



Terms of Reference

**Health, Safety and Reclamation Code Review
Committee**

06/23/2015

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1. Background

The Independent Expert Engineering Review Panel (Expert Panel) has completed their investigation into the root cause of the Mount Polley Tailings Facility Breach and made seven recommendations to improve practice and reduce the potential for future failures. Government accepted all of the recommendations and has committed to implementing them.

Addressing many of the recommendations will involve considering amendments to the Health, Safety and Reclamation Code for Mines in BC (Code). In order to review the Code, the Minister appoints members of the Code Review Committee (Committee) under section 34 of the *Mines Act*. The Chief Inspector of Mines (CIM) chairs the committee and is responsible for making recommendations to the Minister. It is the Minister's decision to bring any suggested revisions of the Code to Cabinet for consideration.

In past Code reviews, the Committee members have been comprised of an equal number of representatives of mine operations' management and mine labour unions. This review will include First Nation technical representatives as partners.

Initial work will be expedited to determine how to best implement the Expert Panel's recommendations regarding best available technology and practices, additional permit application requirements and dam safety standards.

2. Scope

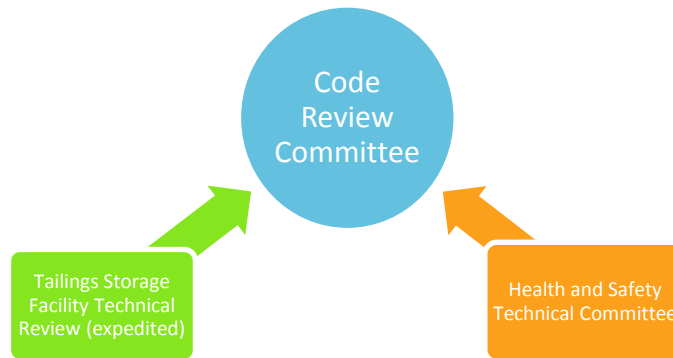
The Committee will conduct a review of the Code in order to:

- Implement recommendations of Independent Expert Panel, specifically relating to tailings storage facilities, that are most appropriately addressed through the Code;
- Review and address health and safety provisions as identified in section 4.2.

In undertaking the review the Committee will hold a 60 day public comment period. The public comment period will commence in July 2015 and written submissions will be accepted for consideration by the Code Review Committee.

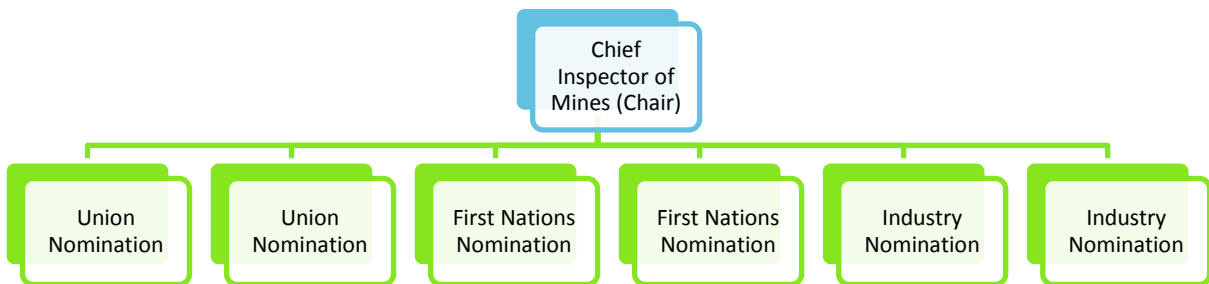
3. Committee Structure

The *Mines Act* speaks to appointing a Code committee to prepare a code dealing with all aspects of health, safety and reclamation in the operation of a mine. In practice, this singular committee relies on the advice and technical expertise provided by sub-committees or working groups.



3.1 Membership of Code Review Committee

Members must be suitably qualified to consider and make recommendations on very technical matters related to the operation of a mine. Members will apply their professional knowledge, experience and judgment in considering the need for and justification of proposed changes to the Code.



The Code Review Committee will comprise the following:

Chair: Al Hoffman, Chief inspector of Mines for BC, MEM

Industry Labour:

- Randall Gatzka, United Steelworkers Union
- Brett Chapman, Union of Operating Engineers

First Nations:

- Nalaine Morin, ArrowBlade Consulting
- Mark Podlasly, North Pacific Energy and First Nations Energy and Mining Council

Industry Management:

- Greg Brouwer, Highland Valley Copper Mine, Teck
- Richard Tremblay, Gibraltar Mine, Taseko

3.2 Roles and Responsibilities

3.2.1 Chair

The Chair is responsible to ensure the effective functioning of the Committee to fulfil its review mandate as outlined in these Terms of Reference (ToR). The Chair will arrange and chair all meetings and will facilitate dialogue to reach consensus wherever possible. The Chair will guide the Committee to determine specific recommendations to be made to the Minister and will ensure that proper records of the Committee's activities are kept and maintained.

The Chair is ultimately responsible for making any recommendations for changes to the Code and will note details of dissenting opinions, if any. The Chair will provide rationale and justification of support for his recommendations based on ensuring the health and safety of workers, the environment and the public.

3.2.2 Secretariat

The Chair will appoint an individual(s) who is not a member of the Committee to act as recording secretary or liaison for the Committee and/or relevant sub-committee. The secretariat will arrange meetings, ensure effective information dissemination, and be responsible for keeping minutes and a formal record of the proposed Code revisions.

3.2.3 Members

Each member will attend all meetings of the Committee as arranged by the Chair. Members will apply their professional knowledge, experience and judgment in considering the need for and justification of proposed changes to the Code.

