

British Tunnelling Society

at The Institution of Civil Engineers

1-7 Great George Street

London SW1P 3AA

Telephone: 0207 222 7722

Direct Line 0207 665 2233

Direct Fax: 0207 799 1325

Email bts@ice.org.uk

Website www.britishtunnelling.org



NEWSLETTER JULY 2002

INTRODUCTION

The years come round quicker every year. This has been particularly so this year with AGMs in November 2001 and in May 2002.

The session has just finished with Colin MacKenzie's excellent Harding Lecture on his experience in tunnelling on 20th June and a special meeting on 4th July on the Insurers Code of Practice for Tunnelling. We will report on these two evenings in the next Newsletter.

We can report that the first TBM has arrived on site for the CTRL and is currently being erected at the Swanscombe site on the south side of the River Thames for Contract 320. The Herrenknecht TBM has been manufactured for the Hochtief/Murphy Joint Venture. Six more TBMs will be arriving on the various sites during the next six months.

FUTURE MEETINGS

All meetings at the ICE at 17.30 unless stated below. Flysheets on the details of the meetings are circulated in advance in T&TI and may be seen on the BTS website.

The dates of the next few meetings are:

September 19th 2002

October 17th 2002

November 21st 2002

December 12th 2002

GOSSIP

Nothing to report! Please send any interesting pieces to rodneycraig@compuserve.com

NEW COMMITTEE

The Annual General Meeting of the Society was held on Thursday 16th May 2002. Peter South delivered his second Chairman's report to the meeting. The Committee has elected Antony Umney the new Chairman for the next two years.

David Court and Peter Jewell completed their three-year terms on the Committee at the AGM. However, David Court was elected Vice Chairman by the Committee and Peter Jewell is already the ICE Representative on the Committee so both will continue.

Five candidates were nominated for the election of three new members to the Committee. Kevin McManus, Rail Link Engineering, Roy Slocombe, Herrenknecht, and Ivor Thomas, Nuttall were elected.

The new Committee will not be meeting until 4th July so the list of elected and co-opted members on the Committee and the Chairmen of the Sub-Committees are not available and will be given in the October Newsletter.

At the AGM Peter South presented the James Clark Memorial Medal to Dr Dennis Walder, MB, BCh, MD, ChM, FRCS, Ed, MFOM who initially trained as a surgeon.

The younger members of the Society will not appreciate how such a man could possibly contribute to our industry to the level that he is honored, but it is not for his skills as a surgeon that we owe him so much but for his continued quest to improve the lot of the compressed air worker.

His interest in the subject started in the war when serving with the RAF. In those days bombers flew at great altitude

without the benefit of pressurised cabins and the airmen were susceptible to sub-atmospheric decompression sickness. In an attempt to discover why some men were more susceptible to the problem than others he constructed apparatus to measure the surface tension of the serum from their blood.

In 1948, the Medical Research Council was keen to reduce the incidence of bends among miners and others employed in tunnel building and other sub-aqueous work. They invited Dennis Walder and a young Dr. Paten (later Sir William, Professor of Pharmacology at Oxford) to take particular interest in the men constructing the Pedestrian Tunnel under the Tyne between Howdon and Jarrow. Their account of the high pressure work on that Contract set the standard.

Paten and Walder were the founder members of the Decompression Sickness Panel of which Dennis was Chairman for many years. From his chairmanship grew the Decompression Sickness Central Registry and in addition to manlock registers from several major contracts the registry was able to assemble all of the X-ray examinations of the major joints of compressed air workers. The panel grew in stature and size strengthened by eminent radiologists and after a major initiative in which several hundreds of men were surveyed on the Clyde Tunnel, many of them several times, the Clyde report on Bone lesions became the landmark in hyperbaric medicine.

In the sixties Dennis masterminded the first code of practice for work in compressed air, the recommendations being published by CIRIA and running through three editions before forming the basis for the Guidance Notes which accompanies the 1996 Regulations.

