Recommendation 1

The approach to tailings storage facilities must place safety first by making environmental and human safety a priority in management actions and on-the-ground operations. Regulators, industry and communities should adopt a shared zero-failure objective to tailings storage facilities where "safety attributes should be evaluated separately from economic considerations, and cost should not be the determining factor" (Mount Polley expert panel, 2015, p. 125)

Recommendation 2

Establish a UN Environment stakeholder forum to facilitate international strengthening of tailings dam regulation.

Knowledge, technology, innovation & people

- **Establish** an accessible public-interest, global database of mine sites, tailings storage facilities and research.
- **Fund** research into mine tailings storage failures and management of active, inactive and abandoned mine sites.
- **Compile** and review existing regulations and best practice guidance.
- **Encourage** innovation in the reuse and recycling of mine tailings.
- **Encourage** the development of technological solutions to eliminate the main causes of failures.

Benefits

- **Establishes** a basis for improved regulation and consistent best practice.
- **Assists** in educating people to make informed decisions.
- **Reduces** the volume of tailings stored and potentially creates additional business opportunities.
- **The path** to zero failures (IEEIRP 2015).

Failure prevention

- **Expand** mining regulations to include independent monitoring and the enforcement of financial and criminal sanctions for non-compliance.
- **Regularly** publish disaster management plans.
- **Increase** gender diversity and broaden skill sets on company boards.
- **Establish** independent waste review boards to conduct and publish independent technical reviews prior to, during construction or modification, and throughout the lifespan of tailings storage facilities.
- **Avoid** dam construction methods known to be high risk.
- **Ensure** any project assessment or expansion publishes all externalized costs, with an independent life-of-mine sustainability cost-benefit analysis.
- **Require** detailed and ongoing evaluations of potential failure modes, residual risks and perpetual management costs of tailings storage facilities.
- **Enforce** mandatory financial securities for life of the mine.
- **Ban or commit to avoid** riverine disposal and avoid submarine disposal unless justified by independent review.

Benefits

- **Clarifies** responsibility for tailings dam performance.
- **Provides** transparency on disaster planning.
- **Improves** governance and corporate social responsibility.
- **Reduces** risk of dam failure by providing independent expert oversight.
- **Reduces** risk of failure by eliminating less stable methods of dam construction.
- **Protects** the environment from less controlled waste disposal.

Crisis response

- **Establish** a global financial assurance system for mine-sites.
- **Fund** a global insurance pool.

Benefits

- **Ensures** best practice in tailings management, monitoring and rehabilitation
- **Addresses** unmet liabilities from major tailings dam failures.

Note: Some of these important actions are already being undertaken or partially implemented in a number of jurisdictions. The aim is to ensure best practice is enacted at all mine sites where tailings are stored.

GRID ARENDAL