

# British Tunnelling Society

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## NEWSLETTER February 2006

### INTRODUCTION

We are now entering an important part of the BTS year with monthly meetings, the bi-annual Sir Harold Harding Memorial Lecture in April, the Annual Dinner and AGM in May and the Annual Course in June.

We had a full house at the January meeting on Steel Fibre Reinforced Concrete Tunnel Linings and a good audience for the excellent February meeting on the Oporto Metro project.

### BTS SECRETARY

In the December Newsletter we mentioned that Gavin Bowyer, the BTS Secretary for the last three years, was leaving the Institution in January 2006 and we thanked him for his outstanding contribution to the Society.

At the December BTS meeting David Court thanked Gavin for his contribution to the Society and gave him a presentation.

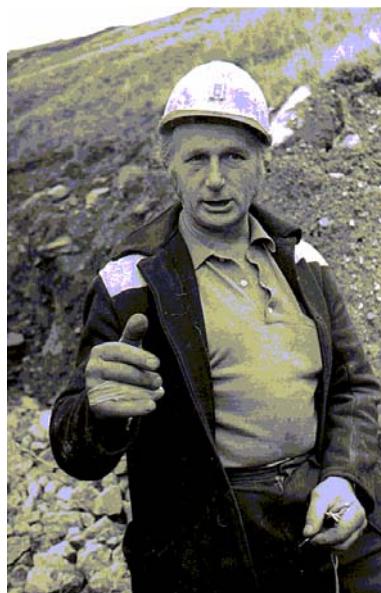


Gavin Bowyer with David Court.

We are very pleased to welcome Janice Leung as our new Secretary. She joined the Institution in November 2005 as a Group Executive and is enthusiastically carrying on Gavin's good work. Janice's contacts are the same as before. (see above)

### TEO TOMANEK

Teo Tomanek died recently. He was born in Poland and came to Britain in 1947. He came into the tunnelling industry in 1952 on the Invergarry Hydro Electric scheme. He joined Edmund Nuttall in 1954 and worked on GPO tunnels in Manchester, the Aberthaw A Power station, the Dartford, Tyne and Mersey twin Tunnels, the 1973 Channel Tunnel and other tunnels in Bristol, Shap, Littlebrook, Weymouth and in London on London Underground projects.



Teo Tomanek

Overseas, Teo worked for Nuttalls in Prague, Ethiopia and in Sri Lanka. He retired to his home in Kendal in 1987.

Teo was always first into the tunnel after an incident and was a great character and friend to many tunnellers.

## GOSSIP

Any interesting news about members to [rodneycraig@compuserve.com](mailto:rodneycraig@compuserve.com)

## 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.**

16<sup>th</sup> March 2006

### **Tunnelling on the Karahnjukar Hydropower Plant, Iceland**

The Karahnjukar project has 4 dams, 75km of hard rock Tunnels, with some 50km driven by 3 large Robins TBMs.

The power will be used by the nearby aluminium smelter and is planned to be commissioned in 2007.

20<sup>th</sup> April 2006

### **The Sixth Sir Harold Harding Memorial Lecture given by Colin Eadie, Engineering Director Morgan Est.**

Colin will be exploring the nature of the tunnelling industry and potential advances in technologies over the next 25 years.

In preparing his lecture Colin has consulted widely with world experts and industry leaders and hopes to present information which will not only be thought provoking but also entertaining.

18<sup>th</sup> May 2005

### **Delhi Metro – Design and Construction of India's first Bored Tunnel Metro Line**

The southern section of the Delhi Metro Line 1 is 6.5km long and has six cut and cover stations. Tunnelling was in both soft ground and in rock with TBMs. The rock TBM was removed and SCL used to meet the tight programme.

## BTS ANNUAL DINNER – 5<sup>th</sup> MAY 2006

The BTS Annual Dinner will take place on Friday 5<sup>th</sup> May 2006 at the Brewery, Chiswell Street, London EC1 at 7.00 for 7.30pm. This is the tenth year that we have been at this venue. Tickets cost £75.00 per head.

There will be a reception in the King George 11 Room from 7.00pm when there will be a complimentary bar. If you arrive early, there will be a cash bar from 6.30pm. There will be a limited number of "meeting point" tables at the reception. (first come first served).

The dinner will be in the Porter Tun Room. The guest speaker is David Gunson, who was an air traffic controller at Birmingham Airport, who will talk about some of his experiences in the control tower.

