Flood Contingency Planning During Construction on Reservoir Embankments

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SYNOPSIS This paper describes work done to provide quantitative assessments of flood risk and flood risk mitigation options during construction works for a number of reservoir embankments operated by United Utilities. Hydraulic modelling using ISIS V3.5 and hydrological analysis using methods from the Flood Estimation Handbook (FEH) (Institute of Hydrology, 1999) were utilised to derive reservoir stage rise profiles for a range of flood events and storm durations. The effectiveness of flood mitigation and emergency response measures was assessed, both as advance works and emergency response measures. A decision tree to inform the site emergency plan was developed; this translates model analyses into a practical site protocol.