



An Association for Retired Professional Engineers

NEWSLETTER March 2007

PROGRAMME OF EVENTS April – August 2007

Every Monday 10.30 am. Coffee at the Denton Lounge, Worthing Pier.

18 th Apr	Wednesday	Outing: Pub Lunch and Skittles 12.00 – 3 pm. The Bull Inn, Henfield, East Sussex
19 th Apr	Thursday	Coffee - at Spotted Cow, Angmering
26 th Apr.	Thursday	Coffee - with Partners at Beach Hotel, Worthing
9 th May	Wednesday	Visit: 10.00 am Three Bridges Railway Signalling Centre
16 th May	Wednesday	Outing: 2.00 pm. Herstmonceux Observatory, East Sussex
17 th May	Thursday	Coffee - at Spotted Cow, Angmering
31 st May.	Thursday	Coffee - with Partners at Beach Hotel, Worthing
6 th Jun	Wednesday	Outing: 2.30 pm Wisley Gardens, Wisley, Surrey
21 st Jun	Thursday	Coffee - at Spotted Cow, Angmering
28 th Jun.	Thursday	Coffee - with Partners at Highdown Vineyard, Worthing

7 th Jul	Saturday	Outing: 2.30 pm Rother Valley Croquet Club, Duncton, West Sussex
19 th Jul	Thursday	Coffee - at Spotted Cow, Angmering
26 th Jul.	Thursday	Coffee - with Partners at Highdown Vineyard, Worthing
16 th Aug	Thursday	Coffee - at Spotted Cow, Angmering
30 th Aug.	Thursday	Coffee - with Partners at Beach Hotel, Worthing

Coffee mornings commence at 10.30 a.m., except at The Beach, which is from 10.45 a.m

Membership

New Member

2006 JONES, D G CEng MIMechE

3 Nutley Mill Rd Stone Cross Pevensey BN24 5PD

dgi@lantic.fsnet.co.uk David

01323 760595

57-67 Apprentice then draughtsman British Syphon Co. Eastbourne. 67-77 Design draughtsman then sales engineer Edwards High Vacuum Crawley 77-04 Sales Engineer Furness Controls Bexhill-on-Sea

Interests: Windmill & Steam locomotive restoration, Theatre

Insurance

RCEA members are now covered by a Members' Club Protection Policy whilst engaged in Association activities. Please be advised that this cover does not extend to non – members and guests.

This reminder will be posted on application forms for our events and also brought to the attention of anyone who wishes to participate in them without the submission of an application form.

For clarity our insurance for members includes, inter alia:

Public Liability

Loss of money
Property damage

Insurance cover is also purchased whenever we attend meetings at Field Place. At this venue members and non-members are covered by insurance effected by Worthing Borough Council.

Website for the RCEA

For latest information log into www.rceasussex.org.uk

Brief Detail – Talks, Outings and other activities April –July

Outing:

Wednesday 18th April: Pub Buffet Lunch and Skittles, The Bull Inn, Henfield 12.00 mid-day until approx 3.00pm

The Bull Inn just north of Henfield, has a function room with a skittle alley adjacent to the main bar area. We have arranged to hire these facilities for the lunch time period to allow members and guests to enjoy a buffet lunch and try their hand at skittles.

No previous experience is required; teams will be selected on the day to include novices and any experienced players. If you would prefer to watch, come along and encourage those who are going to play while you enjoy the buffet lunch.

The room will be available to us from mid-day until about 3 pm when the pub closes. Dessert and coffee are not included in the buffet, but will be available an extra charge.

The buffet will consist of:

Nibbles (Crisp, Peanuts, etc), Marinated olives, Bread sticks, Garlic bread, Garlic bread with cheese, Dough sticks with garlic and pesto mayonnaise, Spicy chicken wings, followed by a selection of Pizzas and Salad

The Bull Inn is located about 1 mile north of Henfield at Mockbridge on the A281 Shoreham to Horsham road.

The cost of hiring the room, the use of the skittles and the buffet will be £10 per person.

