RCEA
(SUSSEX)

An Association for Retired Professional Engineers

NEWS LETTER December 2011

Happy Christmas and Best Wishes for the New Year

PROGRAMME OF EVENTS 2012

10th Jan	Tuesday	Talk History of RAF Tangmere 1916 to 1979." By Mr Dudley Hooley. Education Officer, Tangmere Military Aviation Museum.
19th Jan	Thursday	Coffee - at Spotted Cow, Angmering
26th Jan	Thursday	Coffee - with Partners the Swallows Return, Worthing
14th Feb	Tuesday	Talk: Domestic Solar Power - A Case Study by Charles Morgan, RCEA
16th Feb	Thursday	Coffee - at Spotted Cow, Angmering
23rd Feb	Thursday	Coffee - with Partners the Swallows Return, Worthing
29th Feb	Wednesday	Visit: Queens Harbourmaster, Portsmouth
13th Mar	Tuesday	Talk: Changeover to Digital Television. Or the Princess Flying Boat TBC
15th Mar	Thursday	Coffee - at Spotted Cow, Angmering
22nd Mar	Thursday	Spring Lunch - Northbrook College.

29th Mar	Thursday	Coffee - with Partners the Swallows Return, Worthing
11th Apr	Wednesday	Visit: Back Stage Tour Theatre Royal, Brighton
19th Apr	Thursday	Coffee - at Spotted Cow, Angmering
26th Apr	Thursday	Coffee - with Partners the Swallows Return, Worthing
15th May	Tuesday	Outing: Bluebell Railway Carriage Works.
17th May	Thursday	Coffee - at Spotted Cow, Angmering
31st May	Thursday	Coffee - with Partners the Swallows Return, Worthing
20th Jun	Wednesday	Outing: Sussex Wildlife Trust, Henfield
21st Jun	Thursday	Coffee - at Spotted Cow, Angmering
28th Jun	Thursday	Coffee - with Partners the Swallows Return, Worthing
18th Jul	Wednesday	Visit: Brookhurst Wood Waste Processing Depot
19th Jul	Thursday	Coffee - at Spotted Cow, Angmering
26th Jul	Thursday	Coffee - with Partners the Swallows Return, Worthing
16th Aug	Thursday	Coffee - at Spotted Cow, Angmering
30th Aug	Thursday	Coffee - with Partners the Swallows Return, Worthing

All Talks and Meetings will 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.

Website for the RCEA

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

Membership

Talks by RCEA Members

Many of our members have given short talks to the membership at our Field Place meetings in the September to March sessions. We would like this feature of our talks programme to continue. The knowledge and experience many of our members have accumulated in the working lives is of interest to others. Some members feel that having left work a few years ago much of their knowledge may now be outdated and therefore of little current interest to our membership. This is not so. Some of our most interesting talks have been about engineering problems, solutions or developments our members have been actively involved in during the 1970's, 80's or 90's. If you would like to volunteer to give a short presentation on a topic of your choice, can you please contact Randy Kier our Programme Co-ordinator so that he can discuss the subject matter with you, agree a possible date for the delivery of the talk and arrange to furnish you with any assistance you may need.

New Members

We welcome 3 new members to the Association this quarter. New members should check the information published below for accuracy. This is the data, which will be published in the next Member's Handbook. (2012/13)

A. McLachlan, C.Eng, FIMechE, MCIBSE
10 Preston Paddock, Rustington, West Sussex, BN16 2AA
Andrew & Rosemary 01903783443
andrew-mclachlan@o2.co.uk
1966 Royal Engineers, 1984 NHS, 1986 Consultant, 2000-2008 Lecturer RSME
Interests : Academic assessment for I MechE, Camping

W.E.D. Cornell, BSc, C.Eng, MIMechE
8, Victoria Court, 16, Grand Avenue, Hove, East Sussex, BN3 2NH
Wally & Pat 01273726482
wally@themail.co.uk
1963 Foster wheeler, 1966 Pickering Nuclear power station, Canada, 1970 Lummus Co,
1974 Technical Director Castletree Engineering, 1980 -2010 Independent consultant
Interests : Swimming, cycling, cooking, cricket

