



EVENING MEETING

## **Update on Research Supporting Dambreak and Flood Risk Management**

**Monday 28<sup>th</sup> January 2008  
@ 5.30pm**

Presented by:

**Mark Morris      Principal Engineer, HR Wallingford Ltd**

**Jim Claydon      All Reservoirs Panel Engineer**

**at**

**The Institution of Civil Engineers  
1 Great George Street, London SW1P 3AA**

For a brief synopsis see overleaf

**Admission Free**

Teas available from 5.00pm

For more information please contact

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## Summary of presentation

### Update on Research Supporting Dambreak and Flood Risk Management

Recent events at Ulley Reservoir reminded us of the flood risk hazard posed by reservoirs and the important role that Engineers play in safely maintaining and operating dams and reservoirs. An important aspect of this work includes planning for emergencies, part of which includes undertaking dambreak and impact assessments to support the development of appropriate, site specific, emergency action plans. At this meeting an overview of recent and ongoing research supporting dambreak and flood risk management will be followed by an overview of the Ulley Dam incident.

#### **Research Supporting Dambreak and Flood Risk Management**

##### **(Mark Morris ~ 45 mins)**

As computing power and numerical models continues to evolve, our tools and techniques for undertaking dambreak and flood risk assessments continue to expand. Tools, models and methods continue to be developed under Corporate, National, European and International projects. An overview of various research and development initiatives will be provided, covering topics such as predicting dam failure / breach, flood routing and mapping, impact assessment etc. This will link the UK position, and needs, to integrated research projects such as IMPACT, FLOODsite and FRMRC, showing how applied research is feeding directly into improved 1D and 2D numerical models which directly support emergency planning. Consideration will also be given to the suitability of different tools and techniques within the overall context of emergency planning and flood risk management.

#### **Ulley Dam Incident 2007**

##### **(Jim Claydon ~ 15 mins)**

On 25<sup>th</sup> June 2007 during a period of heavy rainfall Ulley dam near Rotherham suffered serious damage. Because of concerns that the embankment might fail an unprecedented decision was made to close the M1 and to evacuate some residents. Immediate repairs were made to the dam, which has since been inspected under the Reservoirs Act and is held down until permanent improvements are completed. The Inspecting Engineer, Jim Claydon, will describe some aspects of the emergency incident including:

- The rate of discharge during the storm
- The potential rate of drawdown from the scour.
- The rates of pumping.
- What are the factors determining the Category of the dam?
- Would an inundation map have been useful?
- Was it necessary to close the motorway?