

# British Tunnelling Society

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## NEWSLETTER March 2004

### INTRODUCTION

This is the second of the bimonthly Newsletters which is placed on the website and sent to members who have requested it by e-mail. The latter's numbers are increasing, but still relatively low. In addition notification of the placing of the Newsletter on the website is passed to all those that are on the e-mail list held by Gavin Bowyer, our Secretary, with a link to the website.

In the last Newsletter we said that we would place the future Newsletters on the website on 15th of every second month. This was reviewed at the March meeting of the Committee and it has been decided to change the date to the end of the month. The reason for the change is that as five of the six Newsletters are issued in the same month as the Committee meeting it would be better to issue the Newsletter after the Committee meeting to provide up to date information to members. The next Newsletter will be placed on the website at the end of May 2004.

The second change that you will note is that we have changed back to a single column format as suggested by one or two members. This will enable you to read the Newsletter from top to bottom without having to travel from the bottom of the first column to the top of the second column. We hope that this will be more friendly to you. Any other comments are welcome.

The AGM is coming up soon, in May, and the call for nominations for election to the Committee have recently been sent out. **See details below under AGM. We need more Committee members from the Contractor and Client's sides of the industry.**

### CHANNEL TUNNEL RAIL LINK

The final four milestones on the London Tunnels have been achieved in the last two months with all of the bored tunnels now complete. We mentioned in the January Newsletter that the two Wirth TBMs for Contract 240 completed their 4.65km long drives in December 2003.

The two Lovat TBMs for the 5.25km long drives for Contract 250 completed tunnelling on 21<sup>st</sup> and 23<sup>rd</sup> February 2004. The two Kawasaki TBMs for the 7.5km long drives for Contract 220 broke through on 4<sup>th</sup> February and 11<sup>th</sup> March 2004. Between September 2002 and March 2004, 18 months, 35km of 7.15m internal diameter bored tunnel have been constructed for the London Tunnels with six TBMs. The completion of the tunnels, the start of the above ground works for Stratford International Station, and the commencement of the development of the site were celebrated with a lunch in the Stratford Box on 23<sup>rd</sup> March 2004.

**Congratulations to London & Continental Railways, Union Railway (North), RLE (Arup, Bechtel, Halcrow and Systra) and the four contractor Joint Ventures forming the Alliance Nishimatsu/Cementation/Skanska (Contract 220), Skanska (Contract 230, Stratford Station), Costain/Skanska/Bachy Soletanche (Contract 240) and Nuttall/Wayss & Freytag/Kier (Contract 250) for completing the London Tunnels within programme and budget.**



Yutako Ano and Terry McDonald of the Nishimatsu/Cementation/Skanska JV looking pleased at the breakthrough of the first TBM, Annie, on Contract 220

### **ANOTHER BREAKTHROUGH**

On 4<sup>th</sup> February 2004 Amec completed the 2.4km long 3.0m internal diameter National Grid cable tunnel under the River Thames at Dartford.



Dartford Lovat Machine at Reception Shaft by courtesy of National Grid

### **OBITUARY**

Two members of the tunnelling industry have recently died. Tim Kilroe and Les Lofthouse.

Tim Kilroe, founder and Chairman of T Kilroe & Sons died on 15<sup>th</sup> February after a brave fight against cancer. He was 64. Tim joined C V Buchan rising to become a General Foreman. He left at the age of 28 and set up his own sub-contracting firm. He later formed his own limited company T Kilroe & Sons which expanded to a peak employment of 1,000 people with a turnover of £100m in 1992.

Tim's other interests were in aviation, Air Kilroe, the Four Seasons Hotel, near Manchester Airport, and horse racing where one of his horse won the Cheltenham Gold Cup in 1985.

Les Lofthouse, who died on 30<sup>th</sup> January, was well known in the tunnelling industry through his work as medical lock attendant on compressed air tunnelling projects both in the UK and overseas including Cairo and Hong Kong. Les contributed to the Compressed Air Working Group for many years.