P.J. Howell, BScEng, C.Eng, MIET, FSCTE
1, Jasmine Close, Littlehampton, West Sussex, BN17 6UP
Peter & Lynda 01903734188
Pete3ztz@googlemail.com
1969-2007, Development Engineer, Consultant, Engineering Group leader
Channel Tunnel, Tetra radio systems, Consultant Engineer underground radio systems Interests:
Walking, Photography, Amateur radio

Brief Detail – Talks, Outings and other activities January – March 2012

Talk: "History of RAF Tangmere 1916 to 1979." 14.30 Tuesday 10th January, Chichester Room, Field Place, The Boulevard, Worthing, BN13 1NP.

by Mr Dudley Hooley. Education Officer, Tangmere Military Aviation Museum.
Dudley will cover: Tangmere - The early days, the Battle of Britain -16 Aug Raid, SOE Operations, Typhoon Operations, The World Air Speed Records and the end of an era.

Talk: "Domestic Solar Power - A Case Study" 14.30 Tuesday 14th February, Chichester Room, Field Place, The Boulevard, Worthing, BN13 1NP.

by Charles Morgan RCEA.
Charles will cover the following: Background, decision time, the experience of installation, the results, and would I do it again? Followed by a general discussion and questions.

Visit: Queens Harbourmaster Portsmouth 13.15 Wednesday 29th February

This visit to the Queen's Harbourmaster located in Portsmouth's Dockyard Heritage Centre can only accommodate 20 visitors it will therefore be essential to apply early. A reserve list will be maintained for any oversubscribed applications. The actual visit will commence at 13.30 and therefore we will meet at the Dockyard Entrance Gate at 13.15. (Gate nearest the harbour.)

The security arrangements for this visit require all visitors to have Photo ID with them on arrival. Personal detail from the application form will be forwarded to the Harbourmaster's office before the visit.

No cameras or telephones are allowed to be taken into the areas to be visited.

Bookings to R Kier by 1st February .2012 please. See application form at end of the newsletter.

Talk: Changeover to Digital Television Or The Princess Flying Boat 14.30 Tuesday 13th March, Chichester Room, Field Place, The Boulevard, Worthing, BN13 1NP.

Detail still to be confirmed. Announcement will be made at January or February meeting.

Spring Lunch Northbrook College 12.00 Thursday 22nd March

Our spring Lunch this year will be as usual at the Northbrook College Worthing 1200 for 1230. Following last years appeal from the organiser will members please book early for this very popular lunch? Last year there were a number of late bookers being placed on the waiting list as the Health & Safety requirements for the College limit attendance.

The lunches are prepared and served by students giving them practical experience and ourselves an excellent lunch and a pleasant opportunity of meeting fellow members and partners. The cost is £12.00 a head Inc service.

Bookings to the treasurer by 20th Feb.2012 please. See application form at end of the newsletter.

Visit: Backstage Tour – Theatre Royal Brighton. 12.00 Wednesday 11th April *The world behind the curtain.*

The RCEA has organised a guided weekday backstage tour of the Theatre Royal, Brighton. Starting at Noon, the guided tour will last about 45 minutes to an hour, - depending on how many questions are asked.

Prepare to be engulfed by the glamorous world of West End productions and the stars of the stage. Explore the unusual backstage area constructed from fisherman's cottages. This beautiful grade 11 listed Theatre, holds 200 years of secrets years and intriguing tales. So join us for a fascinating insight into its history, redevelopment and present day workings.

The party is limited to a maximum of 25 people, regrettably there is no wheel chair access, and due to the number of steps to be negotiated, it is recommended that the infirm should not attend.

The cost will be £5 per person and firm bookings have to be made by March 23rd.

Unfortunately the Theatre Royal is offering no refreshments, but there are many cafes and restaurants in the immediate area

Please fill in the reply slip attached, and return it to E J Pound

REPORTS

Visit to Olympic Site and Woolwich Arsenal 17th August 2011

After an early morning start, 47 members, partners and friends travelled by coach to London, arriving at our first venue, the Royal Artillery Museum in Woolwich, at about 10:30am.