4. Sub-Committees

Sub-committees with specific focuses will be formed to review the technical aspects of the proposed Code revision or the adoption of technical standards. The role and purpose of sub-committees is to conduct in-depth and more detailed technical study of specific areas requiring potential change to the Code and to bring recommendations back to the Code Committee together with supporting rationale justifying the change.

Sub-committee roles and responsibilities will generally mirror that of the main Committee. The Chair of each sub-committee will be responsible for bringing and proposing recommendations to the Code Committee. Membership of each of the sub-committees will be determined by the CIM in consultation with the relevant sub-committee chair.

4.1 Tailings Storage Facility technical review sub-committee

The tailings storage facility technical review will be expedited and target completion of review by early 2016 is expected. This primarily relates to Part 10 of the Code.

The tailings sub-committee will provide their expert advice to the Code Committee. This work will be completed first and given a defined time to work through potential changes to dam safety and tailings management aspects of the Code in response to the Expert Panel's recommendations.

The sub-committee will be reviewing the Expert Panel recommendations, in particular the following areas:

- Implementing Best Available Technologies/Best Available Practices
- Improving corporate governance
- Expanding corporate design commitments such as setting Quantitative Performance Objectives
- Enhance validation of safety and regulation of all phases of a tailing storage facility
- Improving Dam Safety Guidelines

Chair: *Harvey McLeod, Klohn Crippen Berger*

4.2 Health and Safety technical review sub-committee

The sub-committee will form working groups (i.e. electrical, mechanical, occupational health) as appropriate in order to review the following areas:

- Occupational health program exposure limits and monitoring requirements
- Geotechnical standards for pit slopes, waste dumps and underground development
- Use and installation of equipment for underground coal mines
- Mechanical and equipment maintenance standards
- Emergency Preparedness and Mine Rescue requirements
- Qualification and certification requirements for selected professionals and skilled trades positions
- References to standards

Chair: *Rolly Thorpe, Deputy Chief Inspector of Mines, Health & Safety*

5. Procedures

5.1 Meetings

5.1.1 Frequency and Quorum of Meetings

The Committee will confirm meeting dates to accomplish their mandate in the desired time frame as outlined. It is expected that this will require meetings on a bi-weekly or monthly basis. Each meeting must have attendance from all members, should a member unable to attend, an alternate must be designated and approved by the Chair prior to the meeting. A typical agenda will include: introductions, confirm agenda, review actions from previous meeting, reports from sub-committees, discussion of specific clauses of the Code, any other business, and the date of the next meeting.

5.1.2 Record of Meetings

The Chair will appoint a recording secretary and/or a technical advisor for the Committee who shall ensure that an agreed written record of each of the meetings is made and presented for acceptance at the next meeting. In addition they will ensure that the outcome of all discussions on proposed changes to the Code is recorded.

5.1.3 Attendance

The Chair is required to attend all meetings of the Committee. Other members are also expected to attend all meetings; however, if they are unable to attend they will be represented by their designated Alternate to ensure minimal absence (which would only be justified in unusual circumstances, such as illness).

5.2 Resources

Unless otherwise arranged, attendance at the committee and subcommittees will be on an in-kind basis with no compensation paid for members' time spent on Code Review business or related expenses of any kind.

5.3 Amendments

These Terms of Reference may be amended at the Minister's discretion.

6. Schedule

The Code Review will take place such that priority revisions could be legally in force in the mid-2016. This will involve expedited work of the tailings sub-committee until early 2016. Recommendations will then be provided to the Code Committee for consideration. Revisions may be reviewed by legal counsel prior to the Minister's decision to bring to Cabinet for consideration.

The work of the Health and Safety technical review sub-committee may be ongoing through 2017 and will result in a second set of recommended revisions to the Code.

Appendix 1: Expert Panel Recommendations

1. Implement BAT using a phased approach.

- For existing tailings impoundments. Rely on best practices for the remaining active life.
- For new tailings facilities. BAT should be actively encouraged for new tailings facilities at existing and proposed mines.
- For closure. BAT principles should be applied to closure of active impoundments so that they are progressively removed from the inventory by attrition.

2. Improve corporate governance:

- Corporations proposing to operate a tailings storage facility (TSF) should be required to be a member of the Mining Association of Canada (MAC) or be obliged to commit to an equivalent program for tailings management, including the audit function.

3. Expand corporate design commitments:

- Future permit applications for a new TSF should be based on a bankable feasibility that would have considered all technical, environmental, social and economic aspects of the project in sufficient detail to support an investment decision, which might have an accuracy of +/- 10-15%. More explicitly it should contain the following:
 - A detailed evaluation of all potential failure modes and a management scheme for all residual risk
 - Detailed cost/benefit analyses of BAT tailings and closure options so that economic effects can be understood, recognizing that the results of the cost/benefit analyses should not supersede BAT safety considerations.
- A detailed declaration of Quantitative Performance Objectives (QPOs).

4. Enhance validation of safety and regulation of all phases of a TSF:

- Increase utilization of Independent Tailings Review Boards
- Utilize the concept of Quantitative Performance Objectives to improve regulator evaluation of ongoing facilities.

5. Strengthen current regulatory operations:

- Utilize the recent inspections of TSFs in the province to ascertain whether they may be at risk due to the following potential failure modes and take appropriate actions
 - Filter adequacy
 - Water balance adequacy
- Undrained shear failure of silt and clay foundations.

6. Improve professional practice:

- Encourage the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) to develop guidelines that would lead to improved site characterization for tailings dams with respect to the geological, geomorphological, hydrogeological and possibly seismotectonic characteristics.

7. Improve dam safety guidelines:

- Recognizing the limitations of the current Canadian Dam Association (CDA) guidelines incorporated as a statutory requirement, develop improved guidelines that are tailored to the conditions encountered with TSFs in British Columbia and that emphasize protecting public safety.