In the seventies he won two major Medical Research Council grants to further the work of the registry which in addition to the now standard pioneering work included the transference of half a million records from over 4000 men onto the new NUMAC Computer. His forethought has ensured his records will last into perpetuity.

Since his retirement in the eighties Dennis has continued to contribute to the cause through the Compressed Air Working Group (the current successor to the panel) and he is now contributing a discussion paper on Decompression Illness to the Group's conference in Oxford in September 2002.

ANNUAL DINNER

The Society's Annual Dinner was held on Friday 10th May 2002 at the Brewery, Chiswell Street, London. The number of members and guests attending increased this year to 437, approximately 50 more than for the last two years. The feedback has been generally favourable and the venue has been booked again for next year.



Peter South, Chairman, and John Scholey, Master of Ceremonies, with Frances Edmonds

The Tunnelling Industry Awards were presented after the dinner by Mrs Frances Edmonds who gave her usual witty speech about the members sitting on the Chairman's table.

TUNNELLING INDUSTRY AWARDS

The Tunnelling Industry Awards have been organised jointly by the Society and Tunnels & Tunnelling International. On this first occasion, in view of the short timescale, the list of projects in each category were selected by members of the Committee, but in future projects will be nominated by those organisations responsible for the projects.

A shortlist of three projects in each category were selected and the Awards Committee of Peter South, Chairman, Antony Umney, Vice Chairman and Tristan Thomas, Editor of Tunnels & Tunnelling International selected the winning project in each category.

The planning and the arrangements for the evening were organised by Jack Knight, Chairman of the Awards Sub-Committee. The Awards were sponsored by MBT Master Builders Technologies.

The six categories of Awards were for:

- Safety
- Machinery/Materials
- Excellence in Tunnel Design
- Achievement through Innovation
- Small Project
- Large Project

For the presentation of the Awards, Frances Edmonds read out the names of the three shortlisted projects, while slides of the projects were shown on a power point presentation. Frances then listed the best points of the winning project before announcing the Award. The Award Certificates were presented by Peter South and Tristan Thomas.

Safety Award

Research into Fire Protection in Tunnels on CTRL -
Rail Link Engineering
Harrods and Advances in HAVS Reporting -
Cementation Skanska
New Fire Resistant Cladding Panels -
Osborne Alliance

The winner of the Safety Award was Cementation Skanska for Harrods and Advances in HAVS Reporting.

Machinery/Materials Award

Shotcrete Product Systems, North Downs Tunnel -
MBT
Dowellock Dowels -
Tunnelling Accessories
Lasser Interferometer Systems for checking segment
Tolerances - VMT

The winner of the Machinery/Materials Award was MBT for their Shotcreting Product System for the North Downs Tunnel.

Excellence in Tunnel Design Award

Ramsgate Harbour Approach Road -
Babtie, Halliburton KBR and Halcrow
Shaft WA2 Dublin Port Tunnel -
Haswell
Great Yarmouth Power Tunnels -
Faber Maunsell

The winner of the Excellence in Tunnel Design Award was Babtie, Halliburton KBR and Halcrow for the Ramsgate Harbour Approach Road Tunnel.

Achievement through Innovation Award

North Downs Tunnel -
Morgan Tunnelling and Rail Link Engineering
Dartford Tunnel Refurbishment -
Skanska
Contract 430, Ashford Tunnels -
Rail Link Engineering and Skanska

The winner of the Achievement through Innovation Award was Skanska for the Dartford Tunnel Refurbishment.

Small Project Award

West Thurrock Trunk Sewer -
Barhale
Standedge Canal Refurbishment -
AMCO
Taff's Well Project, South Wales -
AMEC

The winner of the Small Project Award was AMEC for the Taff's Well Project

Large Project Award

Project Orwell, Ipswich -
AMEC
Tunnel under Ayr Harbour -
Bysak
North Downs Tunnel -
Morgan Tunnelling and Rail Link Engineering

The winner of the Large Project Award was Morgan Tunnelling and Rail Link Engineering for the North Downs Tunnel.