The reply slip for this function is attached at the end of this newsletter.

Currently 24 applications have been received; we can accommodate a few more if you would like to make a late application Latest application 11th April 2007

Visit:

Three Bridges Railway Signalling Centre, 10.00 am Wednesday 9th May

Meet in the Booking Hall at Three Bridges Station at 10:00, and we will walk to the Signalling Centre from there.

Parking in the area is not easy; travel to Three Bridges Station by train is probably the best option.

25 people will be the maximum number accepted for this visit, so a waiting list may have to be utilised depending upon the number of applicants. If the group approaches this maximum number it is likely that it will be split into two smaller groups for access to the Operating Floor of the Control Room.

After the visit it is suggested that for those who are that way inclined, an adjournment be made to the Snooty Fox opposite the station for a 'glass of lunch'.

The reply slip for this visit is attached at the end of this newsletter.

Visit:

Herstmonceux Observatory Science Centre. 2.00 pm Wednesday 16th May 2007

With its domes and telescopes, the centre is part of the former home of the Royal Greenwich Observatory. The centre has a unique atmosphere where astronomers studied the heavens from the 1950s to the 1980s. Set amid beautiful Sussex countryside, the green copper domes of the Observatory Science Centre provide a unique environment. The story of the Royal Observatory brings to life the 300-year history of one of the most famous scientific institutions in the world.

We will meet at 2pm to enjoy a private tour of the domes and telescopes. Our group will be divided into smaller groups. Please note that access to the 3 domes normally closed to the public is by narrow stairs.

There is a shop and café on the site, which is open all day serving drinks, sandwiches and light meals.

The cost will be £5.70 per person. Please complete the reply slip at the end of this newsletter if you wish to attend, enclosing a cheque made out to RCEA for the appropriate amount. **Latest date for replies 4th May.**

Outing:

Wisley Gardens, Wisley, Surrey 2.30 pm Wednesday 6th June.

A guided tour of the garden has been arranged for 2.30 pm on the 6th June, meeting at the Garden Entrance next to the plant Centre at 2.15 pm.

As an alternative, some members may wish to take advantage of the two restaurants in the garden for a meal before the visit. Please indicate this on the reply slip.

The meeting for this group will be at 12.30 pm outside the Garden entrance and then reassemble at the inside Garden Entrance at 2.15 pm.

The cost will be £6.50 per person including the guided tour, however current members of the RHS and one guest will only need to pay the £1.00 guide fee.

Applications to be made to Brian Buckroyd by 1st May using the reply slip at the end of this newsletter.

Directions

If approaching via the M25 leave at Junction 10 and follow the signs for the A3 south towards Guildford. Take first slip road off to the left following the sign for Wisley Gardens, in the direction of Ockham. Follow signs for Wisley to cross the A3 and return to it in the direction of London. Take the sign posted slip road to the left for Wisley Gardens and then follow directions to the Car Parks.

If approaching from Guildford along the A3 towards London, take the sign posted slip road to the left for Wisley Gardens, shortly before the M25 interchange, and then follow directions to the Car Parks.

Coffee - with Partners

28th June and 26th July at Highdown Vineyard, Worthing

Please note this change of venue for these two dates. This venue has been chosen as an alternative to the Highdown Hotel for this current year only. We would appreciate your comments about its suitability for future coffee mornings etc. after the event.

Outing:

Croquet and Afternoon Tea at the Rother Valley Croquet Club, Duncton, Nr. Petworth, 2.00 pm Saturday 7th July 2005

The Croquet Club is in a beautiful setting with magnificent views over the Downs on the A285 Chichester to Petworth Road north of Duncton Village on the East side of the road. No previous experience is required and all equipment is provided.

Please wear flat-heeled shoes.

Spectators are welcome and some seats are provided but please bring a folding chair if you have one available.

The cost is £5 per person which includes a delicious home made afternoon tea served in the Pavilion at approximately 4.30 pm. A further session of croquet will be arranged after tea for those wishing to stay later.

