

New guide for assessing reservoir safety risk



A joint project is under way to develop a methodology for assessing risks affecting the safety of the wide range of reservoirs and dams found across the UK. The guide will use a commonly agreed framework that is technically robust, scalable and proportionate.

Since the House of Lords Select Committee review of dam safety in 1982, there have been various attempts to introduce a quantified approach to the assessment of dams and reservoirs, but none have gained universal acceptance. Internationally, various developments of a similar nature have been made, but with limited transferability to the UK.

It has become clear that a structured risk assessment framework (along with associated tools and techniques), that specifically reflects the context of the UK dam industry is becoming increasingly required to support

asset and business management, and to minimise risk to lives and the environment.

The new 'Risk Assessment for Reservoir Safety' project is developing a framework and associated methods that will build upon existing Environment Agency concepts and take into account recent approaches used for fluvial and coastal flood risk assessment. It is important that this framework and methods will be able to meet the needs of the dams and reservoirs industry, and this project is being carried out in close consultation with them.

The common risk analysis framework will feature:

- the use of a common approach – from flood embankments through to small and large dams;
- reservoir flood risk integrated into national assessment of flood risk; and
- compliance with the European Floods Directive requirement to address flood risks from all sources in a structured and traceable manner.

The framework will also be of support to OFWAT in its role of determining capital expenditures by water companies.

The project is building on the outputs from two recent projects: (i) 'Scoping the process for determining acceptable levels of risk in reservoir design' (Defra Report FD2641, 2010); and (ii) 'Scoping study – Modes of dam failure and monitoring and measuring techniques' (Environment Agency Report SC080048/R1, 2011).

The project is funded by the Environment Agency and is being delivered by a team of industry experts led by HR Wallingford. The Project Steering Group includes representatives of water companies, geotechnical engineering consultants, reservoir engineers, and the Environment Agency. The team is consulting with the wider dams and reservoirs industry through practitioner workshops. The risk assessment methodologies will be piloted on reservoirs in England and Wales.

For further information, please contact Mike Wallis, HR Wallingford (01491 822373; E-mail: m.wallis@hrwallingford.com).



Sywell Reservoir, Northamptonshire. The new Guide to Reservoir Safety Risk Assessment will be applicable to the wide variety of dams in the UK.