



EVENING MEETING

MONDAY 6th OCTOBER 2014 at 6:00pm

One Great George Street, London

(Nearest tube: Westminster)

Wimbleball Dam Grouting Works

By

James Penman, CH2MHill
Tony Morison, CH2MHill
Mike Palmer, CH2MHill
Brian Jackson, Bachy Soletanche

For a brief synopsis see overleaf

Admission free

Teas available from 5.30pm

For more information please contact
Tim Fuller (BDS Secretary) on 020 7665 2234 or
email : bds@ice.org.uk

This meeting will also be streamed live on the internet. For more details on how to view this meeting online please visit the BDS website.



Wimbleball Dam Grouting Work

Synopsis

Wimbleball Dam was constructed in the late 1970s. The reservoir is a strategic water resource asset owned jointly by South West Water and Wessex Water. It is a 50m high buttress dam on a tributary of the River Exe in Somerset. The dam originally had a single line grout curtain drilled from a concrete plinth at the upstream toe of the dam. Leakage beneath the south abutment of the dam was observed during first filling. Despite undertaking remedial grouting at the time of construction and again in 2003, leakage flows have continued to rise. In 2010 the Inspecting Engineer judged the increasing flows to be a risk to the long term safety of the dam and recommended that measures be put in place to reduce the leakage. Implementation of remedial measures was complicated by a requirement that the reservoir could not be drawn down during construction works.

Halcrow Group Ltd (now CH2MHill) were appointed by South West Water to provide consultancy services in November 2010 and a construction contract was let to Soletanche Bachy in January 2013. The design of the works was developed collaboratively with an ECI period running from January to September 2013. Construction works ran from September 2013 to June 2014.

This talk describes the development of the remedial works from initial studies through to detailed design and construction of a new grout curtain. It will describe the use of the Grout Intensity Number (GIN) procedure from both the Consultant's viewpoint of setting the parameters and the Contractor's viewpoint of controlling the operations in site. Other aspects which will also be covered are stability assessment of the dam, design of pressure relief measures, monitoring of uplift pressures during the works, access and environmental mitigation.



Biography details for the presenters

James Penman

James Penman has 30 years of experience in dams, reservoir and hydraulic structures. He started work with Gibb in 1985 and then moved to Halcrow Group, now CH2MHill in 2011 where he is currently Associate Director – Dams and Hydropower. He has worked extensively overseas in Africa, the Middle East and South East Asia. He was appointed to the Supervising engineers Panel in 2005 and the All Reservoirs Panel in 2010. He's currently CH2MHill's Project Manager for the Wembley Project and has overseen the project from design development through to completion.

Tony Morison

Tony Morison has worked for Halcrow Group, now CH2MHill, for over 40 years, 30 years of which have been on dams, reservoirs and hydraulic structures. He is particularly a specialist in concrete and RCC dam studies and design. He has worked extensively overseas as well as in the UK, with more than 20 countries on his CV. He was appointed as a Supervising Engineer in 1986, when the Reservoirs Act was introduced, and as an AR Panel Engineer in 2000. Tony was closely involved in the options study, concept design and stability analyses for the Wembley project. He is the Qualified Civil Engineer for the Works

Mike Palmer

Mike Palmer is a Chartered Geologist and Registered Ground Engineering Adviser. Mike has worked for Halcrow Group, now CH2MHill, for 28 years where he is the Technical Director for Engineering Geology. His work has included many dams and hydroelectric schemes internationally and in the UK. Mike was the technical lead for the tunnelling works on the Kishanganga HEP which recently became the first successful TBM tunnel to be completed under the Himalaya. As well as his experience in the construction of dam grout curtains, Mike was the design team leader for the specialist grouting work undertaken for the Dounreay Shaft Isolation Project and the recently completed STEP project in Abu Dhabi where grouting was used to prevent water ingress into one of the largest underground excavations in the world. At Wembley Mike has been involved throughout the option study, design and construction as the technical lead for the grouting works.

Brian Jackson

Brian Jackson is a Chartered Mining Engineer with a total career experience of over 50 years. Brian has worked in all five continents, on dams, tunnels, bridges and other major structures and in and around underground and open-cut mines, specialising in construction and geotechnical engineering, and mine management & operations. Most recently, Brian has worked on the bidding of the Crossrail tunnelling packages and then held the position of Technical Manager for Bachy Soletanche on the Wembley Dam Grouting Project.