After the dinner there will be live music by the Rocking Flames. There will also be provision for corporate tabs in the Porter Tun Room bar by prior arrangement with The Brewery.

To book places please visit the Society's website at [www.britishtunnelling.org](http://www.britishtunnelling.org) where you can book online. Tables are 10 or 12 but individual bookings can also be made. When you book online you will be given a unique booking reference and the Brewery wine list. You may order your wine in advance with The Brewery by quoting your BTS booking reference number.

Those without access to the website should contact the Secretary for a booking form.

## 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](mailto:orders@thomastelford.com) or via the internet [www.thomastelford.com](http://www.thomastelford.com) ) from the ICE bookshop at Great George Street and other outlets.

## LOBBY GROUP

Following a short delay the re-launch of the All Party Parliamentary Group for Underground Space (APGUS) has been fixed. As mentioned in the December Newsletter, the Rt. Hon. Nick Raynsford MP has agreed to lead the re-launch.

A reception will be on Tuesday 18<sup>th</sup> April 2006 at 6pm in Portcullis House. We will be organising a few small exhibits about underground works, present and future.

We would welcome the attendance of some BTS members, particularly the under 40s. Anyone interested in attending the reception should contact Helen Natrass.

Further information from Helen Natrass  
[h.natrass@sir-robert-mcalpine.com](mailto:h.natrass@sir-robert-mcalpine.com)  
Tel 07803 612556.

## **INTERNATIONAL TUNNELLING ASSOCIATION**

The next ITA General Assembly will be held in Seoul, Korea from 22<sup>nd</sup> to 27<sup>th</sup> April 2006, in conjunction with the Korean Tunnelling Association conference "Safety in the Underground Space". See [www.ita2006.com](http://www.ita2006.com).

If you plan to attend the Conference please let Martin Knights or Donald Lamont know as they would like you to attend one of the Working Group meetings on the Sunday afternoon.

The British Tunnelling Society has nominated Edinburgh for the 2009 ITA Annual General Assembly. Budapest, Hungary, has also been nominated. Each country will be giving a presentation on Sunday 23<sup>rd</sup> April and the voting will take place on Wednesday 26<sup>th</sup> April.

**If members wish to know more about the Association and its Working Groups visit the website [www.ita-aites.org](http://www.ita-aites.org) . If you wish to be on one of the Working Groups, please contact Martin Knights [martin.knights@jacobs.com](mailto:martin.knights@jacobs.com), Donald Lamont [donald.lamont@hse.gsi.gov.uk](mailto:donald.lamont@hse.gsi.gov.uk) or the BTS Secretary [bts@ice.org.uk](mailto:bts@ice.org.uk)**

## **TUNNEL DESIGN & CONSTRUCTION COURSE 2006**

Please note that the annual BTS Tunnel Design & Construction Course will take place during the week 26<sup>th</sup> June to 2<sup>nd</sup> July 2006. Further details will be published shortly.

## **BTS DATABASE**

The Society launched the first stage of the UK Tunnels Database with a press release on the 26<sup>th</sup> October at Underground Construction 2005. The database covers a selection of tunnels constructed over the last 30 to 50 years across the whole spectrum of the industry from road, rail and metro tunnels to water, sewer and cable tunnels. Further tunnels will be added to the database, and data updated regularly.

For each project the one page sheet has data on the:

- The Project name and tunnel use

- The organisations involved, the period of construction, tender value and form of contract
- Project details including, where available, diameters, lengths, geology, method of construction, ground support, tunnel linings and rates of progress
- Special features where relevant
- A list of references

To access the database go to the Society's website [www.britishtunnelling.org](http://www.britishtunnelling.org) and CLICK on the DATABASE at the right hand side of the list of heading. ENTER a search word which may be a project or any keyword and a list of projects will be shown. Choose a project and CLICK on the title.

The access is free of charge.

## **HEALTH & SAFETY**

### **Tunnel entry by HSE Inspectors**

HSE has become aware of an incident in which a contractor was reluctant to allow an inspector to enter a tunnel under construction because the inspector concerned did not hold a confined space training certificate.

HSE considers the training it gives to construction inspectors in the hazards associated with tunnelling to be adequate to enable them to undertake tunnel inspections safely. HSE requires construction inspectors undertaking tunnel inspections to attend a two day internal training course on risks to personal safety in tunnels which includes practical training in the use of gas detectors and self-rescuers and to undertake a tunnel visit, accompanied by an experienced inspector. More restrictive conditions apply to tunnels under 2m diameter.