## **TUNNEL DESIGN AND CONSTRUCTION COURSE**

This years tunnelling course will be held at the University of Surrey in Guildford. The course dates are from 28<sup>th</sup> June to 2<sup>nd</sup> July 2004. As in previous years, delegates will be able to choose to attend the full 5 day course, covering design, construction and safety, or one of two 3 day modules covering either design and safety or construction and safety. The course programme is currently being finalised and full details will be announced shortly.

## **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.**

- |                             |  |
|-----------------------------|--|
| 15 <sup>th</sup> April 2004 | Sir Harold Harding Memorial Lecture – Sir Alan Muir Wood " Ahead of the Face"                    |
| 20 <sup>th</sup> May 2004   | AGM followed by Chipping Sodbury Railway Tunnel – A new Approach to a Difficult Flooding Problem |
| 17 <sup>th</sup> June 2004  | Mersey Tunnel Cross passages   |

## **GOSSIP**

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

## **ANNUAL GENERAL MEETING**

The AGM takes place at the beginning of the meeting on 20<sup>th</sup> May 2004. The Agenda and list of nominations and voting form will be issued to members in the middle of April.

The call for nominations has already been issued and nominations must be received by the Secretary by 8<sup>th</sup> April 2004. The forms have to be signed by the candidate and by two nominees. A brief autobiographical note, of about 6 lines, on the candidate should accompany the form. There are three vacancies to be filled.

## **ANNUAL DINNER – 7<sup>th</sup> May 2004**

Information on the dinner has been posted on the website for some time. It's at the same place as for the last few years – The Brewery, Chiswell Street, London. Good food , convivial company and good music is yours for the taking at £65 per head. After the dinner this year's speaker, ex Rolling Stone Bill Wyman, will present the Tunnel Industry Awards.

The reception at 7.00pm will be held in the Brewery's King George 111 room with the dinner at 7.30pm in the Porter Tun Room.

One innovation is that ticket booking is going electronic this year. The 'book-it-yourself' web pages is up and running on the website. You 'click' to book on line in the box at the top or bottom of the page. When you make your booking, you will be offered a choice of ways to pay. You can choose to be invoiced by the Institution, to ask the Institution to contact you to take payment by credit card, or you can opt to send the Institution a cheque in the established way.

See you all on 7<sup>th</sup> May at the Brewery.

## TUNNEL INDUSTRY AWARDS

The sponsors for the Awards are:

### Gold Sponsors

Berkaert Small Projects  
Jared Excellence in Safety and Environmental Aspects  
Morgan Est Excellence in Tunnel Design  
Murphy Major Projects

### Silver Sponsors

Amco Donelon Achievement through Innovation  
Skanska Machinery/Materials

The list of nominations for the Awards are:

### Major Projects

London Tunnels – Channel Tunnel Rail Link - Section 2

Egnatia Motorway – Northern Greece  
Heathrow Airport Terminal 5 – Airside Road Tunnel

### Sponsor Murphy

Nishimatsu/Cementation Skanska JV;  
Costain/Skanska/Bachy JV;  
Nuttall/Wyass&Freytag/Kier JV.  
KBR  
Morgan Vinci JV

### Small Project (up to £5m)

UTE Barcelona Metro Line 9 Extension  
Skinningrove Relief Sewer  
Automatic Monitoring System for Network Rail  
and LUL infrastructure at Barking

### Sponsor Berkaert

Continental Conveyor Ltd  
Byzak Limited  
Nuttall/Wayss&Freytag/Kier JV

### Achievement through Innovation

LaserShell™ TunnelBeamer™  
San Diego Mission Valley East LRT – SDSU  
Tunnelling risk management through CTRL  
Tunnels Alliance  
  
3D Finite Element analysis of CTRL tunnel  
settlement effects on existing Central Line tunnels

