

# 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](mailto:bts@ice.org.uk)

Website [www.britishtunnelling.org](http://www.britishtunnelling.org)



## NEWSLETTER October 2002

### INTRODUCTION

The bored tunnelling has now started on the Channel Tunnel Rail Link. The first TBM to commence its drive was the first Herrenknecht machine for Contract 320, the 2.5km long Thames Tunnel. The drive started in July and by the end of August some 200m had been driven. During that period there were stops to install backup equipment and to inspect the head of the machine. The contractor for the contract is the Hochtief/Murphy JV.

The second TBM to start was the first Kawasaki machine for Contract 220, which is driving 7.5km from the Stratford Box to Gifford Street, near Kings Cross. The machine commenced on 30<sup>th</sup> August. The previous day there had been the traditional 'Kaggami Biraki' ceremony in the Stratford Box. The ceremony offers an apology for disturbing the Goddess of the Ground and asks her for good luck during the tunnelling.

Six special guests dressed in ceremonial robes broke a barrel of sake, a Japanese rice liquor, with wooden mallets in a traditional Japanese ritual. The second machine is already being installed and will start in October. The two machines are the only two TBMs on the CTRL manufactured in the UK. The TBMs were named Annie and Bertha by the pupils from Canonbury Primary School. The contractor for the contract is the Nishimatsu/Cementation/Skanska JV.

The third machine to start work will be the first Lovat TBM for Contract 250 from Ripple Lane to

the Barrington Road shaft, a distance of 5.25km. This machine is being erected and will have started by the time you receive this Newsletter. The second machine will start several weeks later. The contractor for this contract is the Nuttall/Wayss & Freytag/Kier JV.

The first Wirth TBM for the 4.68km drive for Contract 240, from the Stratford Box to the Barrington Road shaft, will be arriving later in the year. The contractor for this contract is the Costain/Skanska/Bachy Soletanche JV.



Roger Pickard, Project Director of Rail Link Engineering, Walt Bell, Managing Director of Union Railways (North) Ltd., David Fison, Chief Executive of Skanska Construction Group, Vince Durning, Construction Manager for the Nishimatsu/Cementation Skanska JV and Kanayama San, President of Nishimatsu smashing the sake barrel



The first Kawasaki TBM at the works ready for delivery

Both photos by QA Photos Ltd courtesy of Rail Link Engineering

The segments for Contract 220 and 240 are being cast on site at Stratford, those for Contract 250 at Ripple Lane and those for Contract 320 at the site Swanscombe on the south side of the River Thames.

## GOSSIP

Any interesting pieces to [rodneycraig@compuserve.com](mailto:rodneycraig@compuserve.com) please.

## FUTURE MEETINGS

All meetings at the ICE at 17.30 unless stated. Flysheets on the details of the meetings are circulated in advance in T&TI and are also posted on the website a month or more in advance.

- 17<sup>th</sup> October 2002**    **Taiwan Metro**
- 21<sup>st</sup> November 2002**    **Training in the Tunnelling Industry**
- 12<sup>th</sup> December 2002**    **Film Evening**
- 23<sup>rd</sup> January 2003**    **Subsea Tunnels Oslo**
- 20<sup>th</sup> February 2003**    **Kings Cross LUL Station**
- 20<sup>th</sup> March 2003**    **Debate**

## BTS SUB-COMMITTEE CHAIRMEN

Chairman	Anthony Umney
Vice Chairman	David Court
Papers and Meetings and Website	Eddie Woods
Training and Education	Anthony Deane
Awards	Bill Grose
Finance and General Purposes	David Court
Health & Safety and Standards	Donald Lamont
Technical / Design Guide	Chris Smith
Tunnelling Lobby	Helen Natrass
Tunnels & Tunnelling Advisory Board	Myles O'Reilly
International Tunnelling Association	Martin Knights
Insurance Code of Practice	Terry Mellors
Closed Face Working Group	David Court
Annual Dinner	John Scholey
Newsletter	Rodney Craig

If anyone wishes to contact any Sub-Committee Chairman, they should contact the BTS Secretary, Dionne Dalgety at the above address.

## TUNNELLING INDUSTRY AWARDS

The second Tunnelling Industry Awards will be presented at the BTS Annual Dinner in May 2003. Details of the awards will be sent out towards the end of the year, so start thinking about which project you will wish to enter.

## UNDERGROUND CONSTRUCTION 2003

The Underground Construction 2003 Conference and Exhibition will take place on 24<sup>th</sup> and 25<sup>th</sup> September 2003 at ExCel, London Docklands. The latest in a long series of periodic tunnelling and sub-surface engineering events, Underground Construction will have broad appeal to all sectors of the UK and International tunnelling industries. Please make a note of the dates in your diaries NOW.

The First Circular will be sent out shortly. Abstracts of Papers on interesting or innovative aspects of tunnelling projects are invited. The submission date for extracts is 31<sup>st</sup> December 2002.

For further details of the Conference, to ensure your place at the Exhibition, please contact James Raffoul at Brintex, 32 Vauxhall Bridge Road, London, SW1V 2SS, tel. +44 (0) 20 7973 6653, fax. +44 (0) 20 7233 5054, email: [j.raffoul@hemming-group.co.uk](mailto:j.raffoul@hemming-group.co.uk).