Inspectors should be given a briefing by the contractor, on site specific risks and emergency procedures prior to entry. HSE considers that this coupled with the HSE's in-house training is adequate for entry by inspectors into tunnels under construction where the use of a self rescuer is required as part of the contractor's planned risk control measures.

HSE also requires inspectors to use HSE issued self rescuers unless the contractor can persuade the inspector concerned, that there are valid reasons for not doing so. In this case the contractor should provide the inspector with an alternative self rescuer together with appropriate training in its use.

### **Workplace Exposure Limit for Respirable Crystalline Silica**

The Health and Safety Commission (HSC) has published a consultative document seeking comments on a proposal for a new Workplace Exposure Limit (WEL) for respirable crystalline silica.

Long-term exposure to dusts containing respirable crystalline silica can lead to the development of silicosis, a slowly developing irreversible lung disease. Heavy and prolonged exposures under conditions that are sufficient to cause silicosis can also lead to an increased risk of lung cancer. Evidence suggests that a WEL of 0.1mg.m-3 for crystalline silica would be in the long term, considerably reduce the risk of workers developing silicosis.

HSC's proposal recommends a reduction from the current WEL of 0.3mg.m-3 for respirable crystalline silica to a new WEL of 0.1mg.m-3 (measured as an 8-hour time weighted average).

If the proposal were to be agreed HSE would bring the new WEL into force in 2006. The new WEL set at 0.1mg.m-3 would be accompanied by practical advice on how to control exposures to respirable crystalline silica in the workplace.

The consultation document can be found on HSE's website at [www.hse.gov.uk/consult/live.htm](http://www.hse.gov.uk/consult/live.htm). Comments can be sent by e-mail to [silica.consultatio@hse.gsi.gov.uk](mailto:silica.consultatio@hse.gsi.gov.uk) or to Pauline Dillon, Health and Safety Executive, Policy Group, Room 101 Daniel House, Stanley Precinct, Bootle, Liverpool L20 3TW. Comments should be sent in by 13<sup>th</sup> March 2006.

## **NITROGEN MONOXIDE**

Under the Chairmanship of David Court the Society convened a meeting of Tunnelling Industry representatives and HSE on Friday 17 February at the Institution.

The meeting was attended by representatives from Clients, Consultants and Contractors to discuss the way forward to an Industry response to the recent published Chemical alert notices on Nitrogen Monoxide, Nitrogen Dioxide and Respirable Crystalline Silica. It was agreed at the meeting that the Society will act for the industry in compiling a response to HSE and will with the assistance of Industry collate and prepare guidance notes on Best Practice.

Anybody who was unable to attend the meeting and wishes to be involved should contact Janice Leung, our Secretary at the Institution.

## **CROSSRAIL BULLETIN 3 – DECEMBER 2005**

Bulletin No. 3 has been received from Crossrail. A brief summary is given below and a full copy can be downloaded from the Crossrail website [www.crossrail.co.uk](http://www.crossrail.co.uk).

## **Supplementary Environmental Statement**

Further environmental information is now available in relation to the Crossrail Environmental Statement (ES) which was deposited together with the Bill in February 2005.

This further statement is provided in the form of a second Supplementary Environmental Statement (SES2) (the first, SES1, having been published in May 2005) which has been posted on Cross London Rail Links' website at [www.crossrail.co.uk](http://www.crossrail.co.uk). comments on SES2 can be sent to Tim Neate Consultation Manager [crossrail@dft.gsi.gov.uk](mailto:crossrail@dft.gsi.gov.uk).

## **Select Committee**

The membership of the Select Committee has been announced. 358 petitions were received which will be discussed in the hearings.

## **PANEL FOR HISTORICAL ENGINEERING WORKS (PHEW)**

### **PHEW has issued a request for tunnel information.**

The PHEW Sub-Panel on Tunnels is looking for information of any kind on old tunnels. Pictures, documents, records, notes etc. are urgently needed on water, sewerage, rail, underground, cable, highway or other tunnel that may be in your possession or known to you.

Important documents are being thrown away everyday because people don't realise their historical significance. The ICE and PHEW have limited archive space but would welcome the chance to increase their unique and valuable collection of tunnel records with any material that may not be already within their collection.

Please don't miss this opportunity to give something back to the Tunnelling industry by looking out some of your old photographs or records that could in time be lost. Valuable items can be copied and returned.

