

British Tunnelling Society

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NEWSLETTER July 2004

INTRODUCTION

This July Newsletter is again a little late. Our apologies.

We are now in the holiday season and await the first meeting of the next session on Wednesday 8th September 2004. This is a joint meeting organised by the British Geotechnical Group and the BTS. The first BTS meeting is on 16th September.

Your Committee has been working hard over the last few months. The Tunnel Lining Design guide was published in April, the Annual Dinner and Tunnel Industry Awards held in early May and a successful Tunnel Design and Construction Course at the end of June.

Looking forward, the Closed Face Working Group Report has now been finalised and is being peer reviewed for publication in the Autumn, the questionnaires you filled in on Registration and Competence are being collated, the database of UK tunnels will start to go on line during the next few months and the AGM of the APGUS will be held in late October.

CHANNEL TUNNEL RAIL LINK

Now that the bored tunnelling is complete for Section 2, the internal works are now progressing well. The Trackbed, Evacuation and Inspection Walkways are being slipformed.

On Contract 250 a Gomaco Paver started the slipforming on the Up-Line and completed the 5.25km in just 8 weeks including a substantial learning curve. The slipforming for the Down-Line was completed in only 5 weeks.

The best days progress for each section were:

Trackbed	802.5m (900m ³)
Evacuation Walkway	612m (752m ³)
Inspection Walkway	777m (513m ³)

The best seven days progress saw 4,300m of trackbed formed (4,800m³). The paving equipment has now been moved to Contract 220 where it will commence work at the beginning of August.

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.

8 th September	Joint BGA and BTS meeting on Geotechnical Aspects of the Dublin Port Tunnel
16 th September	The Use of a Geotechnical Baseline Report and a Geotechnical Design Report as Contract Documents for Underground Works
7 th October	Special meeting on Tunnel Lining Design Guide
21 st October	Uetliberg, Switzerland
18 th November	Grouts for Tunnel Waterproofing

COMMITTEE

The new Committee met on 17th June 2004 and the Chairpersons appointed for the Sub-Committees are as follows:

Chairman	David Court
Vice Chairman	Bill Grose
Past Chairman	Anthony Umney
Papers and meeting	Roy Slocombe
Training and Education	Paul Watson
Awards	Ivor Thomas
Finance and General Purposes	Bill Grose
Health & Safety Standards	Donald Lamont
Technical	Chris Smith
Parliamentary Lobby Group	Helen Natrass
Closed Face Working Group	Alastair Biggart
Crossrail Working Group	Anthony Umney
Annual Dinner	John Scholey
Annual BTS Awards	Bill Redhead
Constitutional Affairs	Anthony Umney
Registration of Engineers	Peter Jewell
Underground Construction 2005	Peter Jewell
T&TI Advisory Board	Myles O'Reilly
Newsletter	Rodney Craig
Insurance Code of Practice	Terry Mellors
Website	Alun Thomas
International Tunnelling Ass.	Martin Knights

If anyone wishes to contact any Sub-Committee Chairperson they should contact the Secretary, Gavin Bowyer at the above address.

TUNNEL DESIGN AND CONSTRUCTION COURSE

This year's BTS Tunnelling Course was held at the University of Surrey, Guildford at the end of June. It was attended by 43 delegates, including a number from overseas. Feedback from the event indicates that the majority of delegates found the course to be both informative and enjoyable, with most saying that they would recommend it to others within their organisation.

GOSSIP

Shani Wallis and several other members of the BTS were among 20 international delegates at the 11th Symposium on "Trends in Tunnelling and Underground Works" held in Chengdu, China, in June. The 20 papers present illustrated the enormous scope of tunnelling in China at the present time. Overseas papers included description of the Terminal tunnels at Heathrow, the London Underground Private – Public Partnership, and several European tunnels. Martin Smith, of Rascor gave a presentation of their water ingress control systems.

Tunnels & Tunnelling International took the opportunity to publish their 2004 Chinese edition of T&TI. There will be a BAUMA exhibition in Shanghai in November 2004.

Any interesting news about members to rodneycraig@compuserve.com

ANNUAL DINNER

The next Annual Dinner will be at the Brewery on Friday 6th May 2005. The presentation of the Tunnel Industry Awards will be on a separate occasion (see below).

TUNNEL INDUSTRY AWARDS

For the past three years the Tunnel Industry Awards have been presented during the Annual Dinner in May. However, this has not proved to be popular with a number of guests at the dinner, as it was felt that the awards presentation interrupted what is otherwise a wholly social occasion. A Sub-Committee has been formed to review the 2005 awards, with a view to presenting them at a separate function during the Autumn of next year. More news as details of the format is developed.

TUNNEL LOBBY GROUP

The AGM of the Associated Parliamentary Group for Underground Space (APGUS) will be held in late October. Details of the date will be published later in the Summer. It is hoped that a presentation of the Stonehenge Tunnel will be given to Parliamentarians.

The programme for the next session may be effected by any General Election. A site visit for Parliamentarians to the London sewers is planned, but a date has still to be fixed.

