

British Tunnelling Society

at The Institution of Civil Engineers

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NEWSLETTER December 2005

STOP PRESS

Nitrogen Monoxide (NO) - Ad-hoc meeting at Institution at 5pm on Thursday 8th December, before the BTS Meeting, to discuss HSE's thoughts on NO. All those interested please come.

See Health & Safety discussion below

INTRODUCTION

This is the last Newsletter for this calendar year. It has been an eventful year with the publication of the Closed Face Working Group Report, Underground Construction 2005 and the start of the Database on the website, together with all the regular meetings, which have been well attended, the Annual Dinner and the Tunnelling Industry Awards.

Readers will be interested to know that the most popular page on the website is the Newsletter!

We hope that next year will be as productive and we wish all our readers a very merry Christmas and a prosperous new year.

GAVIN BOWYER

The Society very much regrets that our Secretary, Gavin Bowyer, is moving on to other places. Gavin has been with us for three years. He took over as Secretary in November 2002, after thirty years in the mining industry.

Gavin has been one of the best, if not the best, secretary that the Society has had during its existence. His first major task was to sort out the administration of the Society. With his background and interest in the underground Gavin has been invaluable to the Committee and more particularly to the Officers and Sub-Committee Chairmen, and he will be sorely missed.

We wish him well in his new career.

GOSSIP

Diane Mather has left Balfour Beatty in the UK and moved to GHD in Brisbane, Australia as Tunnels and Geotechnical Engineer.

Any interesting news about members to 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.

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| 8th December 2005 | Design and Construction of Additional Emergency Escapes for the Mersey Queensway Road Tunnel |
| 19th January 2006 | Joint Meeting with the Concrete Society on Steel Fibre Concrete Tunnel Linings |
| 16th February 2006 | Joint Meeting with MinSouth/IMMM. Tunnelling the Porto Metro – Under Pressure in the Porto Granite |
| 16th March 2006 | Tunnelling on the Karahnjukar Power Plant, Iceland |

UNDERGROUND CONSTRUCTION 2005

Underground Construction 2005 was held at Olympia, London, on 26th and 27th October 2005. The Conference and exhibition were organised by Brintex on behalf of the British Tunnelling Society and the Institute of Materials, Minerals and Mining. With the current downturn in the underground market, the number of delegates was expected to be lower than previously and this was the case. The Conference was, however, considered to be a success and 1000 people visited the exhibition over and above the delegates at the Conference.



BTS Stand at UC 2005 with Chairman David Court and Thomas Schubert, Wayss & Freytag

There was a good attendance at the BTS meeting held at the Conference on the afternoon of 26th October and at the evening reception and presentation of the Tunnelling Industry Awards.

TUNNELLING INDUSTRY AWARDS

The Tunnels & Tunnelling International and BTS Tunnelling Industry Awards were presented after the

BTS meeting held at Underground Construction 2005 at an evening reception on Wednesday 26th October. The drinks reception was sponsored by Brintex.

The Winners of the six categories of Awards were:

The BTS Project of the Year

Morgan-Vinci JV for the Airside Road Tunnel at Heathrow Airport

The T&TI International Project of the Year

Mott MacDonald Ltd and Dywidag International for the Delhi Metro Phase 1, Contract MC1B, India

Achievement Through Innovation – Sponsored by J Murphy and Sons Ltd

Byzak Ltd for the Gas Pipeline Crossing of River Dee, Aberdeenshire

Excellence in Tunnel Design – Sponsored by Vinci Construction Grands Projets

Mott MacDonald Ltd for the Smart Project, Kuala Lumpur, Malaysia



Eric Chambrad, MD of Vinci Construction Grands Projets, presents the Award to Arthur Darby, manager of Mott Macdonald's Tunnels Division.

The Machinery/Materials Award – Sponsored by Skanska

Bosworth Plastics Ltd for the Big Walnut Outfall Augmentation Sewer 11

The Young Engineer of the Year – Sponsored by Edmund Nuttall Ltd

David Ellis, Morgan Est

LOBBY GROUP

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.

INTERNATIONAL TUNNELLING ASSOCIATION

Reminder that the next ITA General Assembly will be in Seoul, Korea from 22nd to 27th April 2006. See www.ita2006.com

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

BTS DATABASE

The Society launched the first stage of the UK Tunnels Database with a press release on the 26th 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 on a four to six week basis.

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 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.

The re-launch of the All Party Parliamentary Group for Underground Space (APGUS) is planned for early in 2006. When there is a General Election all Parliamentary Groups have to be re-launched after the election and as our previous Chairman was not reelected there has been a delay in this re-launch.

The Rt. Hon. Nick Raynsford MP has agreed to lead the re-launch and hopes to be elected Chairman by his Parliamentary colleagues in due course. Nick Raynsford was Minister for Construction for a time during the previous Government.

