

Flood control measures at UK tailings management facilities

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SYNOPSIS. There is a long history of mineral exploration and exploitation in the United Kingdom, but few projects were successfully developed during the latter part of the 20th century. New mine projects permitted after the enactment of reservoirs and mine tips legislation are therefore limited in number. However, those that have been developed have included both the design and construction of large embankment dams for the containment of the tailings, together with the associated water management structures necessary to ensure safety as well as environmental compliance.

This paper presents the flood control measures adopted for tailings management facilities in the UK and demonstrates how these differ in design and concept from those for conventional water dams due to the general emphasis on staged construction and the more strict discharge permitting required. The hydrological approach taken to ensure that these facilities meet the highest flood standards whilst permitting discharges into controlled rivers is described. The paper illustrates the design basis for three current projects and demonstrates the ability of these facilities to meet the highest standards of flood control without compromising either operational efficiency or environmental compliance.