The museum has been open to the public since 4 May 1820, making it one of the oldest military museums anywhere in the world. The collection itself was founded in 1778 at the Royal Arsenal by Captain (later Lieutenant General Sir) William Congreve. The Royal Arsenal was one of the most important centres in the world for munitions manufacture and until recently was a well kept secret from the public. Many of the guns and carriages on display were made in the Arsenal, making it a significant part of the local heritage. Together with a world class collection of artillery and associated weapons, uniforms, drawings, displays of diaries and medals bring together some 700

years of world artillery history. In May 2001 the collection of artillery was moved to new premises within the gates of the Royal Arsenal and opened under the new name of Firepower, The Royal Artillery Museum.

On arrival we met our guide for the day, Victoria, had coffee, and then entered the 'Firepower Experience' where we heard about the story of artillery, scientific discoveries made through warfare and human stories of courage and endeavour. The 'ground shaking' Field of Fire audio-visual show gave us a good idea of what it is like in the midst of battle as shells whiz overhead and guns roar. The picture opposite shows some of our group talking with three young serving soldiers, all of whom had recently returned from Afghanistan, who were on hand to answer the many questions that we had after the show.

We were then given time to wander through the extensive museum, of which the picture on the left is but a small part.

Lunch at the museum signalled the end of this part of our visit and we then travelled on to Stratford and the main Olympic park, passing by many of the other Olympic venues on the way.

Visiting the main Olympic site during the construction phase is quite difficult and we had been pre-warned that not only were facilities very limited, but there was quite a walk from the coach drop-off point to the so-called Viewpoint, on top of a large sewer pipe! Fortunately our entire group managed to complete the walk and were rewarded by a good view of the construction site and a detailed talk from our guide, Victoria.

Immediately to the right of the main Olympic stadium we were able to see the erection of the ArcelorMittal Orbit taking place. This is a steel sculpture which when complete, will be 114m high and allow visitors to ascend in a lift to get a panoramic view of the Olympic park. At this stage in its construction opinions were somewhat divided on this structure.
Our final very brief visit was to Greenwich, where next year Greenwich Park will host the Olympic Equestrian and Modern Pentathlon events and the Paralympics Dressage competition. Greenwich Park is London's oldest Royal Park, dating back to 1433, and contains the Royal Observatory, the home of Greenwich Mean Time at Longitude 0°. A temporary main arena for 23,000 spectators will be built in 2012 within the lower grounds of the Park and a temporary Cross Country course will also be created.

At this point we bid farewell to our guide, Victoria, who had provided a very detailed and continuous commentary throughout the day and returned in the early evening to Sussex.
M Hind

Visit to Shoreham Lifeboat Station. Wednesday 14th September

Our visit allowed us to see Shoreham's brand new RNLI lifeboat station and its state of the art Tamar lifeboat.

The new boathouse on Kingston Beach consists of a larger boat hall, crew training room, proper drying facilities for wet crew kit, changing facilities and a viewing platform for the public.

The old lifeboat station was demolished in January 2009 and work started immediately to build a new modern lifeboat station to house the RNLI's new Tamar-class lifeboat and its inshore lifeboat along with two new slipways.

The new boathouse opened in October 2010 following a three-year community appeal to raise £1million towards the new build. The station's new £2.7million Tamar lifeboat, named the Enid Collett, after the late donor whose generous legacy funded the boat, arrived in Shoreham on December 10. She had her first operational shout two days later.

The RNLI is the charity that saves lives at sea. All the lifeboat crew and shore helpers, apart from the full-time mechanic, at Shoreham are voluntary and are on call 24-hours a day, 365 days a year. It receives no government funding and relies on voluntary donations, legacies and fund-raising.

(The above text is mainly copied from the Shoreham Lifeboat web page.)

Visit Oldland Windmill, Keymer Wednesday 5th October Talk Oldland Windmill Keymer Tuesday 11th October

As the visit and talk were purposely held a week apart, this Report covers both events.