Further information from Helen Natrass h.natrass@sir-robert-mcalpine.com
Tel 0207 8085141

BTS TUNNEL LINING DESIGN GUIDE

The new BTS Tunnel Lining Design Guide was published in April and the sales are going well. There will be a meeting on 7th October to discuss the Guide.

The Guide is available, at a price of £65, plus postage and packing, (UK, 10%, up to a maximum of £8 of the order, or overseas 20%, up to a maximum of £50 of the order) by post from Thomas Telford Ltd., Units 1/K, Paddock Wood Distribution Centre, Paddock Wood, Tonbridge, Kent TN12 6UU. By fax 44 (0) 1892 837272, by telephone 44 (0) 1892 832299, by e-mail orders@thomastelford.com, via the website www.thomastelford.com or from the Thomas Telford Bookshop at the Institution.

COMPETENCE AND REGISTRATION

Thank you to everyone who spent the few minutes that was required to fill in the questionnaire distributed to all members earlier this year. A working group is collating all the information and compiling a report which will hopefully give a reasonably accurate picture as to the composition and range of backgrounds and skills of our members. We will report to members in the Autumn.

UNDERGROUND CONSTRUCTION 2005

At the present time it is anticipated that Underground Construction 2005 will be run as a combined Conference and Exhibition in November 2005 at Olympia, London. It is planned to run alongside the Civils 2005 Exhibition, and delegates will be able to attend both events. Please watch out in forthcoming Newsletters and on the website for further details of the dates, programme and the call for papers.

JAMES CLARK MEMORIAL MEDAL

David Court presented the James Clark Memorial Medal to Rodney Craig at the June meeting.

David reviewed Rodney's 38 years at Halcrow and his international experience which enabled him to make a valuable contribution to the Society activities. Rodney served two-three year terms on the Committee and has been co-opted for the last six years during which time he has been responsible for the Newsletter. He has also been responsible for the collection of records for the Database that the Society hopes will be made available to member shortly on the website.

Rodney has attended all the ITA annual meeting since 1988 and intermittently since the initial meeting in 1974. He was the BTS voting member for six years. He is currently Animateur of the ITA Working Group on Underground Works and the Environment.

In his concluding remarks David said that "Rodney has been tireless in his support of the BTS and been an ambassador for British Tunnelling internationally. He is therefore a very worthy recipient of the James Clark Medal".

Rodney, in thanking the Committee for nominating him for this prestigious award said that many members knew little about James Clark, and gave a short account of his life and the Medal

James Alexander Muirhead Clark or 'Jam' as his friends and colleagues called him, was born in 1913, educated in Inverness and graduated with first class honours at Glasgow University in 1935.



Rodney receiving the Medal from David

He joined Charles Brand and Son, now part of the Kier Group, in 1936 and worked for them until he died in 1976, except for a short period during the war. He was introduced to tunnelling in London on the Bakerloo Line between Baker Street and Finchley Road. During the war he worked on tunnels in London and on power stations.

His next major project was the Potters Bar tunnels on the East Coast Main Line, the first large diameter tunnel with an expanded lining. Jam devised an innovative erection system for the lining and took out a patent on its use. He also had a major input into the casting of the segments to a high level of accuracy.

On the Victoria Line he started at Euston Station and then moved to the running tunnels at Seven Sisters. At the time of his death he was on the first stage of the Fleet Line, now the Jubilee Line, which was nearly completed.

He became a Director of Charles Brand in 1966 and was a founder member of the BTS and on the Committee from 1971 to 1974 and again in 1976.

Jam always researched and strove to find the correct answer to technical problems. He enjoyed small boats, golf and fast cars.

In 1981 Madeline, his wife, bequeathed to the Society £1,000 to provide a medal to be awarded annually to perpetuate James' memory.

Madeline wish the award to be for a contemporary achievement in tunnelling, such an innovation or responsibility for a large project. However, she did not wish it to be awarded for a paper presented to the ICE or to the BTS as it would give an unfair advantage to consultants.

The first recipient was Harold White, a colleague and Director of Charles Brand for the Dinorwic project. The medal was not awarded for three years in the mid to late 1980s and with Madeline's approval, a third criteria was added "a major contribution to the Tunnelling industry".

Madeline presented the Medal for many years sometimes with one of her daughters. Madeline will be pleased to know that the Medal has been presented to all sides of the industry; 11 contractors, 8 consultants or associated work, 2 manufacturers, 2 clients and 2 from other services to the industry, an editor and a doctor with a lifetime of compressed air working

Rodney concluded that it was a great honour to join the long list of those who have received the Medal.

INTERNATIONAL TUNNELLING ASSOCIATION

In May 2004, the ITA General Assembly and World Tunnel Congress was held in Singapore. 36 out of the 53 ITA member nations were represented this year. Donald Lamont was the UK national representative.

Although the Society was represented by a relatively small number of members, its influence on ITA affairs is considerably greater than numbers attending would suggest. It is pleasing to report that in the elections for vice-president, Martin Knights was successful, being elected second of four new vice-presidents.

ITA working groups meet during the General Assembly. Two groups were chaired by BTS members - Rodney Craig was Animateur of the Underground Works and the Environment Working Group and Donald Lamont Animateur of the Health and Safety Working Group. Other BTS members participated in working groups.

