

British Tunnelling Society

at The Institution of Civil Engineers

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NEWSLETTER December 2007

INTRODUCTION

The lecture theatre was full for the October meeting on Crossrail, by Doug Oakervee. The November meeting, which was a joint meeting with the BGA, and was on the innovative grouting of the Dounreay shaft and had a good reception.



Bob Ibell with Alex Tiernan and Iain Robertson

We will all our members a happy Christmas and a prosperous 2008.

OBITUARY

Norman Schmidt

Norman Schmidt Chairman of the South African National Committee on Tunnelling 1980 – 1982 and 1986 – 1988 died in October after a very brief illness. Norman was born in 1923 and after World War 2 joined the South African Railways in 1946. He spent 15 years of his career on railway construction, almost all on tunnelling. He was their unofficial "tunnel engineer" and was responsible for the construction of 21 railway

tunnels with a combined length of 30km including the twin Cedara tunnels, 6km long. He successfully initiated the use of multi-boom drill jumbos, rockbolt support, continuous mucking systems, concrete pumps and telescopic shutters.

In 1961 he joined the Roberts Construction Company and was associated with shaft sinking, tunnelling and underground projects in South Africa and Malawi. He was seconded to Shaft Sinkers (Pty) Ltd as tunnelling manager in 1964. In 1967 he returned to the Roberts group as shaft sinking and tunnelling consultant. He worked on international projects in Peru, Chile, Greece and in Australia.

In 1970 he joined the newly formed RUC Mining Contracting Company (Pty) Limited jointly owned by the Roberts group as Technical Manager and later Technical Director and was involved in seeking contracts in Australia and South America. He retired in 1985 but continued to work as a consultant until 1994.



Norman had two terms as Chairman of SANCOT and represented the Society at ITA meetings. He attended the 2007 ITA Annual meeting in Prague where he enjoyed

meeting many of his old friends. He wrote a number of papers including co-editing a book "Tunnelling in Southern Africa".

FUTURE MEETINGS and EVENTS

All meetings now start at the Institution at 18.00 unless stated, with tea and coffee on the lower ground floor from 17.30. The bar opens at 17.30 and is open until late. Flysheets on the details of the meetings are circulated in advance in T&TI and details are also posted on the website a month or so in advance of the meeting.

6 December 2007 **From our Own Correspondents**
A View of Tunnelling Worldwide from the Tunnelling Press Correspondents by Tristran Thomas and Shani Wallis

17th January 2008 **Lower Lea Valley Cable Tunnel**

Twin 6km long cable tunnels for EDF Energy and National Grid to facilitate the development of the Olympic Park in Stratford, London

21st February 2008 **Joint Meeting with MinSouth/IMMM. Bristol City Centre Flood Alleviation Scheme Phase two**

Rock tunnels with steel arches

21st March 2008 **Berlin Underground Station and Tunnels**

SEPTEMBER MEETING

On Thursday 20th September 2007 David Donaldson celebrated 20 years since he founded the specialist tunnelling consultancy that bears his name, and also 20 years since he became Chairman of the Society.

To mark the occasion, David very generously met the bar bill and buffet bill for all members and guests after the BTS evening meeting at the Institution of Civil Engineers.

The members congratulated David at the end of the evening meeting, and continuously thereafter in the bar. Congratulations, David, and we raise our glasses to the next 20 years!

THAMES TIDEWAY PROJECT UPDATE

The Thames Tideway Tunnel Project is planned to be constructed in two phases. The first phase being the Lee Tunnel which is a 6.8km drive in the Upper Chalk, with a 7.2m internal diameter lining from Beckton STW to Abbey Mills pumping station. The drive will be up to 75m depth which will require appropriate specialist construction techniques. Four large shafts are also to be constructed as part of the scheme, the largest being 38m internal diameter and 85m deep.

The key milestones to achieve in the short term are:

- Currently engaged with the marketplace to canvass views of tunnelling contractors
- Submission of OJEU notice for the prequalification of contractors for the tunnelling contract in early December 2007
- Appointment of Programme Manager before late January 2008
- Submission of Planning Permission for the Lee Tunnel in May 2008
- Tender Documents to be issued to pre-qualified Contractors in July 2008
- Construction starts on site March 2009

The second phase of the project, the Thames Tunnel, has a more major planning and design element and it is anticipated that construction will be between 2012 and 2020.

Tunnelling contractors are encouraged to register their interest by contacting the Thames Water Procurement Support Centre via Procurementsupportcentre@thameswater.co.uk

BTS WEBSITE UPGRADE

The BTS web site has at last been upgraded and now provides an up to date service to members. The reason for the poor service over the last 12 months are down to having to change web service provider, and then remodel the website to bring it into compliance with the latest standards.

