



**An Association for Retired Professional Engineers**

# **NEWSLETTER                      December 2005**



**Happy Christmas  
and Best Wishes  
for the New Year**



## **PROGRAMME OF EVENTS 2006**

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

- |                       |           |  |
|-----------------------|-----------|--|
| 10 <sup>th</sup> Jan  | Tuesday   | <b>Talk:</b> Safety in Process Engineering by John Pound,<br>2.30 pm. Field Place, Worthing. |
| 19 <sup>th</sup> Jan. | Thursday  | Coffee - at Spotted Cow, Angmering   |
| 26 <sup>th</sup> Jan. | Thursday  | Coffee - with Partners at Beach Hotel, Worthing  |
| 8 <sup>th</sup> Feb   | Wednesday | <b>Visit:</b> 2.30 pm. Ceres Power, Crawley  |
| 14 <sup>th</sup> Feb. | Tuesday   | <b>Talk:</b> Microwaves Everywhere by Peter Gibson,  |

2.30 pm Field Place, Worthing

16<sup>th</sup> Feb. Thursday Coffee - at Spotted Cow, Angmering

22<sup>nd</sup> Feb. Wednesday **Visit:** 2.30 pm Manhattan Kitchens, Churchill Estate, Lancing.

23<sup>rd</sup> Feb. Thursday Coffee - with Partners at Beach Hotel, Worthing

**NEW DATE**

24<sup>th</sup> Feb Thursday **Spring Lunch**, 12-30 pm. Northbrook College, Worthing.

14<sup>th</sup> Mar Tuesday **Talk:** Sentinel Steam Lorry by Jim Hatfield,  
2.30 pm. Field Place, Worthing

16<sup>th</sup> Mar Thursday Coffee - at Spotted Cow, Angmering

30<sup>th</sup> Mar. Thursday Coffee - with Partners at Beach Hotel, Worthing

5<sup>th</sup> Apr Wednesday **Outing:** 2.30 pm. Newhaven Fort, Newhaven

20<sup>th</sup> Apr Thursday Coffee - at Spotted Cow, Angmering

27<sup>th</sup> Apr. Thursday Coffee - with Partners at Beach Hotel, Worthing

16<sup>th</sup> May Tuesday **Outing:** Michelham Priory and Gardens

18<sup>th</sup> May Thursday Coffee - at Spotted Cow, Angmering

25<sup>th</sup> May. Thursday Coffee - with Partners at Beach Hotel, Worthing

14<sup>th</sup> Jun Wednesday **Outing:** Harvey's Brewery, Lewes

15<sup>th</sup> Jun Thursday Coffee - at Spotted Cow, Angmering

29 <sup>th</sup> Jun.	Thursday	Coffee - with Partners at Highdown Towers, Worthing
5 <sup>th</sup> Jul	Wednesday	<b>Outing:</b> 2.30 pm. HMS Warrior and Portsmouth Harbour Tour, Portsmouth.
20 <sup>th</sup> Jul	Thursday	Coffee - at Spotted Cow, Angmering
27 <sup>th</sup> Jul.	Thursday	Coffee - with Partners at Highdown Towers, Worthing
17 <sup>th</sup> Aug	Thursday	Coffee - at Spotted Cow, Angmering
31 <sup>st</sup> Aug.	Thursday	Coffee - with Partners at Beach Hotel, Worthing

**All Talks and Meetings will be commence at 2.30 pm and be held in the Chichester Room, Field Place, Worthing, unless another venue or time is indicated. Timings for visits and outings will be as printed in the detailed description of the activity.**

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

## Membership

2005 **PINTO, E.E.**C.Eng. MIEE  
 "Appledown" 1 Norbury Drive Lancing BN15 0QN  
*Eddie and Barbara* (010903 767574)  
 48-49 RAF Radio Instructor 50-54 Microphone Engineer. 55-56 Telecine Engineer at BBC. 57-71 Telecine and vision control ATV. 71-84 Vision control supervisory engineer TV1. 84-88 Supervisory engineer vision control TV-AM. 88-95 Lecturer in Electronics at Barnet College.  
*Interests:* Archery, Electronic photography.