There will be a re-launch event in February 2006 where we hope to showcase tunnelling and underground works to Parliamentarians. We are arranging a visit to the Abbey Mills Pumping Station in May 2006. We also hope to arrange a visit to the East London cable tunnel site in September 2006.

Further information from Helen Natrass h.natrass@sir-robert-mcalpine.com
Tel 0207 808 5000

SPECIFICATION FOR TUNNELLING

The Specification for Tunnelling has been in use since 2000 (and since 1997 as the Model Specification) and has now been tested through the whole project cycle. In addition to recent and forthcoming publications, which may impact on the Specification, there have been changes to various codes and standards referenced within the document.

The Specification will therefore be reviewed and updated over the coming months, and the reviewers would welcome feedback from the industry on any issues that may have arisen from its use so that this experience can be included within the revised document.

It is not too late to forward comments, but these should be forwarded to Mike King at Halcrow kingm@halcrow.com by 31st December 2005.

2006 ANNUAL DINNER

The date for the 2006 Annual Dinner is Friday 5th May 2006 and it will be held, as in the past, at the Brewery, Chiswell Street, London at 7pm for 7.30pm.

Put this date in your new diary.

Details will be circulated in late January 2006 and placed on the website, where you will be able to make your booking on line.

HEALTH & SAFETY

Exposure to Nitrogen Monoxide

An internal meeting was held by HSE on 21st January 2005 to discuss limits for exposure to Nitrogen Monoxide (NO). NO has now been removed from the list of substances covered by the second draft the IOLEV Directive. However, the HSE's position remains that in the light of published data on ill-health effects from exposure to NO, long term exposure should be at a level of no higher than 1ppm, and this was reasonably practicable for most industries to achieve.

Nevertheless it was recognised that such a figure might not be reasonably practicable for tunnelling, mining and other underground construction and in these circumstances only, it might be possible to justify a higher figure on the basis of a risk assessment and a consideration of reasonable practicability.

It would be up to the employer to demonstrate that in particular circumstances where it was not reasonably practicable to achieve 1 ppm, another figure was justifiable on the basis of a risk assessment. That risk assessment would have to recognise the likely exposure of the workforce,

Current industry good practice in eliminating or reducing exposure to NO, COSHH principles, existing data on exposure to NO, the possible need for health surveillance of the workforce exposed and the costs involved.

HSE believes that as this is a problem which potentially affects the whole industry - construction, rehabilitation and operation of tunnels, industry-wide action to address the issue, possibly in conjunction with the mining industry, might be the most effective way forward.

The industry might wish to address the issue as suggested above by HSE and to that end it has been suggested at very short notice that the BTS holds an ad-hoc meeting of members interested in the matter at 5pm on Thursday 8th December at the Institution in Gt George St, before the BTS Meeting, to discuss how best the tunnelling industry might respond.

HISTORIC BRIDGE & INFRASTRUCTURE AWARDS 2005

The Awards are a celebration of civil engineering heritage conservation across England and Wales, and are sponsored by the ICE Panel for Historical Engineering Works (PHEW), English Heritage, Network Rail and the County Surveyor's Society

There were 18 entrants this year and two Award Certificates were presented on 16th November for the conservation works on the Cast – iron arch Coalport Bridge and the 4880m long Standedge North Tunnel.

The Standedge North Tunnel was constructed in 1890 – 94 by the London & North Western Railway and now carries the Manchester Victoria to Leeds (via Stalybridge) line near Huddersfield.

By the 1990s it became clear that long lengths of the tunnel horseshoe-shaped brick lined tunnel was in danger of progressive collapse. Network Rail appointed May Gurney, who appointed Donaldson Associates to develop a scheme to strengthen and stabilise the weaker sections.

A phased approach was adopted allowing monitoring during and between each construction stage. Initially piled ground beams were installed along the toes of the sidewalls. Where monitoring showed this to be inadequate, a three-stage second phase was carried out. The judges were impressed by this approach and the sizing of precast units which avoided double handling. Congratulation to all involved.

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
The BTS Secretary tel. 0207 6652233, bts@ice.org.uk
Mike Chrimes in the ICE Library, tel. 0207 76652250,
mikechrimes@ice.org.uk

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, website: www.pipejacking.org

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

Shotcrete Technology '06, 26th – 27th January 2006, Innsbruck, Austria, www.bmi.uibk.ac.at

International Symposium on Underground Excavation & Tunnelling, 2nd – 4th February 2006, Bangkok, Thailand, isuet2006@eit.or.th

Tunnel Safety & Security (ISTSS), 15th – 17th March 2006, Madrid, Spain, www.istss2006.com

ITA 2006 World Tunnel Congress, and 32nd ITA General Assembly, 22nd – 27th April 2006, Seoul, Korea, www.ita2006.com