A party 23 members and wives visited the mill at Keymer. After a general talk we were split into three groups and saw all aspects of the mill restoration. Prior to the visit almost the whole party had lunch together at nearby The Thatched Inn, a very hospitable pub.

The Talk by Professor Fred Maillardet, Chairman of the Mill Trust, covered the history of the mill and the amazing amount of work, coupled with fund raising, needed to bring the mill back to working order so that flour was milled for the first time since 1910 on 2nd May 2009.
From abandonment of milling, the condition of the mill deteriorated so much that the present mill is almost a re-build, although there are numerous parts, which are original, including the millstones.

The mill is a Post Mill. The earliest record of it is on a map of 1703. It was in continuous use till milling ceased. It is thought to be unusual in that in the 1880's it was fitted with a steam engine as an auxiliary drive on windless days.

The first moves towards restoration were made in1976 which involved extensive negotiations to switch the ownership to a Trust. The first Working Party was held on 2nd August 1980.

What was so impressive was the quality of the restoration woodwork, perhaps the epitome being the cylindrical Flour Dresser. Some of the timbers had to be sourced from overseas as timber of the right size or quality was not available in the UK.

Altogether, it was felt that these events were very worthwhile adding to member's knowledge of old technology and present day volunteer effort.

For members who would like to learn more about or be reminded of this outstanding restoration, the mill website www.oldlamdwindmill.co.uk is extensive including photographs of the work. R Norton

(If anyone would like to support the restoration or become a member it costs £50 for life membership, £10 for family membership or £5 for individual membership. Contact is John Pryse, Oldland Mill Trust, Markham Rise, Theobalds Road, Burgess Hill RH15 0SS)

Cooch Memorial Lecture, The Barn, Field Place, Worthing. Tuesday 8thNovember Measuring Human Movement by Prof Mike Whittle

Mike started by reviewing the history of the investigating human movement (or gait analysis). The pioneers of scientific gait analysis were Aristotle and much later in 1680 Giovanni Alfonso Borelli. In the 1890s, the German anatomists Christian Wilhelm Braune and Otto Fischer published a series of papers on the biomechanics of human gait under loaded and unloaded conditions.

With the development of photography, it became possible to capture image sequences which reveal details of human and animal locomotion that are not noticeable by watching the movement with the naked eye. Eadweard Muybridge and Étienne-Jules Marey were pioneers of this in the early 1900s. It was photography which first revealed the detailed sequence of the horse "gallop" gait, which was usually mis-represented in paintings prior to this.

Although much early research was done using film cameras, the widespread application of gait analysis to humans with pathological conditions such as cerebral palsy, Parkinson's disease, and neuromuscular disorders, began in the 1970s with the availability of video camera systems which could produce detailed studies of individual patients within realistic cost and time constraints. The development of treatment regimes, often involving orthopaedic surgery, based on gait analysis results, advanced significantly in the 1980s. Many leading orthopaedic hospitals worldwide now have gait labs which are routinely used in large numbers of cases, both to design treatment plans, and for follow-up monitoring.

Development of modern computer based systems occurred independently during the late 1970s and early 1980s in several hospital based research labs, some through collaborations with the aerospace industry. Commercial development soon followed with the emergence of Vicon Motion Systems and BTS, marketing gait analysis hardware systems in the mid-1980s.
Mike than described how modern gait analysis is undertaken. Medically, this is to aid in understanding gait abnormalities and in treatment decision-making This commonly involves the measurement of the movement of

the body in space (kinematics) and the forces involved in producing these movements (kinetics) using a variety of systems and methodologies.

Chronophotography is the most basic method for the recording of movement. Strobe lighting at known frequency has been used in the past to aid in the analysis of gait on single photographic images.