### Sponsor Amco Donelon

Morgan Est & Beton-und Monierbau  
Mott MacDonald  
Nishimatsu/CementationSkanska JV;  
Costain/Slanska/Bachy JV;  
Nuttall/Wyass&Freytag/Kier JV  
Arup Tunnels

### Excellence in Tunnel Design

Egnatia Motorway – Northern Greece  
San Diego Mission Valley East LRT – SDSU  
Woodbridge Quayside  
Channel Tunnel Rail Link  
Moor House Crossrail Shaft

### Sponsor Morgan Est

KBR  
Mott MacDonald  
Barhale  
Rail Link Engineering  
Arup Tunnels

### Machinery/Materials

Heathrow Storm Water Outfall Tunnel/ Piccadilly  
Line Extension/Heathrow Express Extension  
Pipe Bracket & Walkway System  
IGNIS

### Sponsor Skanska

Continental Conveyor Limited  
  
Transforge (UK) Ltd  
ADFIL (Anglo – Danish Fibre Industries Ltd)

### Excellence in Safety Health or Environmental Performance

CTRL London Tunnels Contract 220  
CTRL London Tunnels Contracts 240 and 250

### Sponsor Jared

Nishimatsu/Cementation/Skanska JV  
Costain/Skanska/Bachy JV  
Nuttall/Wyass&Freytag/Kier JV

## TUNNEL LOBBY GROUP

The 'All Party Parliamentary Group for Underground Space' visit to Heathrow Terminal 5 took place on 16<sup>th</sup> March. Five Parliamentarians attended. They were very impressed with the work they saw and the people they met. The careful planning and organisation of the visit by BAA ensured that events proceeded very smoothly from getting on the train at Paddington, being collected at Terminal 1 by mini-bus and our eventual return – no mean feat under current security restrictions. We hope the Parliamentarians will be talking to their colleagues in the Houses of Parliament in glowing terms about achievements in underground construction they saw.

The next APGUS event will be on 11<sup>th</sup> May – a presentation on 'Tunnel Fires' to be given in Portcullis House by Nicole Hoffmann (Arup) and Robin Hall (Mott MacDonald). We hope to extend invitations more widely for this event. Please contact Helen Natrass if you are interested in attending. A visit for Parliamentarians to the London Sewers is planned for June/July.

The Lobby Group is concerned about the 'postponement' of Phase 11 of the King's Cross Underground Development. We have made some initial contact with the Government expressing our disappointment. We hope to follow this up with more serious lobbying to suggest ways of removing obstacles to the second phase of this important project.

Further information from Helen Natrass [h.natrass@sir-robert-mcalpine.com](mailto:h.natrass@sir-robert-mcalpine.com)  
Tel 0207 8085141

## BTS TUNNEL LINING DESIGN GUIDE

The new BTS Tunnel Lining Design Guide will be published after Easter. The publication is dedicated to the memory of David Wallis, who set up the Working Group in 1999 when he was Chairman. David was actively involved with the guide until his untimely death in November 2000. The guide has been funded equally between the Society and the Institution of Civil Engineers Research and Development Fund.

The need for a single reference of recommendations and guidance for tunnel lining design has been recognised for a number of years. The Society considered that the valuable knowledge and experience of its members on tunnel lining design should be made available to the wider international underground construction community, and that a published guide was an appropriate medium. The Guide has been drafted for particular use in conjunction with relevant United Kingdom Standards, Code of Practice, customs and practice.

More information will be available on the website after it is published.

## REGISTRATION AND COMPETENCE

### CALLING ALL BTS MEMBERS – PLEASE HELP US TO HELP YOU

During 2003 the BTS set up a small Working Group to examine how issues of Registration and Competence within UK tunnelling industry are affecting the Society's membership. These are important issues at the moment, with the increasing need to satisfy Clients, Insurers and Regulatory Bodies that the industry is indeed responsible and competent.