2005 **ROBERTS, D.G.M.**CBE FREng FICE FIMechE HonFCIWEM  
 North America Farm Streat Hassocks BN6 8SH  
*Gwilym and Wendy* (01273 890324)  
 45son, 86 -47 RNVR, -92 Chairman Acer Group Lt47-86 Asst Engineer to Senior partner John Taylor and d. 86-87 President ICE  
*Interests:* Golf, Walking, Writing.

2005 **DANENBERGS, Y.** EurIng BSc (Hon) MIEE MCIBSE A MechE MIEEEE MACM  
41 Eastbourne Rd Brighton BN2 4DL  
*Yanis and Juta* (01273 690260)  
Retired  
*Interests:* Music, Travel, Photography, Dancing, Reading.

We are sorry to have to report the deaths of two of our members, R P Townsend and C W Newberry

## Members Handbook

By now everyone should have received a copy of the Members' Handbook.

Anyone who has not received one or who finds an error or omission should contact the Secretary.

## Subscriptions for 2005 / 2006

These were due on 1<sup>st</sup> October. If you have not paid your subscription yet could you please send your cheque for £12 to the Hon. Treasurer, G Mathias, 16 Tamarisk Way, East Preston, BN16 2TL.

## Website for the RCEA

[www.rceasussex.org.uk](http://www.rceasussex.org.uk)

The above web site has been available to members for some months now so what is it, who is it for, and how do you get to see it?

**What is it?** It is a conceptual, intangible, place on the end of a telephone line where we can place pictures and text and where members can add their own two-pennyworth.

**Who is it for?** It is aimed at potential members, members, and visitors.

**How do you get to see it?** You will need a computer (because the communication process is in complex code) either your own or one at your library or maybe one at an Internet cafe. Set the computer to connect to the Internet via the telephone system, and when you get there, type *www.rceasussex.org.uk* (one word) press the return key and then, after a short pause, you are there. Explore and enjoy. The site is rightly intended to be continuously evolving especially as a result of your feedback and contributions either through the site forum or by post; you are encouraged to visit it frequently, say once a month, perhaps.

There is a bit more. To write on the forum you will first need to register. We are protective of our good name and only RCEA members may write on these web pages. We don't want any graffiti. You register through clicking a box on the forum page header; please use your real name so that we can all recognise you (no spaces, use the underscore). Once registered you will then have to wait for up to 48 hours for me to activate your registration.

Peter Gibson

## **Brief Detail – Talks, Outings and other activities**

### **Talk:**

**Tuesday, 10<sup>th</sup> Jan 2.30 pm. Field Place, Worthing.**

**Safety in Process Engineering by John Pound, (Member)**

The talk will describe the lessons learnt by the speaker from association with industrial accidents, based on over 35 years engineering experience in medium to large chemical plants. The subsequent development of good management practices and documentation will be described in detail.

### **Visit.**

**Wednesday 8 February 2006, 2-30pm, Ceres Power, Unit 18, Denvale Trade Park, Haslett Ave. East, Crawley.**

Ceres Power was formed in 2001 to exploit the revolutionary fuel cell technology developed by Imperial College. It produces on site, fuel cell components for assembly into fuel cells by its customers. Ceres Power won the Carbon Trust 2003 Innovation Award for the small business category. For more detail visit [www.cerespower.com](http://www.cerespower.com)

Places for the visit are limited to **12** persons. Noting the over subscription for last year's visit, the following arrangements will apply. ALL members wishing to be included are requested to complete the Reply Slip. Precedence will be given to those members who also applied last year but were unable to attend.

Directions. Ceres Power is situated in central Crawley, close to Crawley Rail Station. Detailed directions, by rail and road, including car parking, are given on the above website. Members requiring directions to be sent by post are requested to indicate this on the reply Slip.

Please complete the Reply Slip at the end of this Newsletter. Successful applicants will be informed.

**Talk:**

**Tuesday 14<sup>th</sup> February, 2.30 pm Field Place, Worthing  
Microwaves Everywhere by Peter Gibson, (Member)**

The talk will explain the special nature of microwave radiation, the development of microwave engineering, and the uses of microwave radiation.