Cine film or video recordings using footage from single or multiple cameras can be used to measure joint angles and velocities. This method has been aided by the development of analysis software that greatly simplifies the analysis process and allows for analysis in three dimensions rather than two dimensions only. Passive marker systems, using reflective markers (typically reflective balls), allows for very accurate measurement of movements using multiple cameras (typically five to twelve cameras), simultaneously. The cameras utilize high-powered strobes (typically red, near infrared or infrared - wwhich cannot be seen and therefore does not distract the patient) with matching filters to record the reflection from the markers placed on the body. Markers are located at anatomical landmarks. Based on the angle and time delay between the original and reflected signal, triangulation of the marker in space is possible. Software is used to create three dimensional trajectories from these markers which are subsequently given identification labels. A computer model is then used to compute joint angles from the relative marker positions of the labeled trajectories.

Active marker systems are similar to the passive marker system but use "active" markers. These markers are triggered by the incoming infra red signal and respond by sending out a corresponding signal of their own. This signal is then used to triangulate the location of the marker. The advantage of this system over the passive one is that individual markers work at predefined frequencies and therefore, have their own "identity". This means that no post-processing of marker locations is required, However, the systems tend to be less forgiving for out-of-view markers than the passive systems Inertial (cameraless) systems based on inertial sensors, biomechanical models, and sensor fusion algorithms. These full-body or partial body systems can be used indoors and outdoors regardless of lighting conditions.

A typical modern gait lab has several to many cameras (video and/or infrared) placed around a walkway or treadmill, which are linked to a computer. The patient has single markers applied to anatomical landmarks, or clusters of markers applied to the middle of body segments. The patient walks down the walkway or the treadmill and the computer calculates the trajectory of each marker in three dimensions. A model is applied to compute the underlying motion of the bones. This gives a full breakdown of the motion at each joint.

In addition, to calculate movement kinetics, most laboratories have floor-mounted load transducers, also known as force platforms, which measure the ground reaction forces and moments, including magnitude, direction, and location (called centre of pressure).

To conclude his talk Mike briefly described some other applications of gait analysis. The entertainment industry (mainly computer gaming and motion pictures) is now a major user with highly complicated systems using many cameras. Gait analysis is also used in scientific research, ergonomics, police investigations and sports training and umpiring.

There followed a lively question and answer session.
R Keir

Visit to Solent Sky Air Museum, Southampton Wednesday 23rd November

In order to have a complete day out it was decided with admittedly short notice to include the Solent Sky Museum in our itinerary for the day. Some 22 of our members and guests met at the Museum in an area close to the docks and conveniently situated at the western end of the Itchen Bridge.

We assembled in the foyer where seats were provided for an introduction to the exhibits, which was given by Steve Alcock the education officer for the Museum. He emphasised that the Museum was dedicated to the history of aviation in the Solent area. Whilst many of us were aware of the more notable achievements it was most enlightening to learn of the shear scale of the industry in the pre/post war era. Interestingly much of it was derived

from the boat building industry, which had many parallels with the construction techniques used in early aeronautics.

The introductory talk was most enlightening and colourful and without it it would have been quite impossible to appreciate the exhibits in the time available. At the end of his half hour introduction we showed our appreciation in the usual manner after which Steve and the other volunteers on duty that day escorted us, where necessary, giving added detail to the items on display.

Highlights of the museum are the several of the past aircraft flown by our armed forces, which are detailed in a quick guide, which has been scanned and attached to this newsletter.

In addition to the hardware exhibits there are many photographs and historical documents of the era posted around the edge of the hall giving an insight to the level of activity in the area during the period.

Many of the group took the advantage of climbing about the Short Aviation Sandringham IV flying boat. This is the only commercial four-engined flying boat in Europe. It was a conversion from one of the many Sunderland seaplanes in service during the war years and thereafter surplus to requirements. It was last in service in Australia providing a vital link for the inhabitants of Lord Howe Island until September 1974 when the island eventually acquired a runway. Deemed a relief to many due to the need to arrange the service around the local tides but not to the nostalgic who reckoned that it added to the mystique nature of life on the island. Several of the group also visited the flight deck, which admittedly was not for those with a nervous disposition of flying! Looking to the rear from the flight deck much of the superstructure could be viewed which gave one an insight to the expression "on a wing and a prayer". Flying on it must have been quite an experience with a top speed of just 125mph and no doubt a fair amount of vibration to boot. Fortunately for most, today's aircraft offer a lot more comfort.