One of the Working Group's findings was that, whilst the BTS members are obviously drawn from a very wide variety of backgrounds, the Society does not have any reliable information on the full spread of members, as to their particular skills, jobs, experience and qualifications. In order to find out, we have prepared a short questionnaire which will be placed on the website and posted with next month's Tunnels & Tunnelling International. **PLEASE SPARE JUST A FEW MINUTES TO COMPLETE AND RETURN THIS QUESTIONNAIRE; IT IS IN YOUR BEST INTEREST.** A copy of the questionnaire is attached at the end of the Newsletter.

## HEALTH AND SAFETY

### Nitrogen Monoxide Update

The proposed establishment, by the EC, of an indicative exposure limit for Nitrogen Monoxide of 0.2ppm will have major repercussions for the tunnelling industry if it is adopted. HSE is currently carrying out a formal Regulatory Impact Assessment to determine what limit should be adopted in the UK. There is limited scope for deviating from 0.2ppm if HSE gets evidence that such a figure is not technically feasible – cost does not come into it.

There is already considerable concern amongst UK contractors and any member wishing to submit evidence should do so to Donald Lamont as soon as possible. [Donald.lamont@hse.gsi.gov.uk](mailto:Donald.lamont@hse.gsi.gov.uk)

## INTERNATIONAL TUNNELLING ASSOCIATION.

The next ITA meeting is in Singapore from 22<sup>nd</sup> to 27<sup>th</sup> May 2004. The title of the conference is "Underground Space for Sustainable Urban Development". Details of the conference and how to register are on the website [www.ita2004.com](http://www.ita2004.com) or through the ITA website [www.ite-aites.org](http://www.ite-aites.org). The conference is being held at the Suntec Singapore Congress Centre in Raffles Boulevard. The ITA General Assembly will be held at the Congress Centre on Sunday 23<sup>rd</sup> May and Wednesday 26<sup>th</sup> May.

All thirteen Working Groups will be meeting in Singapore and the BTS would like to be represented at all the meetings. The Working Group meetings are not being held at the Conference Centre but at Nanyang Technological University which is about 30 minutes away. Buses will leave the Congress Centre for the University on Sunday 23<sup>rd</sup> May at 1pm. The Working Group meetings will be held between 1.30 and 5.30pm after which the delegates will return by bus.

Anyone attending the Conference who would like to participate in the Working Groups should contact Martin Knights [martin.knights@halliburton.com](mailto:martin.knights@halliburton.com).

## CALL FOR PAPERS

Tunnelling for a sustainable Europe, Congress 10<sup>th</sup> to 15<sup>th</sup> October 2005, Chamery, France. Abstract Deadline October 2004; [www.aftes.asso.fr](http://www.aftes.asso.fr)

AITES – ITA 2006, World Congress and 32<sup>nd</sup> ITA General Assembly, 22 – 27 April 2006, Seoul, Korea. Abstract Deadline 1<sup>st</sup> March 2005; [www.ita2006.com](http://www.ita2006.com)

## CONFERENCES

Don't forget to look at the back pages of Tunnels & Tunnelling International and World Tunnelling 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)

Bauma 2004 Munich, Germany, 29<sup>th</sup> March to 4<sup>th</sup> April 2004. [www.bauma.de](http://www.bauma.de)

North American Tunnelling Conference, Atlanta US, 17<sup>th</sup> to 21<sup>st</sup> April 2004. [www.auca.org](http://www.auca.org)

ITA-AITES 2004, World Tunnel Congress and 30<sup>th</sup> ITA General Assembly, Singapore 22<sup>nd</sup> to 27<sup>th</sup> May 2004. [www.ita2004.com](http://www.ita2004.com)

Tunnel China 2004, Shanghai, China, 16<sup>th</sup> to 18<sup>th</sup> June 2004, [www.metro-china.com](http://www.metro-china.com), or [www.tunnel-china.com](http://www.tunnel-china.com)