

Memorandum of Understanding Regulation of Impoundments and Diversions on a Mine Site

Memorandum of Understanding between the Ministry of Energy and Mines (MEM), the Ministry of Forests, Lands and Natural Resource Operations (MFLNRO), and the Ministry of Environment (MoE), outlining the responsibilities for the Regulation of Impoundments and Diversions on a mine site including Tailing Storage Facilities (TSF), Flooded Impoundments (FI), Water Storage Facilities (WSF), Sedimentation Control Ponds (SED POND), Sludge Storage Ponds (SLUDGE POND) and Diversion Channels (DC).

Purpose

The purpose of this memorandum is to define the role of MEM, MFLNRO, and MoE in the siting, design, construction, operation, maintenance, abandonment, reclamation, and regulation of impoundments and diversions on a mine site, in order to protect the public, the environment and the users of water in the affected watershed.

Definitions

TSF (Tailings Storage Facility): A reservoir controlled by one or more embankments to store mine tailings and mine process water (supernatant). Tailings are fine rock materials in suspension, which are discharged from an ore concentrator or coal preparation plant. A TSF includes any starter dams, seepage collection dams and ponds located beyond the downstream toe of the main embankment(s).

FI (Flooded Impoundment): A reservoir controlled by one or more embankments required to submerge tailings, PAG waste rock, rock cuts or underground workings that have potential to generate acid if exposed to the atmosphere or a reservoir controlled by one or more embankments required to regulate the flow of ARD-contaminated water, including associated sludge storage from water treatment. A TSF may become a FI upon closure of the mine. A FI includes seepage collection dams and ponds beyond the downstream toe of the main embankment(s).

WSF (Water Storage Facility): A water storage reservoir, situated on a stream or off stream and storing water diverted from a stream, controlled by one or more embankments. A WSF does not include a TSF, FI, SED POND or SLUDGE POND. A water licence is required for surface water storage.

SED POND (Sedimentation Control Pond): A reservoir controlled by one or more embankments required to store surface water runoff and designed to facilitate the deposition of suspended solids and mitigate the release of sediment to the downstream environment.

SLUDGE POND (Sludge Storage Ponds): These ponds are developed to contain sludge from water treatment plants, and to prevent this material from entering the receiving environment.

DC (Diversion Channels): Diversion structures (dams or channels) developed to divert and control the annual inflow of the various watercourses around the mine site.

General Responsibilities

It is recognized that:

1. MEM is responsible for ensuring that no part of the mine, including a TSF, FI, SED POND and SLUDGE POND (not requiring a Water Licence or Waste Permit) represents a danger either to the health and safety of a person in or about the mine, or to the safety of the public. MEM is also responsible for the protection and reclamation of the land and watercourses on the mine site.
2. MFLNRO is responsible for the issuing of water licenses or approvals regulating the diversion, use and storage of surface water in or from a natural watercourse including any impoundments or diversion on a mine site. If a water licence is required and these works include a dam as defined under the Dam Safety Regulation, the regulation of the dam by MFLNRO will be commensurate with the downstream consequence classification rating under the Dam Safety Regulation.
3. MoE is responsible for the protection of human health and the environment from any adverse effects of mine wastes or impoundments, the use of hazardous materials, and the management of contaminated sites.