Finally we all retired to the local hostelry for lunch before departing for Siemens Railcare at Northam just a mile up the road.
D Thomas

This museum is well worth visiting if you are ever in Southampton

Visit to Siemens Railcare, Southampton Wednesday 23rd November

For the second part of our day visit to Southampton we traveled a short distance north of the museum (about a mile) to the Siemens Railcare facility at Northam. Here, Siemens provide maintenance for the trains that they supplied to our railway system some six years ago. The trains are from their "Desiro" range and consist of 127 class 450 4 car and 45 class 444 5 car Electric Multiple Units. They form the backbone of South West Trains services from Waterloo to Portsmouth, Southampton, Weymouth and Poole.

They replaced old and modified BR stock much of which was of the slam door type. This stock had provided sterling service but fell well short of current safety, performance and reliability standards

We were welcomed to the facility by Eddie Milligan one of the site's managers and a long-term railway engineer. The visit began with the customary health and safety film; understandable since it is of prime

concern considering the nature of the possible hazards presented by moving trains, heavy lifting equipment, deep inspection pits, tall access gantries and to top it all 750 volts of DC power. Eddie followed this by a half hour introduction to the history and workings of the site.

When Siemens was awarded the contract to maintain the trains a decision had to made regarding how and where. There were, of course, limitations but essentially it boiled down to a choice between a renovation of an existing works at Eastleigh and a complete new build at Northam on a site next to the railway main line close to what was the old Northam station. This was completed about 6 years ago and took around 18 months to complete. Eddie has been involved from concept to the present day.

As well as having to deal with everyday wear and tear a surprising amount of time and effort has to be spent rectifying acts of vandalism from broken glass and graffiti to wanton acts of destruction to interior furnishings. This amounts, on average, to some £80K/month.

Eddie stressed the importance attached to safety and the total involvement of all staff in making the facility an efficient and safe place to work. This was much in evidence during the visit, the site being orderly and very tidy. Everything had its place. Much electronic instrumentation was in use to supplement the more expected mechanical tools. All procedures are pre planned and listed and a complete parts list assembled ready for use by technicians undertaking a particular task.

Obviously most of the work is routine and can be planned in advance. However well the trains may be designed there is always the unexpected. To minimise this Siemens have an ultrasound trackside monitor installed alongside the track close to Northam. This monitors performance of the running gear as every train passes it at operational speeds. It can detect any deterioration of bearings well before the point of failure is reached. The data collected is immediately relayed back to the depot's records together with information identifying the bearing in question. This monitor is the first of its kind to be installed and an extension to identify potential motor problems is under development. This tool has enabled bearing life to be nearly doubled compared with earlier procedures that replaced bearings at a defined mileage as a preventative measure.

A tour of the facility followed. We entered the operational area alongside a train that was having its wheel bearings replaced. The location of the area assigned for this task and all associated main drive and bogie operations is alongside the main store where a mechanism is installed allowing complete bogies to be removed intact, lowered and transferred underground to the store for reconditioning elsewhere. Most of these procedures can be completed overnight with the train ready for service the following morning. Without the in depth record of every running unit this could not be achieved and the staff at Northam are rightly proud of their national award for achieving the best overall unit availability.


Eddie explaining the finer arts of train overhaul (not angling!)

It is difficult to visualise the scale of this building from the picture above, But put another way it can accommodate at least eight ten car units with most areas giving access at four levels beneath, track, passenger level and roof. We, unfortunately, were restricted to track level although it would have been interesting to see the array of control electronics incorporated within these trains. These systems are no longer restricted to the control of the motors themselves but also include facilities for regenerative braking which besides saving valuable energy also extend the life of brake shoes and maintenance intervals.

To the left of the picture below the platforms that give access to the different levels of the train can be seen. Once inside the facility the train is connected to power via a maintenance cable supply suspended from a moving overhead trolley hence removing any third rail hazard. Being a daytime visit there was only one train under service. Overnight it is full to capacity.