Earlier this year it was decided that the BTS would bid in Singapore to host the 2007 General Assembly and Congress. A small group of BTS committee members led by Martin Knights had put together a bid, based upon holding the event in Edinburgh.

The nomination was presented to the general assembly in Singapore by Martin Knights. A bid from Vienna/Budapest was eliminated in the first round of voting and although we were ultimately unsuccessful, losing 16/20 to Prague in the second vote, the impact of our bid was considerable.

In recognition of the Scottish connection, when called on to present the bid, Martin was piped into the meeting room by a kilted lady piper. After his presentation, the piper played a further selection of pipe tunes whilst a handful of BTS members led by Donald and Rodney - both dressed in kilts for the occasion (luckily no photos!), handed out samples of whisky to the assembled ITA delegates. Feedback from delegates indicated that we have a good chance of being successful were the BTS to bid to host the 2009 event.

In recognition of this year being the 30th anniversary of the ITA, Member Nation were presented with a CD-rom containing copies of all available ITA publications since its formation.

The BTS influence extends

Not long before the ITA met in Singapore, there was a major collapse of a cut and cover tunnel excavation which was part of the extension of the Singapore Metro system. There was much local press interest in the event and it was a major trigger for an interesting debate on construction safety in the Singapore Parliament.

As part of the press coverage, the BTS/ABI code of practice was prominently featured in an article in the "Straits Times" along with quotes from and references to Dr Terry Mellors, the Chairman of the joint Working Group, who was present in Singapore.

There was also discussion in Singapore, between BTS members, representatives of the ITA contractual practices working group and representatives of the insurance industry, as a result of which the BTS/ABI code could become much more widely used around the world as a model document for managing ground risk. In addition, it is hoped that BS 6164:2001 will become the default technical standard on which the code is based.

The BTS was a major player in the drafting of both documents, which are now being recognised outside the UK as representing good practice for the management of ground risk in tunnelling. These are just further examples of recognition of the contribution made by the BTS to the promotion of good tunnelling practice.

SAFETY, STANDARDS AND CODES

CEN has just published the draft of the first amendment to EN 815:1997 "Safety of unshielded tunnel boring machines and rodless shaft boring machines for rock". This amendment requires the provision of fixed fire extinguishing systems, supplemented by hand held fire extinguishers, and water spray barriers on hard rock TBMs. This amendment was proposed by the UK. The deadline for comments to BSI, is 30th September 2004.

Members should note that the draft of the 2nd Indicative Occupational Exposure Limit Directive, which had initially proposed an indicative long term exposure limit for nitrogen monoxide of 0.2 ppm, has been amended to a limit of 1 ppm. The draft directive sets an "indicative" limit which member states will have to take into account when setting national limits. HSE is still considering its position in the light of further negotiations with Europe.

This should remain a matter of concern to the industry as it will be a major factor in determining the capacity of tunnel ventilation systems where diesel engined plant or explosives are being used.

Discussions, through the medium of the ITA Health and Safety Working Group, with members in Germany and Switzerland has shown that they share the UK's concerns. The tunnelling industries in both countries are looking for their national limits to be set around 2 – 3 ppm.

Members should contact the BTS Secretary if they have concerns over this matter. Any factual information which members have on measured concentrations of NO or on the impact of such a limit on ventilation systems should be sent to the Secretary. All information received will be of great use in influencing the text of the directive and the subsequent limit setting process.

CIRIA-CPN WORKSHOP ON VALUE ENGINEERING

CIRIA – CPN, in association with IVM, are holding a workshop on "Value Management in Construction: Examples from the UK and Mainland Europe" which is being held on 21st September 2004 at Heathrow, London.

One session is on Value Engineering on the North/South Line, Amsterdam given by Frank Kaalburg, North/South Line Consultants.

CALL FOR PAPERS

Tunnelling for a sustainable Europe, Congress 10th to 12th October 2005. Deadline October 2004 www.aftes.assoc.fr

The 3rd European Federation of Explosive Engineer (EFEE) World Conference on Explosives and Blasting, Brighton 13th – 16th September 2005. Call for submission of Abstracts by 1st November 2004, www.efee-web.org

World Long Tunnels 2005, Abstracts by 1st November 2004

ITA 2006 World Tunnel Congress, and 32nd ITA General Assembly, April 2006, Korea. Abstracts Deadline 1st March 2005. www.ita2006.com

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

10th ACUUS Conference, Underground Space: Economy and Environment and ISRM Regional Symposium: Rock Mechanics for Underground Environment, January 24th – 28th, 2005 Moscow, Russian Federation. www.acuus-isrm05.ru

12th Australian Tunnelling Conference 2005, 17th – 20th April 2005 Brisbane, Australia, www.tunnelling2005.com

ITA – AITES 2005; World Tunnel Congress and 31st ITA General Assembly, 7th - 12th May 2005, Istanbul, Turkey

RETC 17th Rapid Excavation & Tunnelling Conference and Exhibition, June 27th - 29th 2005, www.retc.org

World Long Tunnels 2005 Taipei, Taiwan, 7th - 10th November 2005