**Visit:**

**Wednesday 22<sup>nd</sup> February 2.30 pm.**

**Manhattan Kitchens, Churchill Estate, Lancing.**

An opportunity to visit a well-known company, specializing in the production of kitchen furniture principally for the building trade. This is one of the largest operations of this type in the UK and therefore the visit should be of interest to members and guests.

There will be a limit to the number of people who can attend the visit and therefore it will have to be 'first come first served' when returning reply slips and Members will be given priority.

Directions and meeting place detail will be sent to successful applicants.

If you wish to attend please complete the Reply Slip at the end of this Newsletter as soon as possible.

**Spring Lunch,**

**Friday 24<sup>th</sup> February, 12.00 for 12.30pm in the Arundel Room Training Restaurant.  
Northbrook College, Worthing.**

The cost this year will be **£ 9.00** and numbers will be limited to 40. Can you please return the reply slip as soon as possible; we will have to allocate places on a "first come, first on the list" basis. If more than 40 members and guests apply, we will prepare a "waiting list"; you will be informed if you are on this list, in all other cases you can assume you have been allocated the places you have applied for.

The date for this function has been changed this year at the request of the College so that the meal can be held on a day when their 'more advanced students' are the 'guinea pigs' for the day

We have no idea of the menu at this time, as usual; it will depend on the College CourseWork on the day.

*Please return reply slip at the end of the Newsletter*

### **Talk:**

**Tuesday 14<sup>th</sup> March, 2.30 pm. Field Place, Worthing**

**The Sentinel Steam Lorry by Jim Hatfield,**

A welcome return from last year's Cooch Lecturer, who will tell us about his 1930, coalfired, six wheeled, steam driven, Sentinel Lorry.

### **Outing**

**Wednesday 5 April 2006, 2-30pm, Newhaven Fort, Fort Road, Newhaven, East Sussex.**

Built as one of a series of South Coast defences in Napoleonic times, and reinforced during later wars, Newhaven Fort has an impressive structure of massive walls, ramparts, tunnels and gun emplacements, and its situation offers fine views of the Harbour, English Channel and the western end of the Seven Sisters chalk cliffs.

The Fort played an active part in both World Wars and is perhaps best remembered as the base for the Commando Raid on Dieppe in 1942.

Newhaven Fort has been extensively adapted for its present role as a tourist attraction with many exhibits and displays recreating the atmosphere of wartime past. Further information can be found on [www.newhavenfort.org.uk](http://www.newhavenfort.org.uk)

Upon arrival, our visit will consist of an introductory talk followed by a guided tour. Members will then be free to explore other parts of the Fort. The on site Searchlight Café provides a range of light refreshments.

Directions. Newhaven lies on the A259 scenic coast road between Brighton and Eastbourne. It can also be reached via the A27, then the A26 just after Lewes. The Fort is well signposted in Newhaven itself. Car parking is free at the Fort.

Please complete the Reply Slip at the end of the Newsletter. The cost will be £5-00 per person. A party of approx. 20 persons is expected, though numbers in excess can be accommodated.

## REPORTS

### Visit:

**Chichester Cathedral 11.00 am. Tuesday 20th September.**







This visit to the Cathedral was most interesting. Our guide for the visit to the tower was the Clerk of Works for the Cathedral, who had worked in and on the building for the last 40 years or so. His knowledge of the structure, it's history, it's past problems and the problems it now faces was extensive and as a result of some lengthy discussions with us, the trip to the tower lasted considerably longer than had been planned.

The route to the tower was less than obvious. After climbing a staircase to the under-roof area, we walked along the chapel ceilings, which gave us a birds-eye view of the knave, to a spiral staircase to gain access to the next level of the under-roof area on the opposite side of the building. This area was particularly interesting since it revealed just how simple and fragile the roof trusses for the Cathedral are. All of these wooden trusses and beams are hundreds of years old, secured solely by fitted joints and a few dowels, no steel or bolts to be seen. From here, another spiral staircase climb to the parapet around the tower and some fantastic views over Chichester and the Sussex countryside. We were then able to access the base of the spire and view its construction, (no volunteers to climb the rickety old, almost vertical, ladders to the top).

The tour of the ground floor level of the Cathedral, given by two lady guides, was most informative, again leading to many question and answer sessions in the process of walking around with them. Our guides were able to point out many interesting features of the Cathedral, especially those that one could easily walk straight past as a casual visitor.

