Physical Testing of a Stepped Masonry Spillway

P. D. DOWN, Mott MacDonald-Bentley, Leeds, UK
M. WEARING, CRM Rainwater Drainage Consultancy, Bolton, UK

SYNOPSIS Many of the dams that have been constructed in the UK incorporate stepped masonry spillways. In recent years, a number of incidents have highlighted the risk of damage to these types of spillways during flood events resulting in a potential risk to reservoir safety. This was particularly evident during the incidents at the Boltby and Ulley reservoirs.

Following these incidents there has been particular emphasis placed on reviewing the ability of stepped masonry spillways to safely convey the design flood event. In many cases this has resulted in works to substantially improve or replace the existing spillway facilities.

Mott MacDonald Bentley (MMB) is employed by Yorkshire Water to undertake reservoir improvement projects on their behalf. During a recent project investigation works were carried out at a Yorkshire Water reservoir to prove the structural condition of the existing spillway and its ability to withstand the affects of flood flows along it. The aim was to provide an efficient solution for the required spillway improvements.