

Annexure No. 3

Role and Responsibility of Engineer of Record (Responsible Engineer)

The Australia National Committee on Large Dams (ANCOLD) "Guidelines on Tailings Dams (May 2012)" uses the term "Responsible Engineer" and states that:

"It is highly desirable that the Designer should be closely involved in construction. It is preferable that the Designer should also be the Responsible Engineer, but where this is not the case, the Responsible Engineer should have a defined relationship to the Designer to allow ongoing interaction to ensure the design intent is achieved and that any potential design considerations are communicated to and acted upon by the Designer."

A typical management structure for a contractor constructed TSF is presented in the ANOLD 2012 guidelines and the role of the EOR (Responsible Engineer) and shown in 1.

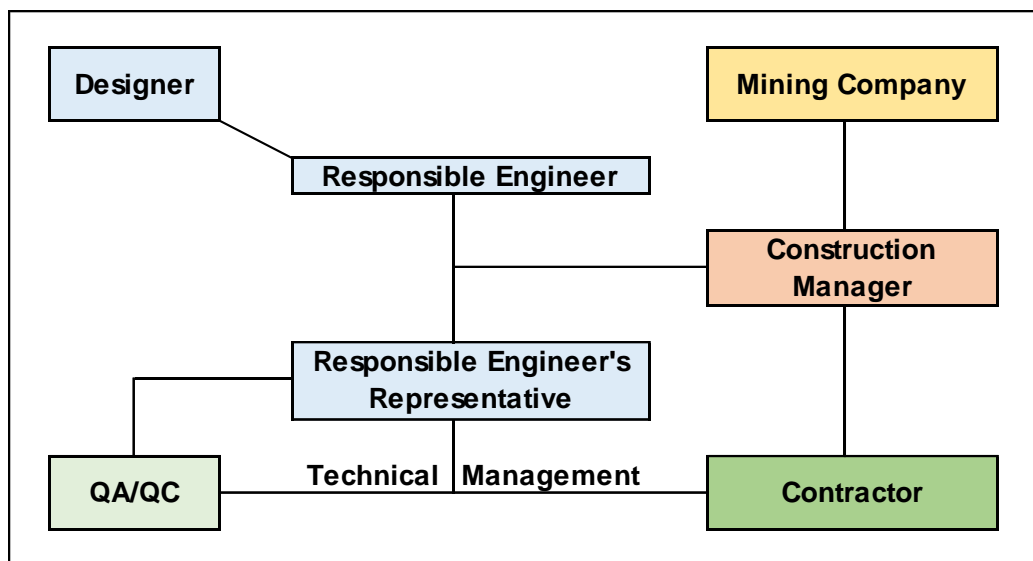


Figure 1: Management structure for contractor constructed tailings dam (ANCOLD Guidelines on Tailings Dam, May 2012).

The Engineer of Record (EOR) is a qualified and competent engineer with experience commensurate with the consequence classification and complexity of the facility. An Engineer of Record is typically designated during the site selection, investigation and design phase and not later than the design phase. Typically the EOR is a third party engineer although it is possible that the position may be filled by an employee of the mine if that engineer has the necessary experience and qualifications to fill the EOR role. Typically the EOR:

- Holds the professional responsibility for the facility design, and is responsible for evaluating the adequacy of the as-built facility relative to the design as well as applicable standards, criteria, and guidelines.
- Reports on annual Dam Safety Inspections, participates in Dam Safety Reviews, and participates in risk assessments.
- Provides Quantitative Performance Objectives and monitoring frequencies required to ensure the facility is functioning as designed for inclusion in the Operations, Maintenance, and Surveillance (OMS).
- In the event of a change of the EOR, participates in implementing the succession plan, including understanding the risks and liabilities associated with such changes and employing appropriate change management procedures.

The Engineer-of-Record (EOR), sometimes referred to as the "Responsible Engineer" should be an active member or partner of the TSF support team. The EOR should oversee or complete all of the TSF integrated system engineering design including the tailings delivery and return water pipelines, decant structures, and surface water management related to the TSF. The EOR's responsibilities

should not end with an initial design and/or geotechnical stability report but should also extend throughout the life of the operation:

- Typically the Design Engineer;
- Performing Dam Safety Reviews;
- Routine audits;
- Assisting management and operations by providing stage-storage curves and life of facility plans;
- On-going TSF raise designs, and,
- Sign-off on construction of the design facility.