Some of the group returned after the break for lunch to listen to the Organ recital, one of many organised throughout the year as part.

**Visit:**

**Denbies Wine Estate Tour, Wednesday 28<sup>th</sup> September, Boxhill, Dorking, Surrey**

16 members and guests enjoyed a tour around the winery followed by a tour of the vineyard. The winery tour was interesting and informative especially the 360 degree surround cinema. The highlight for many was the vineyard tour on a road train which offered magnificent views of the Surrey countryside.

C Pilling

**Talk:**

**Army Presentation Team,** . Tuesday 11 October 2005 the Barn, Field Place.

An audience of less than 30 gathered to hear the last of the three Presentations from the British Armed Services organised by the RCEA. This was the Army Presentation Team, led

by Col. Andy Bristow, supported by Maj. Jonathan Brooking and the Team. Prior to the Presentation, individual Team members spoke informally to the arriving audience.

Following an introduction from our President, Brian Buckroyd, the Presentation opened, with two Team members, either side of a central screen. The opening film explained the role of the British Army, as a force for good, assisting in world stability.

This was emphasised by the Chief of the General Staff, General Sir Mike Jackson. Following this, the four-person Team introduced themselves, explained their specialities and summarised their experience.

Recent changes on a worldwide scale were summarised, including the collapse of communism, the emergence of terrorism, developments in Northern Ireland, and events in Afghanistan, Iraq, African countries and the Balkans. These caused further Strategic Defence Reviews and Parliamentary White Papers. This resulted in calls upon British Army resources in different ways. In addition to warfare, the Army serves as peacekeepers, suppliers of relief, and is responsible for the protection of ten million British people living in Protectorates abroad including the 13 Dependent Territories. At the national level, the Army again provided cover during the recent Firemen's dispute. The Army also increasingly acts in co-operation with larger groups, NATO, the European Union and the United Nations, not forgetting co-operation with the sister services, the RAF and Royal Navy.

To meet these challenges, the Army has 160,000 personnel, of whom 100,000 are trained and ready, 13,500 are under training at home and abroad, and the Territorial Army Reserve. Note was taken of the 40,000 Army Cadet Force and the universities Officer Training Corps. 12,000 recruits are required each year. To compete with civilian life, the Army offers training for careers that will also serve when service personnel leave military life. Women are accepted equally for most duties and equal opportunities apply to all races. Initial training is rigorous, with emphasis on teamwork and leadership.

Latest equipment is available, from the automatic SA80A2 rifle to the Challenger 2 Tank. Also included are the Warrior Personnel Carrier, the Apache Helicopter and the latest Bowman Communications Systems.

The Presentation concluded with a lively question and discussion followed by a well-learned vote of thanks. The Presentation was possibly the most interesting of the three given to the RCEA, deserving of a larger audience.

**RCEA 54<sup>th</sup> Annual Dinner, 7.00 for 7.30 pm. Thursday 13<sup>th</sup> October, The Beach Hotel, Worthing.**

This year only 30 members and their guests were able to attend the Annual Dinner. This was unfortunate since the occasion went off very well and everyone who did come enjoyed the meal and the company.

As result of this poor attendance, the Committee have decided that next year this event will become a Christmas Lunch at the Beach Hotel instead of a Dinner to see if we can encourage more members and their guest to attend this annual function.

This would mean that many of the reasons given for non-attendance have been addressed, i.e. it would be less formal, less costly and it would be a function during daylight hours.



**Visit:**

**Wednesday 26<sup>th</sup> October 2005 The Argus Offices and Printing Works, Brighton**

Nineteen members, nine wives and one 9year old granddaughter enjoyed a most interesting visit to the offices and printing works of The Argus newspaper situated in Hollingbury.

On arrival, Howie Blanks, a long-standing senior member of staff who seemed to have worked in every department of the paper, greeted us. He was accompanied by Ms. Lyle Adcott, who took “charge” of young Jennifer Lack and showed her round separately, allowing her to type a real small ad and to have her own billboard printed.

