency Preparedness and Response Plans (EPRP), and identify what, if any, revisions are required to address the ITF recommendations.

Updates to the MAC Guide:

- The 2011 Tailings Guide versus the 1998 version showed a noticeable shift from inclusion of tailings performance issues to largely management issues (e.g. loss of inclusion of details related to design, construction, critical controls, risk management, etc.)
- Revised documents should have a stronger emphasis on technical aspects of tailings management, while retaining current emphasis on management systems.

FURTHER INFORMATION

The MAC TWG is in communication with key industry, professional and regulatory groups in Canada and internationally, and seeks opportunities for collaboration and alignment.

Visit the MAC website:

■ mining.ca