Members should note that the site address has now changed to www.britishtunnelling.org.uk. This has been required so that we can bring the domain name into UK registration and ease future management of the site. The old site will still function and you will be redirected to the new site in a seamless manner. Please update your favourites list to reflect this change. We are continually seeking to improve and we welcome suggestions. Contact christopher.bambridge@mottmac.com

HEALTH & SAFETY

Safety Alert – Exposure to UV Radiation from Metal Halide Lamps

HSE has recently been informed by a tunnelling contractor of an incident in which a number of miners experienced excessive exposure to UV radiation which manifested as skin reddening and eye discomfort. They had been working close to a metal halide lamp.

Metal halide lamps emit light by the passage of an electric arc through a mixture of gases or vapours, the composition of which determines the colour of light emitted. They are relatively efficient light emitters but their output contains considerable amounts of UV radiation. To protect against this, the lamp consists of two shells, an inner of quartz or transparent alumina and an outer of glass. The outer shell is opaque to much of the UV radiation.

In the incident the outer lamp shell had been damaged but the lamp continued to operate.

Mitigation Measures

- 1 Lamps are available which self extinguish when the outer shell is damaged and their use is recommended.
- 2 Lamps should be inspected regularly and replaced as soon as damage is noted.
- 3 Luminaires should be positioned far from the working area as reasonably practicable without reducing illumination to unacceptable levels.
- 4 Miners should be advised to look out for and report any unexpected sunburn like symptoms or eye discomfort when they had not been exposed to strong daylight.

Contact: Donald.lamont@hse.gsi.gov.uk

ANNUAL DINNER – A DATE FOR YOUR DIARY – May 9th 2008

As 2008 diaries (for those that still use them) are now landing on people's desks, remember to make a note of the annual dinner date, back to its 'usual' Friday after the Mayday Bank Holiday.

We're back at the Brewery for the well proven format of champagne reception, sit down dinner and surfeit of networking.

Our guest speaker will be Barry Cryer, who may be familiar to many members and partners from numerous radio and TV appearances.

After the dinner, we will do our best to distract you from networking with an excellent Beatles tribute band called "Rubber Soul".

As previously, we will open the booking website in February, allowing people plenty of time to reserve their places at this prestige event. See you there!

TUNNELSKILLS LAUNCHED

TunnelSkills has been formed to meet the challenges of planning major tunnelling projects such as Crossrail and the Thames Tideway scheme. Tunnelling contractors have come together with their Clients, the British Tunnelling Society and ConstructionSkills to form this organisation that has the principal objective of achieving a qualified underground workforce.

Though as yet a fledgling organisation, TunnelSkills has already decided to promote the use of an NVQ Safety Passport as a requisite for personnel working underground. This NVQSP will be required where tunnellers do not have an NVQ already and will be granted provided the tunneller, on assessment, meets the knowledge requirements of the NVQ level 2 unit for Health & Safety and also registers for the NVQ.

Developing a demonstrably competent workforce of sufficient numbers to meet the future demands will require working together in a far-sighted and innovative manner. The formation of TunnelSkills is a major step forward in this respect.

Founder members of TunnelSkills are Balfour Beatty, Costain, Joseph Gallagher, Morgan Est, Edmund Nuttall, Rorcon, and Skanska. The initiative is supported by industry Clients BAA, LUL, EDF, Metronet, Northern Ireland Water and Wessex Water. Any enquiries concerning TunnelSkills should in the first instance be addressed to Bob Ibell bob.ibell@ibassoc.co.uk

DINING UNDER THE THAMES

The Tunnel Club met on 15th November 2007 to celebrate the 180th anniversary of the Banquet under the river that Isambard Brunel organised on 10th November 1827. Eight toast were made to the eighth wonder of the world.

The Brunel Museum was a roofless ruin 25 years ago. Five years ago there were 500 visitors a year, but now this has grown to 10,000 and the museum is open every day. With support from the London Museums Hub, Heritage Lottery and the London Borough of Southwark, the museum has survived on a few grants, sales and admissions.

Plans are underway to improve the facilities for the growing number of visitors, and in addition, to generate further income. In January 2008 a new education centre with a small riverside café, fully equipped kitchen and toilets will open for corporate events and other bookings.

There are great plans to extend the museum into Brunel's original shaft to provide London with a fitting museum to the Brunels and a showcase for the best of British engineering and invention.

The Museum has the support of Mayor Livingstone, English Heritage, the Royal Society and the Institution of Civil Engineers, to develop the shaft when the East London Line closes this month for restoration and extension works. The line will be re-opened as the London Overground in 2010. Balfour Beatty Carillion JV the contractors will also install a low level shelf above the railway lines. Visitors will be able to look down into the tunnel through a glass panel. The museum will be fitting out the new visitor attraction in the space created and hope that there will be support from the industry.

A lease agreement 'in principle' from Transport for London means that the campaign to build London's new Brunel Museum can begin.

LOBBY GROUP

On 25th October the Society took a small but enthusiastic group on a site visit to Combe Down Stone Mine. The visit included a brief reception by the Mayor of Bath, a talk about the historic problem of the stone mines and the stabilisation solutions being employed, a visit down the mine and a buffet lunch where our group met more of the site personnel and representatives of local residents group.