If you have any queries about documents or want to enquire about this valuable service to the Tunnelling industry please contact:

Jack Knight, mob. 0780 148782, [jacktunnels.knight@ukonline.co.uk](mailto:jacktunnels.knight@ukonline.co.uk), The BTS Secretary tel. 0207 6652233, [bts@ice.org.uk](mailto:bts@ice.org.uk) or Mike Chrimes in the ICE Library, tel. 0207 76652250, [mikechrimes@ice.org.uk](mailto:mikechrimes@ice.org.uk)

## **HAV's BEST PRACTICE GUIDE**

The Working Group preparing the HAV's Best Practice Guide met on 16<sup>th</sup> February for their final meeting and the new guide is now in the final stages of preparation before publication on the website, where it will be available as a free download.

The document which has had a significant contribution from the HSE will provide the industry with a Current Best Practice Guide to the management of HAV's and will be essential reading for all.

## **FIRE PROTECTION ENGINEERING FOR UNDERGROUND STRUCTURES**

The Society is presently jointly organising with the ITA a conference in the UK in October 2006 entitled "Fire Protection Engineering for Underground Works".

## **PIPE JACKING ASSOCIATION**

### **Guide to Regulatory Compliance for the Management of Tunnel and Earthwork Process Arisings Resulting from Slurry Tunnelling and other Earthworks**

The UK Pipe Jacking Association has issued this Guide which has been prepared by Beyond Waste in association with Environmental Geotechnics and commissioned by the Pipe Jacking and Tunnelling Research Group.

Copies of the Guide, which costs £16 are available from the Pipe Jacking Association, 10 Greycoat Place, London SW1P 1SB. Telephone 0845 0705201, e-mail: [secretary@pipejacking.org](mailto:secretary@pipejacking.org), website: [www.pipejacking.org](http://www.pipejacking.org)

## **GEO DRILLING 2006**

Mining Communications are the organisers of GeoDrilling, incorporating Trenchless Construction, which is being held at Donnington Park, Derby on 21 – 22<sup>nd</sup> June 2006 which will feature over 100 exhibitors, technical seminars and live demonstrations.

Mining Communications have written to the Society offering free visitor tickets to members. From the middle of March the Visitor Tickets will be available from the Mining Communications website [www.minesandmoney.com](http://www.minesandmoney.com) or [www.geodrillingshow.com](http://www.geodrillingshow.com).

## **MERSEY KINGSWAY TUNNELS**

Donald Lamont has passed to us a copy of the local paper about a request for memories about the construction of the Mersey Twin Kingsway Tunnels. The article says:

"the tunnel was excavated using a Mole, the largest boring machine in the world ... it moved forward at around 4 feet an hour. The tunnel was officially opened on June 24 1971 by the Queen".

They ask if you have memories of the day the tunnels was opened? Did you take part in the first charity walk through the tunnel? Did you live in one of the houses

demolished to make way for the approach roads? Or did you work on the construction?

They ask that if you have memory to share, THEY want to hear it and give a contact *From The Archives*, Wirral News Group, 76 Hamilton Street, Birkenhead CH14 5AN or [newsdesk@wirralnews.co.uk](mailto:newsdesk@wirralnews.co.uk) or phone 0151 2887628.

Many BTS members worked on the project from Motts or Nuttalls. Infact the editor spoke to several at the February meeting. So why not send you memories and photos to the paper.

## **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](http://www.ita-aites.org)

Tunnel Safety & Security (ISTSS), 15<sup>th</sup> – 17<sup>th</sup> March 2006, Madrid, Spain, [www.istss2006.com](http://www.istss2006.com)

ITA 2006 World Tunnel Congress, and 32<sup>nd</sup> ITA General Assembly, 22<sup>nd</sup> – 27<sup>th</sup> April 2006, Seoul, Korea, [www.ita2006.com](http://www.ita2006.com)

EUROCK, 9<sup>th</sup> – 12<sup>th</sup> May 2006, Liege, Belgium, [www.eurock06.org](http://www.eurock06.org)

IABSE Copenhagen 2006, 15<sup>th</sup> – 17<sup>th</sup> May 2006, Copenhagen, Denmark. Operation, Maintenance and rehabilitation of large infrastructure projects, bridges and tunnels. [www.iabse2006.dk](http://www.iabse2006.dk)

Risk Reduction and Safety in Tunnelling, 17<sup>th</sup> – 18<sup>th</sup> May 2006, Turin, Italy. [www.tmi-intelligence.com](http://www.tmi-intelligence.com)

NAT 2006, 10<sup>th</sup> – 15<sup>th</sup> June 2006, Chicago, USA. [www.auca.org](http://www.auca.org)