Please indicate on the reply slip if you wish to play, there is a 16-player limit. This event proved very popular the last time it was organised.

REPORTS

Visit:

J T Howarth Ltd, Worthing. – Musical Instrument Makers.

Two visits to Howarth's manufacturing facility in Worthing were arranged for groups of ten members and guests. This manufacturer of world class Oboes is tucked away in a relatively small workshop area behind the main shopping area of Worthing and would normally go completely unnoticed.

The instruments manufactured and sold here are all hand made and of exceptional quality. Used by many of the worlds best musicians they are, as one might expect, relatively expensive and in a class of their own. Even the cheapest instrument they make in Worthing for 'students' has a price tag of £1500 or more.

The tour started in the 'shop' with a brief overview description of the process and then we were conducted on a tour of the various small workshops in the complex to see the Oboe being manufactured. This started with the initial preparation of the hard wood blanks for seasoning, and proceeded through the whole manufacturing process for the wooden sections of the instrument, the manufacture and preparation of the many small metal components, then the initial assembly of an instrument. The instrument was then total

stripped down to allow all of the components to be plated and / or polished before the incredibly time consuming task of reassembling the Oboe into its finished state could be undertaken.

This was a fascinating insight into the 'engineering' of a musical instrument and was all the more interesting to see the skills that were being used to produce some of the finest musical instruments in the world by in the main 'non-musical' craftsmen. The company employs whenever possible 'model makers', rather than skilled machinists, or mechanical fitters, or even musicians, for their expertise in manufacturing and assembling miniature components, of which there are dozens in an Oboe.

Talk:

African Experiences by Colin Hammond. Tuesday 9th January

A large audience provided a warm welcome for the return of Colin Hammond, who last spoke to us in November 2005 on the construction of the Ardingly Reservoir. Now recently retired, Colin was for many years a Consultant Civil and Water Engineer, involved in projects worldwide. The present talk was to describe experiences in Uganda during the 1970's, both in engineering and on safari.

Colin joined a United Nations and World Health Organisation project to update the water and sewerage facilities of Kampala and Jinja, that dated from the 1920's, taking water from Lake Victoria and returning the excess water and sewerage, following suitable treatment. The planning was laid out in three reports dealing with 1/ The Immediate Needs 1969 to 1974, 2/ Stage 1 1974 to 1980 and 3/ 1980 to 2000. Supportive studies were undertaken on leakage, water quality, Lake Victoria, groundwater and soil, local manufacture, water treatment, water stabilisation ponds, and finance.

Census studies showed the population to be approx. 350,000 in 1968 and projected to rise to 1.5 millions by the year 2000. To more accurately estimate demand, population types and distribution were studied. The estimated average water demand was 180 litres per head per day (lhp). This figure covered a wide variation, from the rich with a western type of water supply of 500 lhp, to the poor, who took water from standpipes, streams, springs and swamps, averaging 10 lhp.

Plans and photographs were shown of the water works at Kampala, covering approx. 75 sq. miles and rising to 400ft. The terrain was mainly rock, on which the water treatment complex was built. The raw water was screened and filtered to reduce larvae and solids, then treated with chlorine for purification. The treatment complex included pressure filters, a pump house, and clear water tanks,

For the first report, to 1974, the needs included a capacity of 14 mill.gall/day, fine and coarse screens and a low level alarm, a fifth microstrainer, increased raw water and treated water pump efficiencies, increased chlorine storage capacity and the construction of labyrinths and dams in the clear water tanks to permit the 30 minute contact time with

chlorine to ensure purification. At the request of the World Bank, an additional report was drawn up on the up-rating of all filters.

The second report, 1974 to 1980 forecast a capacity increase to 20 mill.gall/day. To accommodate this, provision was made to increase strainer capacity in the event of deterioration of raw water from Lake Victoria. All filters would need to be up-rated and chlorine capacity increased to 90 days supply. Attention would be required to the pumps, involving improvement and replacement. Additional pipelines would be required to meet increased transmission needs.