Initially, we visited the main office, a large open plan room accommodating all the various departments of the paper from reporters and sub-editors to sales and distribution. Howie described the functions of all departments and how they all fit into the production of the paper. Perhaps the most surprising factor to those who know The Argus was to hear that the next day’s edition is “put to bed” at 11pm the night before. Obviously this is why the paper is no longer as it was The Evening Argus.

One quite interesting additional fact, which emerged, was that they have recently found a collection of 10,000 glass photographic plates of photos going back to the 1920’s and 30’s, which are now being catalogued with a view to publication.

From here we were taken in turn to see the Paper Store, where three large artics a day deliver the huge reels of newsprint, the automated plate production machines and finally to the press room.

The paper comes from Sweden and is 70% recycled. The pages of the paper are set up in the Editorial Dept. and transmitted electronically to the plate making machines. The printing inks are in four colours; black yellow red and blue are delivered by tanker. These modern inks dry by chemical reaction and thus do not require a ventilation system. All scrap paper and the used aluminium printing plates are recycled.

Perhaps the most interesting part of the visit was seeing the press being set up for a print run, started, the printed papers being checked for quality and then diverted on to the lengthy overhead track conveyor to the packing department. Full speed, which was nearly reached whilst we watched, is 60,000 48 page papers fully collated per hour with the paper travelling through the press at 40mph, truly a wonderful sight and a triumph of engineering Normally, the press is working 24 hours a day and besides The Argus, they print some 35 other papers and publications on sub-contract.

Every one seemed to think it was a most interesting and worthwhile visit; even the half time break when the fire alarms went off and we had to retreat to the collection point and watch a fire engine arrive was an interesting diversion. It was a false alarm thought to have been caused by pigeons but costing the company £350 payable to the Fire Service.

R Norton



**Talk:**

**The Construction of the Ardingly Reservoir: by Colin Hammond  
Tuesday 8 November, Field Place**

Colin has 43 years experience as a Civil and Water Engineer engaged on projects ranging from the design of parts of Hardham Water Treatment Works near Pulborough, through WHO Water Supply Studies in Uganda and Iraq, to the construction of the new Western Jetties for HM Naval Base, Portsmouth. In April 1976 he was appointed by his firm Rolfe, Kennard and Lapworth, to act as the Engineer's representative for the Ardingly Reservoir Contract and was the last person to leave the site at the end of 1979.

From August 2000 he has operated as an independent consultant.

To set the scene for the construction of the Ardingly Reservoir, Colin dealt briefly with the history of its inception and the requirements of the Southern Water Authority (Ardingly Reservoir) Order (1975). He then described the enabling works, which were carried out in 1975, to enable a rapid commencement of the Reservoir Contract in March 1976. A novel feature for a reservoir at this time was the withdrawal of all objections to the Scheme either just before or at the Public Enquiry in October 1974.

With regard to construction, the main subjects covered included the Dam, (with its culverts and water tower), West Hill Embankment, (to carry the new section of the Ardingly to Balcombe Road across the Reservoir), and the River Ouse Raw Water Intake and Pumping Station. The sequencing and seasonal programming of these works and the methods employed during construction were described together with the problems encountered and how they were overcome as work progressed. Reference was also made to the difficulties caused by the extreme pattern weather experienced during the Contract.

The various supplementary works, land clearance, landscaping and recreational provisions were also covered. The whole project took 3 years to complete at a cost of £2.5 Million.

The need to maintain good public relations with the local population, who were mainly the Ardingly Residents Association and the surrounding landowners was paramount.

Colin also included a general indication of the methods employed together with a few anecdotes. Slides were shown during the talk to illustrate the extent and nature of the Works.

John Harding

**The Cooch Memorial Lecture. Tuesday 13 December, Field Place, Worthing  
Nuclear Power: by Roy Budden. (Member)**

A good size audience of members and guests attended the lecture. In introducing the speaker, Richard Norton reminded us of the reason for this event, to commemorate one of our founding members, H. Cooch.

Following the introduction setting out the scope of the lecture, Roy Budden, who had long experience of the nuclear power industry, gave an historical survey of atomic discovery and development. This ranged from the ancient Greeks and their concept of basic matter, Dalton's atomic theory, the 19<sup>th</sup> and 20<sup>th</sup> century discoveries of radium, thorium, uranium and their radio activity, the electron discovered by Rutherford, atomic configuration, Chadwick's discovery of neutrons, the effect of using neutrons to bombard atomic isotopes and the emission of alpha, beta and gamma rays.