CONFERENCE ON ENGINEERING AND HEALTH IN COMPRESSED AIR WORK

The next BTS Conference is the BTS Compressed Air Working Group Conference on Engineering and Health in Compressed Air Work. This is the Second International Conference on compressed air work and is being held at St Catherine's College, Oxford, United Kingdom from 25th to 27th September 2002. Residential delegates will be accommodated in the halls of residence at the College.

The conference should be attractive to everyone involved with the engineering, medical or regulatory aspects of compressed air working and also to all those with an interest in Hyperbaric exposure.

The first International Conference was held in Oxford in 1992 and provided a forum for the exchange of information on Engineering and Health in Compressed Air.

The timing of the conference will permit an early review of experience with oxygen decompression in the UK and several papers will describe the research undertaken on many issues related to the introduction of oxygen decompression.

About 35 papers will be presented by authors from Australia, Europe, Japan and the UK.

Conference details have been circulated and all enquiries should be sent to

Hannah Wilson
British Tunnelling Society
The Institution of Civil Engineers
One Great George Street
London SW1P 3AA,
United Kingdom

Fax 44 (0)207233 1743
Tel 44 (0) 207665 2313
e-mail hannah.wilson@ice.org.uk

We look forward to seeing you at the conference and to members enlightened discussion and exchange of information on compressed air work.

PARLIAMENTARY WORKING GROUP

Peter South and Helen Natrass are continuing the initiative to set up a Parliamentary Working Group on Underground Space. Peter has met with some useful contacts recently in the House, building up our network and hearing advice on how best to proceed. Helen has also been busy attending meetings and making arrangements to book our proposed Reception in Portcullis House. It is hoped that this will take place in the second half of October - More details after the summer.

HEALTH AND SAFETY

The HSE has recently issued proposals for new regulations, ACoP and Guidance, to come into force late in 2002, covering work in potentially explosive atmospheres - the Dangerous Substances and Explosive Atmosphere Regulations 2002. The regulations are derived from EC Chemical Agents Directive, which the UK is obliged to implement this year.

The ACoP and guidance is conspicuously lacking in information relating to construction and tunnelling in particular, despite the obvious application of the regulations where methane is expected in a tunnel.

The principal requirement of the regulations cover risk assessment; division of the workplace into three zones, depending on the likelihood an explosive atmosphere being present; the provision of both mechanical and electrical explosion protection equipment; ventilation and the control of ignition sources, training etc; and emergency procedures for when an explosive atmosphere is detected.

More controversially perhaps for the industry, the employer has to have the safety of the workplace against explosion verified by a competent person; provide protective clothing, which will not generate electrostatic sparking when methane is present and a risk of explosion exists; and provide means of venting overpressure in the event of an explosion.

A potential problem already identified, but so far ignored by those drafting the regulations in HSE, is that tunnelling is classified as a non-mining application and explosion protected mining equipment cannot be used in such applications unless the employer can demonstrate its suitability.

Anyone interested in reading the proposals can access the 275 page long consultative document (CD180) on the HSE website at www.hse.gov.uk/condocs. It needs to be established if HSE will accept the guidance on methane in BS 6164:2001. Comments or queries to Donald Lamont (donald.lamont@hse.gsi.gov.uk)

TRAINING AND EDUCATION

This year's Tunnel Design & Construction Course looks set to be successful once more, with a healthy amount of interest, two weeks before the course begins, befitting the reasonable amount of tunnelling activity being undertaken in the UK.

Training in the tunnelling industry is the subject of the Society's meeting on 21st November 2002. This promises to be a wide ranging review from operatives to engineers and managers, including discussion of the tunnelling NVQs initiative, practical tunnelling and shaft sinking for students, and a review of what the BTS is doing itself. More in the October Newsletter.