726 0106 / 07803 612556 or email [h.nattrass@sir-robert-mcalpine.com](mailto:h.nattrass@sir-robert-mcalpine.com)

## **TUNNEL LOBBY GROUP**

### **Parliamentary Working Party on Underground Space**

Peter South and Helen Nattrass have been working closely with Lawrie Quinn MP and Claire Curtis-Thomas MP to set up our Parliamentary Working Party. The Working Party's aim is to inform and educate MPs and Members of the Lords about current issues relating to underground work. We also want MPs and Lords to get to know the BTS so that they can call on members for advice, comment and informed response on topics of the moment.

We will hold one meeting a Parliamentary Term, which will be either a site visit or a talk/presentation. Venues for site visits will not always be limited to London and the South East. It is hoped to set up regional site visits for groups of local MPs and Lords to see what is going on in their 'back-garden'.

On 29th October a launch reception will be held in Portcullis House from 16.00-18.00. The launch will include the inaugural meeting of the group whereby officers and committee are put in place. Government Ministers will be in attendance, one of whom will give a short address to the BTS and our guests.

We hope to attract a mixed crowd of MPs, Lords and Civil Servants to our Reception together with Clients, Designers, Suppliers, Contractors and a cross section of BTS Members who can put across our message that using underground space is a good thing, whether it means not digging up the street, building novel shaft-type underground car-parks, providing storage, running infrastructure, utilities or improving public health.

MPs and Lords need to know that the UK has a wealth of talent in all fields of underground construction and we want them to use it to the country's advantage.

Invitations will be sent out, but for further information, please contact Helen Nattrass 0207

## **HEALTH AND SAFETY**

### **Fire in Tunnels**

Following concerns raised by the Fire Brigade, a meeting was organised recently by HSE at which representatives from the fire brigade, the tunnelling industry, the Association of British Insurers and HSE met to discuss fire precautions on TBMs and policy on fire fighting in tunnels. It was agreed that a working group should be formed to draft guidance on fire precautions for TBMs and that representatives from the BTS, the TBM manufacturers and the fire protection industry should be invited to participate in the work of this group.

Roy Slocombe has been nominated to represent BTS. It was also agreed that a programme of research into the effectiveness of water curtains for smoke control in tunnels should be undertaken in the longer term.

### **Smoke build-up in small diameter tunnels**

HSE has begun a series of tests in which a range of hydraulic oil fluids are burned in a ~ 2.75m diameter tunnel, containing a mock-up of a TBM and measurements are made of smoke build-up in the tunnel. It is intended to test mineral hydraulic fluid along with a range of low flammability fluids. The effect of aging on the flammability of the fluid may be examined if appropriate samples can be obtained. In addition the effects of ventilation and a water curtain will be considered.

Initial results show that smoke buildup is fairly rapid in that size of TBM, and may have serious implications for escape procedures. It is intended to make the results available to industry as soon as possible once the tests have been concluded.

### **Oil Storage Regulations**

Have you seen details of the Control of Pollution (Oil Storage) Regulations 2001? They are enforced by the Environment Agency and cover the storage of 'Oil', which includes diesel, gas oil and both mineral and synthetic hydraulic fluid. The regulations apply to quantities exceeding 200 litres on sites and in industrial premises in England.

Surprisingly, they specifically do not apply to the storage of oils underground. I understand also from the EA that tanks, irrespective of capacity, within an hydraulic system are considered to be 'use' not 'storage' of oil and therefore not covered by the regulation, however, fuel tanks on standby diesel generators above ground, are considered to be 'storage'.

The main requirements are for secondary containment around storage tanks and their associated fill and draw-off pipework, means of leak detection, and protection from mechanical damage and malicious misuse.

### **HARDING PRIZE COMPETITION - 2003**

The Harding Prize Competition – 2003 is open to all aged 33 or under at the end of 2002. Entrants must submit an original paper relating to any aspect of tunnelling which they consider of interest to those in the tunnelling industry. The papers will be reviewed by the BTS Awards Sub-committee and authors of selected papers will be invited to make an oral presentation to the April 2003 BTS meeting.

Copies of the rules for authors have been circulated, but copies may be obtained from the BTS Secretary.

The winner of the Competition will be given two tickets for the Society's Dinner in May 2003 where the winner will be presented with a copy of Sir Harold Harding's book 'Tunnelling history and my own involvement, a cheque for £500 and a certificate.

Runners up whose papers are selected for presentation will each receive a cheque for £100 and all of the other entrants who submit a paper to an approved standard will receive a cheque for £50. In addition to the cheques each entrants to the approved standard will be given a year's free membership of the Society.

### **HARDING LECTURE**

Colin Mackenzie gave the biannual Harding Lecture at the June meeting of the Society in front of a full Telford lecture theatre. Colin's theme was 'Reflections of My Career from the Point of View of a Contractor'.

Colin started the lecture with some personal comments about Sir Harold Harding. Colin joined John Mowlem in 1965 but had little direct contact with Sir Harold. However, he did speak to him on a number of occasions after Sir Harold's retirement.

Colin's lecture covered safety, partnering, tunnelling costs and Engineers. We all look forward to reading the lecture when it is published.

### **TRAINING AND EDUCATION**

"Competence in the Tunnelling Industry" is the subject of a wide-ranging series of presentations to be given at the Discussion Evening on 22<sup>nd</sup> November. The meeting will look at the role of NVQs for tunnelling operatives, university initiatives to increase practical awareness of industry requirements on undergraduate courses, and a discussion of what the BTS is doing for training & education and what more it could do. The subject of competence will also be featured in articles to be published in T&TI in the coming months. Your views are welcomed.

### **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)