



CDA Annual Conference, 4-5 October 2014, Banff (Alberta-Canada)



Tailings Dam Breach – Beyond the State of the Practice Workshop

Date:

Saturday, October 4, 2014, 9 am to 5 pm and Sunday, October 5, 2014, 9 am

Workshop Organizer:

Mohammad Al-Mamun

Dam breach analysis is an important aspect in the design and evaluation of dams as it allows the consequences of dam failure to be incorporated into risk assessment, the selection of recurrence intervals for extreme design events and emergency preparedness planning. While such analysis is routinely conducted for water retaining dams, its application to dams that contain viscous solids, such as tailings, with or without a pond, has been limited because of uncertainties regarding interactions between the tailings (non-Newtonian flow), any free water that may be present (multiphase flow), and the flow path (effects of momentum and topography). Tools developed for water retention dams are often used to approximate the flow from tailings dam breaches. However, there is considerable divergence in the approaches used and no general consensus as to how these flows should be modeled.

This workshop will be jointly held with the International Congress on Large Dams (ICOLD) and will be the first of a series of workshops devoted to this topic.

The proposed tailings dam breach workshop is intended to provide a forum for practitioners to discuss their experiences with tailings dam breach analysis with the following objectives:

- ▶ Understanding tailings dam failure modes and the potential impacts.
- ▶ Present case studies of actual tailings dam breach flows.
- ▶ Review key literature and our current understanding of tailings dam breach flows.
- ▶ Recognize limitations of existing water-flow based analytical tools.
- ▶ Key characteristics of the tailings that contribute to liquefaction and flow.
- ▶ Evaluation of the effects consolidation and ageing may have on limiting tailings flow.
- ▶ Review of the fundamental mechanisms of tailings flow as opposed to water flow.
- ▶ " failure modes that should be considered in the dam breach analysis.
- ▶ Share experience on tailings dam breach analysis through case studies.
- ▶ Appraise currently available tailings/debris flow models and critical parameters for their adaptation to tailings dam failure.
- ▶ Understand the pros and cons of various methods.

The workshop will be led by several experts in the field. However, all participants will be encouraged to share their experience on the topic.

As noted above, this workshop will be the first of a series and a key objective of this workshop will be to identify the issues that need to be addressed in the subsequent workshops.

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