The third report, 1980 to 2000 forecast an increased capacity of 26 mill.gall/day. The building of five new rapid gravity filters was planned, as was the construction of a fifth Clearwater tank.

During this time of water engineering activity, there also was time for relaxation Safaris were undertaken. The first was to Murchison Falls National Park. Spectacular pictures were shown of the Falls themselves in addition to the plentiful wildlife such as the Ugandan kob, oribi and elephants. Crocodiles were photographed during a river trip. The second safari was to Kidepi, where there was plenty of game. Lions were photographed, on the ground and in trees. A leopard was seen but ran off quickly.

All present enjoyed a good lecture, with many excellent colour slides. Our President, Richard Norton proposed the vote of thanks.

C Harrison

Talk:

Bitter Sweet Cuba, by Dave Stallard. Tuesday 13th February.

Dave Stallard had worked all his life on the railways, and in retirement is a committed "Rail fan". In 2002, together with 40 other "Fans" he went on a specially commissioned package tour of the Cuban railways. This tour was from Havana, in the North, to Santiago de Cuba in the South East of the island, was the subject of his talk. It was illustrated by a series of coloured, multiple, photographs shown on an overhead screen.

The speaker gave a brief overview of the demographics of Cuba, which is about half the size of the U.K., and has a mixed race population some 18% that of the U.K.

There are two Railway systems in Cuba, the national railway, and the railways associated with the sugar industry, these were both standard and narrow gauge. The sugar industry rail stock is allowed to run over the national railway lines. As it requires 10 tons of sugar cane to produce 1 ton of sugar, so the railway system was fundamental to the sugar industry.

Cuba was once the world's most important sugar producer and exporter. Production has now fallen, due to a series of hurricanes and droughts, and competition from across the world. In addition there has been a lack of investment in the infrastructure has forced the closing of many mills. We were shown examples of unfinished Russian civil engineering projects.

The 1963 complete commercial embargo of Cuba by the USA, followed by the loss of support from the USSR, after the break up of Russia, has led to the inability to obtain spares. This in turn had driven the Cubans to develop a high degree of improvisation and ingenuity, so as to keep much of the old equipment maintained and operating. The impression gained by Dave Stallard was that of "being in a museum."

Some of the oil burning steam locos, usually emitting clouds of black smoke, had originally been built in 1902, and subsequently refurbished. There was a mix of sources for the remaining, decrepit, locomotives. They had come from Russia, Hungary and Canada - and were short of spares. As well as steam, locos were also driven by diesel, and in one area on excess electricity from a sugar mill.

Examples of the Cuban ingenuity was the conversion of a box car, by cutting windows in the side and fitting wooden benches, made it into a passenger 'coach'. An ambulance, with a diesel engine, had been converted to run on rails, whilst a small shunting engine could also carry passengers.

The decline in the sugar industry had led to an inevitable decline in the rail system. The Cuban Government is now investing in the Tourist Industry. In the opinion of the speaker "the days of the steam loco were nearly over".

John Pound

Visit:

Pyroban Ltd. Shoreham-by-Sea, Wednesday 28th February

Members visited the engineering works of Pyroban in Shoreham. Pyroban are leaders in the field of explosion protection in hazardous areas and have works in Shoreham, their HQ, Cannock, Holland and China. They sell their products internationally. They remain a family owned company, the founder of which, a local man, Phil Tyrer, is still active at the age of 84.

The main output of Shoreham is the flame proofing of vehicles intended for operation in hazardous atmospheres

The MD welcomed us. After which the Manager of Engineering and Group Development gave a talk covering the history of the company and its products. We then split into three groups, each led in turn by a senior member of staff who showed us round his own area of speciality. These covered technical developments, the works itself and hazard protection with an explanation of the three Zones of hazard. Most of their work covers Zones 2 and 3. In the works we saw examples of both diesel and battery vehicles undergoing flame proofing. The vehicles were mainly forklift trucks of various makes.

