

TOWARDS DEVELOPMENT OF GEOTECHNICAL ENGINEERS AS TAILINGS DAM ENGINEERS OF RECORD

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ABSTRACT

The concept of Engineer of Record (EOR) originated in North America and has been used in private and public works construction since the early 20th century. For mine process tailings dams/ tailings storage facilities (TSFs), the EOR concept gained prominence over the past decade, a period marked by several disastrous TSF failures. The role, function, and responsibilities of the EOR for TSFs were formalised in the Global Industry Standard on Tailings Management (GISTM), introduced in 2020 by the Global Tailings Review in collaboration with key stakeholders.

An increase in the demand for engineering consulting firms to provide EOR services, including assignment of suitably qualified and experienced engineers as EOR representatives, followed introduction of the GISTM with the current demand for EOR representatives exceeding the supply. As a result, EOR representatives are often accountable for multiple TSFs. The combination of workload intensity and enduring nature of EOR appointments, may compromise individual EOR ability to duly meet duty-of-care obligations. Potential reluctance to accept the liability associated with EOR appointments, may constrict EOR supply.

To address the EOR supply constraint, the mining and associated consulting industries might inter alia focus on structured, purposeful and continuous skills development of prospective EOR representatives. The nature of TSF developments with lifecycles often spanning several decades, presents ready opportunity to train and develop aspiring TSF engineers into qualified EOR representatives.

This paper presents a framework to support the systematic development and training of geotechnical engineers to become suitably qualified and experienced TSF EOR representatives. Over time, industry wide implementation of systematic development programs such as suggested herein should assist in increasing EOR representative supply and capability, improving the reliability, quality and sustainability of EOR appointments.