

Supervising Engineer's Account and Reflections on a Major Reservoir Safety Incident

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SYNOPSIS. This paper details the first response to an emergency incident that took place at Ulley Reservoir in June 2007, and provides a first hand account of the events that took place during the initial twelve hours and looks at the actions taken by the Undertaker, Rotherham Metropolitan Borough Council (RMBC), and the Supervising Engineer during that period. The paper also provides a commentary on the actions taken by the AR Panel Engineer, the emergency services and Undertaker's and contractor's staff in carrying out further emergency works to stabilise the dam during the following 48 hours. It provides a detailed account of an emergency plan being put into action and also how the emergency plan can be flexible enough to allow improvisation to deal with particular problems as they are identified. The paper concludes by providing a summary of the main lessons learnt during the emergency response and comments on general housekeeping matters such as the availability of reservoir records, communications and welfare facilities.

The problem at Ulley was the disintegration of one of the spillways that led to the rapid erosion of the toe and downstream shoulder of the embankment. The erosion process was out of control and a solution had to be found to reduce the flow along the damaged spillway. In the absence of penstocks, stop logs or other similar equipment that could be used to control the flow of water into the spillway, an improvised plug was installed, which comprised of an 8 tonne skip packed with large sandbags wedged into the upstream end of the spillway. The Undertaker's emergency plan allowed for plant and materials to be obtained at any time of the day. Emergency pumping to lower the reservoir water level was initially provided by the fire service, but these were later supplemented by the addition of hired in pumps. By the time the AR Panel Engineer arrived, the situation, though still critical was under control.