Shortly after World War II, attention was given to the peaceful uses of atomic energy. The UK shared the global interest in the use of atomic energy for nuclear power, using the energy created by the fission of uranium as the heat source to drive electricity generators. The first generation of nuclear power stations used water-cooled magnox reactors and 9 were built between 1957 and 1971. In these, the uranium fuel was clad in magnesium alloy tubes, set inside mild steel pressure vessels. Despite operating problems, the magnox reactors worked adequately.

The next nuclear power stations were based on AGR reactors (Advanced Gas Cooled). These were set in stainless steel pressure vessels to overcome the corrosion of the earlier mild steel vessels. 7 AGR power stations were built in the UK.

In 1978 the UK selected PWR, (Pressure Water Cooled) reactors for the next generation of nuclear power supply. These were used in the USA and Germany. One was built, Sizewell B, completed in 1994. The remaining 24 planned are not yet built.

A major UK concern associated with nuclear power generation is the disposal of waste, during both the lifetime and in the decommissioning of nuclear plant. This concern caused the suspension of the building of further plant in the late 20<sup>th</sup> century. Spent fuel rods are stored in water over a long term to allow radioactivity levels to fall. Re-processing can be

performed to permit the re-cycling of uranium. High temperature vitrification or glassification is carried out, as is long-term dry storage underground.

A further major concern is global warming. In this regard, nuclear power does not cause significant carbon dioxide emission. Alternative, environmentally friendly sources of energy production are being studied and developed e.g. wind power, tidal and wave power, geothermal power, power stations using waste as fuel, and fuel cells as low power sources.

To address these issues, the UK Government has called for an Energy Review Report, which is expected in 2006. It is possible that this will result in UK energy being supplied from a mixture of sources.

The afternoon concluded with a lively question and answer session, following which our speaker was given a well deserved vote of thanks for his handling of a difficult subject.

**Christmas Lunch:**

**Highdown Towers, Wednesday 14<sup>th</sup> December.**

Forty-six members and their guests attended this function at Highdown Towers this year. The meal was a mix of some served courses, starter, sweet, coffee and mince pies with the main course as a carvery.



**REPLYSLIP:**

**To: Colin Harrison, 41 Cluny Street, Lewes, East Sussex BN7 1LN**

I wish to join the visit to Ceres Power on Wednesday. 8 Feb.2006, at 2-30pm.

**Full Name.....(block capitals)**

**Address.....**

.....

.....

**Phone No.....**

If you applied for last year's visit but were unable to attend, please tick..... If you require directions by post. Please tick.....

Applications by **25<sup>th</sup> January 2006.**

**Successful applicants will be informed.**

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**To: B. Buckroyd,  
6 Fosters Close, East Preston, BN16 2TL      Tel: 01903 784926**

Please reserve.....places for me for the **Spring Lunch** at Northbrook College on the Friday 24<sup>th</sup> February 2006

**I enclose my cheque for £.....(£9 per person) payable to R.C.E.A.**

**NAME .....(Block capitals) GUESTS.....**

**Address:**

.....

..... **Phone**

**No.....**

Applications by **20<sup>th</sup> January 2006**

**(Separate cheque please)**

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**To:- Richard Norton**

**106 Wallace Avenue, Worthing BN11 5QA**

I/we wish to join the visit to **Manhattan Kitchens, Lancing**. Wednesday 22<sup>nd</sup> February 2006

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

**Address:**

.....

..... **Phone**

**Number:.....**

**Number of Persons:..... Name of Guest .....**

**Applications by 19<sup>th</sup> January 2006**

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**To: Colin Harrison, 41 Cluny Street, Lewes, East Sussex BN7 1LN**

I/We wish to join the outing to **Newhaven Fort** on Wednesday. 5 April 2006, at 2-30pm and enclose a cheque for £5-00 per person payable to RCEA.

**Number of persons.....**

**Full name.....(block capitals)**

**Address.....**

.....

.....

**Phone No.....**

**Applications please by 20<sup>th</sup> March 2006.**

**(Separate cheque please)**