Specific Responsibilities

1. MEM, under the *Mines Act* and Health, Safety and Reclamation Code for Mines in BC (Code), is responsible for approving the siting, design, construction, modification, operation, maintenance, abandonment and reclamation of a TSF, FI, SED POND and SLUDGE POND, with some exceptions for any impoundment that requires a water licence (see Joint Responsibilities below). MEM uses the Canadian Dam Association (CDA) guidelines referenced under the Code. Prior to operation, MEM will ensure that sufficient security has been posted to undertake the necessary works to close the impoundments should the permittee default on its responsibilities. After mine closure MEM will ensure that the TSF, FI, SED POND and SLUDGE POND is either reclaimed or drained, and if necessary a permanent spillway installed. In the case of a TSF and FI, a valid *Mines Act* Permit and reclamation bond will be maintained to ensure long-term care, maintenance and/or treatment. In the case of a default, MEM will assume responsibility or find a third party to assume responsibility in exchange for the reclamation bond.
2. MFLNRO is responsible for licensing or approving any WSF or DC that requires a water licence or approval under the *Water Act* of BC and the Dam Safety Regulation. This will include the approval of siting, design, construction, modification, operation, maintenance and decommissioning with the exception of TSF, FI, SED POND and SLUDGE POND (see Joint Responsibilities).
3. MoE is responsible for regulating the quantity and quality of any discharge to the environment from activities relating to mining. MoE is not responsible for regulating the structural safety and integrity of impoundments at a mine site. Where the quantity or the quality of the discharge may be affected by proposed works or operational procedures, MoE may impose requirements for the siting, design, construction, modification, operation, maintenance, abandonment, and reclamation of a TSF, FI, DC, SED POND, or SLUDGE POND. All applications for *Environmental Management Act* permits and amendments dealing with mine tailings discharges and the development of any industry Codes of Practice applicable to mine tailings will be referred to MEM for comments and advice.

Notwithstanding the above, MFLNRO and MoE will seek to obtain agreement from MEM before permitting, licensing or requiring additional discharges into a TSF, FI, SED POND and SLUDGE POND anticipated in the design of the impoundment. In the event that agreement cannot be reached at the local level, this matter shall be referred to the appropriate Directors for a decision.

Joint Responsibilities

A TSF, FI, SED POND and SLUDGE POND that requires a water licence will be dealt with by MEM and MFLNRO on a case-by-case basis. Under such agreements, MEM will be the approving agency for the dam design, construction, operation, maintenance and reclamation. MFLNRO will be responsible for the licensing of water and storage. Prior to issuing a water licence, MFLNRO will confer with MEM to confirm that the process for approving the TSF, FI, SED POND and SLUDGE POND as noted above, will be undertaken under the Mines Permit.

If a water licence is required for a TSF, FI, SED POND and SLUDGE POND it shall be referenced to the closure plan in the *Mines Act* Permit. MFLNRO will refer to MEM for comments and advice on all applications for water diversions relating to a TSF, FI, SED POND and SLUDGE POND.

All signatories of this MOU will endeavor to ensure that copies of all permits or licence's (and any revisions) are made available to the other signatories with an interest in the permit or licence.

Consultation and Coordination

During the project review for an Environmental Assessment Certificate and *Mines Act* Permit, MEM, MFLNRO, and MoE shall jointly review any TSF, FI, WSF, DC, SED POND and SLUDGE POND as per the terms of this agreement. Review by the three agencies will be coordinated by their Ministry representatives on the project committees.

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Where an emergency situation at a TSF, FI, SED POND or SLUDGE POND requires action that precludes prior consultation, notification of the actions taken by one party shall be given to the others as soon as possible. Copies of written orders, directives, approvals, licences, permits and amendments thereto, which include a TSF, FI, SED POND and SLUDGE POND shall be transmitted to the other parties at the time of issue.

In the event of the need for clarification of the Memorandum of Understanding or of unforeseen situations, the appropriate Directors shall consult with a view to resolving the matter.

This Memorandum of Understanding replaces the previous Memorandum of Understanding between MoE and MEM signed on April 22 and May 14, 2009.

Nothing contained in this Memorandum of Understanding abrogates responsibilities or duties assigned by the *Mines Act*, the *Environmental Management Act* or the *Water Act*.

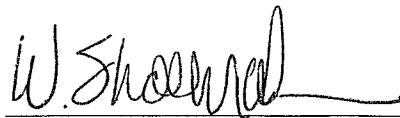
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UPDATE OF 2009 MEMORANDUM: XX NOVEMBER 2013



Deputy Minister
Ministry of Energy and Mines

Jan 7 / 14
Date



Deputy Minister
Ministry of Environment

Jan. 9 / 14
Date



Deputy Minister
Ministry of Forests, Lands and Natural Resource Operations

13.12.12
Date