View looking down the hall, which is eight tracks wide

Outside there are many sidings for general storage and internal low-level maintenance. Amongst these can be found a shed dedicated to the important task of wheel profiling. A wheel's profile is important for train stability especially at high speed. The high tech lathe used for this task is purpose built and sunk on a bed beneath track level so that the cutting edges are in contact with the train wheels when in use. It can reprofile every wheel on a complete train set bogie by bogie without the need to remove them from the train.


Reprofiling lathe with train about to be towed in place

Up to 50mm of "tread" can be removed from each wheel before the need for a change. Reprofiling and subsequent train height adjustment (by shims) and speedometer corrections can be accomplished in a single shift!

The day concluded back in the conference room where our thanks were conveyed to Eddie and his team for making this visit possible. He then rushed off for a meeting for which we had delayed his appearance. To most of us life at his pace is a thing of the past but it does remind us that the pressures of yesteryear are still there.

The Siemens Railcare facility at Northam in Southampton was purpose built about 5 years ago to maintain South West Trains fleet of Desiro 4 and 5 car electric units. These units were supplied by Siemens at about the same time and are used to run many of the services provided by South West Trains. Much of the work at this depot is done overnight with some quite major operations being performed before returning the trains for service the next morning. It is one of the most modern rail maintenance facilities in the country. D Thomas

RCEA 60th Anniversary Lunch

The Christmas and Anniversary lunches were combined this year and held on 30th.Nov.2011 at The Windsor Hotel Worthing with 57 diners attending. Our president Colin Pilling presided over the occasion and gave a very interesting and humorous address. An anniversary cake was shared among the guests after the first cut made by our longest serving member attending the lunch (Ray Parsons).

A highlight of the occasion was a table raffle draw with a prize for each table. Memorabilia was displayed around the cake and viewed with great interest.

Many present remarked how well the lunch was prepared and served by the hotel staff and expressed the wish that the lunch could be repeated in 2012. J Underwood.

REMINDER:

SUBSCRIPTIONS were due 1st October 2011 To: Treasurer, J H Underwood, 168 Alinora Crescent, Goring by Sea, BN12 4HW

Full name:… ..... **Telephone No** ……
Address..... **e-mail**…….…….....
……

……

I enclose a cheque made payable to RCEA for **£……..…(£12.00)**

Please return this reply slip a.s.a.p if you have not already done so (Separate cheque please)

……..

REPLY SLIP 1

To: R Keir, 16 Shirley Close, Rustington, West Sussex BN24 5PD
Contact: Randall Keir 01903 785952, or email randallkeir@btinternet.com

I/We wish to attend the **Visit to the Queens Harbourmaster Portsmouth on Wednesday 29th February commencing 13.15.**

Full Name..... **Telephone No** ……
Address..... **e-mail.**…….…….....
……
……. Number of Persons…….

Applications by 1st February 2012

(Please complete in full this will be the security information provided to the Queen's Harbourmaster)

……..

REPLY SLIP 2

To: Treasurer, J H Underwood, 168 Alinora Crescent, Goring by Sea, BN12 4HW

Can you please reserve me …… places to attend the **Spring Lunch at Northbrook College on Thursday 22nd March, 1200 for 1230**

If you would like to be seated with another member / group can you please indicate their names.
Name:……(Block capitals)
Address………
……

……
Telephone Number…….Name of guest/s ……..
E mail address……Seating Request ……

I enclose a cheque made payable to RCEA for **£……..…(£12.00) per person**
(Separate cheque please)

Applications by 20th February 2012

……

Intentionally Blank

REPLY SLIP 3

To E.J.Pound, 47 Hawthorn Road, Broadwater, Worthing, BN14 9LT
Contact: John Pound 01903 531153 or email johnpound@aol.com

I/We wish to attend the **Visit for a Backstage Tour of the Theatre Royal Brighton, commencing at 12.00 midday on Wednesday 11th April**

Name……**Telephone**……..
Address……**e-mail.**……
……..
……..
……. Number of Persons……..

I enclose a cheque made payable to RCEA for **£……..…(£5.00) per person**
(Separate cheque please)

Applications by **23rd March**. at the latest.

.....