We were made most welcome and fed well! Our guides gave excellent and clear descriptions of their area of work and answered our questions with patience. At the end of the visit we were all given a copy of a book by Phil Tyrer tracing his own history from a 16-year-old apprentice in the service workshop of the Southdown Bus Company in Brighton to the present day Pyroban. It is a fascinating read. He is not an engineer but describes himself as an entrepreneurial mechanic.

I think that our visit was most interesting and it was good to see some real engineering in West Sussex.

Richard Norton

Spring Lunch.

Arundel Room Training Restaurant, Northbrook College. Thursday 29th March

Forty members and their guests enjoyed an excellent lunch at the College for the ninth year in succession. The choice of food was more extensive than in previous years and it was agreed that this was probably the best meal so far. Hopefully a similar lunch will be arranged next year, but this will depend on the College still being able to offer this facility.

REPLY SLIP 1:

To: R P Wort, Sylvan Glen, Longlands, Worthing, BN14 9NS
Tel: 01903 217747

Please reserve.....places for me for the **Skittles and Buffet Lunch, at The Bull Inn, Henfield, 12.00 mid-day until approx 3.00pm, Wednesday 18th April 2007**

My guests will be:

.....

- Please indicate**
- 1) **who would like to play:**
 - 2) **who has played before :**
 - 2) **who would like to be a spectator :**

I enclose my cheque for £..... (£10 per person to cover cost of lunch, room hire, etc.) payable to R.C.E.A.

NAME(Block capitals) Phone No.....

ADDRESS.....

.....

.....

.....

Latest Applications by 11th April (Separate cheque please)

RCEA members are covered by a Members' Club Protection Policy whilst engaged in Association activities. Please be advised that this cover does not extend to non – members and guests.

REPLY SLIP 2:

To Colin Harrison, 41 Cluny Street, Southover, Lewes, East Sussex BN7 1LN
Tel. 01273 487026

Please reserve.....places for me for the visit to **Three Bridges Railway Signalling Centre on Wednesday 9th May**

Full Name.....Phone No.....

Address.....

.....

.....

Applications please by 25th April 2007.

RCEA members are covered by a Members' Club Protection Policy whilst engaged in Association activities. Please be advised that this cover does not extend to non – members and guests.

Intentionally Blank

REPLY SLIP 3

To: Colin Pilling, 84 Marine Crescent, Goring-by-Sea, BN12 4JH
Tel 01903 522356

Please reserve.....places for me for the visit to Herstmonceux Observatory Science Centre 2.00 pm Wednesday 16th May 2007

Full Name.....(block capitals)

Address.....
.....

Phone No..... My visitor will be

Applications please by 1st May 2006.

I enclose a cheque made payable to RCEA for £.....(£5.70 per person)

RCEA members are covered by a Members' Club Protection Policy whilst engaged in Association activities. Please be advised that this cover does not extend to non – members and guests.

REPLY SLIP 4

To: B Buckroyd, 6 Fosters Close, East Preston, Littlehampton BN16 2TI
Tel: 01903 784926

Please reserve.....places for me for the Outing to Wisley Gardens, Wisley, Surrey at 2.30 pm on Wednesday 6th June.

I / we will arrive at 12.30 pm / 2.15 pm

Full Name Phone No.....

Address
.....

I /we hold current membership of the RHS members Yes / No

I enclose a cheque payable to RCEA for (£6.50 per person) for non members

OR: **I enclose a cheque payable to RCEA for** (£1.00 per person) for member plus one guest.

Applications by 1st May 2007

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Intentionally Blank

REPLY SLIP 5

To: Ken Lane

17 Fox Lea, Findon, Worthing BN14 0XB, 01903 873956

I/we wish to join the outing to Duncton Croquet Club, 2.00 pm Saturday 7th July 2007

Full name:.....(Block capitals)

Address:

.....
.....

Phone Number:.....Number of Persons

Guest names.....Number to play.....

1) who would like to play:

2) who has played before :

3) who would like to be a spectator :

I enclose a cheque made payable to RCEA for £..... (£5.00 per person which includes tea.)

Applications by 20th June 2007. (Separate cheque please)

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