Everyone was extremely complimentary about the role of Nick Raynsford had played in unlocking the situation and enabling the stabilisation works to get underway. We had 3 parliamentarians and 3 BTS members in the group.

At the suggestion of Lord Jenkin we have arranged a meeting on Tuesday 22nd January 2008 which will be a presentation by Professor Robert Mair on "Tunnelling into the Future". It will be a joint meeting with the Associate Parliamentary Engineering Group and the All Party Parliamentary Group for Earth Sciences.

It will be a general talk about tunnelling, designed for intelligent non-technical people. Perhaps it will not an "axe-grinding" presentation in our eyes, but could well be extremely informative for Parliamentarians. There will be a modest reception/networking session afterwards in the Council Room at the Institution of Civil Engineers. We will be looking for sponsors for that reception.

Helen Natrass is conscious that she has not yet started to action our campaign for "joined-up-thinking" on

muck away in London. She would welcome suggestions of an appropriate way to collect all the issues and communicate them in an impartial manner through the BTS/APGUS to the relevant Ministers. A guide on time scales would also be useful.

Further information from Helen Natrass h.natrass@sir-robert-mcalpine.com
Tel 0207 8427500.

INTERNATIONAL TUNNELLING ASSOCIATION

Martin Knights, President of the ITA has sent us a message.

Martin had just returned from the first full Executive Committee meeting since the Prague Annual Congress. The new Executive Committee met in Madrid over the weekend 4/5 November which coincided with the 3 day Congress organised by the National Tunnelling Organisations of Spain, Switzerland, France and Italy. There were approximately 500 attendees at the Madrid Congress and a very well organised Exhibition was held in parallel.

At the Executive meeting were able to advance their proposals on developing the 2007 strategy including:

- New proposals for the Annual Communications meeting
- Website upgrading
- Proposed position papers for public attention
- Launching the new sub-committees for Training (ITA CET) and the use of underground space (ITACUS)
- Membership drive
- Ideas for more effective operation of the Working Groups
- Preparations for the replacement of the Secretary General post 2009

The new Executive Committee has mobilised quickly to deal with the 2007 Strategy requirements and Martin is sure that they will have good progress to report by the time of the next meeting in Agra, India in September 2008.

The next ad hoc meeting of the Executive Committee is in Amsterdam on the occasion of the Dutch Tunnelling Congress organised by Han Admiraal of COB (who spoke at the October BTS meeting) entitled "Think Deep". This promises to be an exciting agenda which addresses the concepts that influence the need to build infrastructure underground. The slogan for the Amsterdam Congress is "Can you afford not to go underground?". Crossrail and Thames Water Tideway

senior representatives have been invited to be keynote speakers at this Congress.

Martin presented a paper at the STUVA Congress in Koln at the end of November. This will be on the ITA website shortly. The Congress is Alfred Haack's final official farewell to his colleagues in the tunnelling world on the occasion of his retirement. (we will still be seeing him at conferences in the future. ed).

Martin's paper is about resources, sustainability and how underground solutions are appropriate. The paper will be the basis for a number of presentations that Martin will make in the next year or so including at Amsterdam.



Martin Knights thanking Michael Willmes of Bilfinger Berger for their sponsorship of the ITA.



Professor Alfred Haack chairing the last session in Koln.

Martin wishes all BTS Members festive greeting for Christmas and a good tunnelling year in 2008 and thanks the BTS for their support in his campaign for the Presidency.

GOSSIP

Any interesting news about members to rodneycraig@compuserve.com

BTS CLOSED FACE WORKING GROUP

Copies of the Report are selling well. The Report which costs £65.00 is available from Thomas Telford, (Tel 44 (0) 1892 832299, Fax 44 (0)1892 837272, orders@thomastelford.com or via the internet www.thomastelford.com) from the ICE bookshop at Great George Street and other outlets.

HAVS BEST PRACTICE GUIDE

The HAVS document which has had a significant contribution from the HSE provides the industry with a Current Best Practice Guide to the management of HAVS and is essential reading for all and is available on the website. www.britishtunnelling.org, go into Working Groups and then safety.

CONFERENCES

Don't forget to look at the back pages of Tunnels & Tunnelling International and Tunnelling and Trenchless Construction for the conferences coming up over the next two years. Also the International Tunnelling Association website www.ita-aites.org

"Enlightened Underground: A Festival of Underground Space" 27th – 31st January 2008, Amsterdam, Netherlands www.thinkdeep.nl

"3rd International Symposium on Tunnel Safety and Security (ISTSS)", 12th – 14th March 2008, Stockholm, Sweden www.sp.se/fire/ISTSS2008

"5th International Symposium on Sprayed Concrete – Wet Mix", 22nd – 24th April 2008, Lillehammer, Norway www.sprayedconcrete.no

"13th Australian Tunnelling Conference", 4th – 7th May 2008, Melbourne, Australia www.atstunnellingconference2008.com