

HISTELEC NEWS

NEWSLETTER OF THE SOUTH WESTERN ELECTRICITY HISTORICAL SOCIETY

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AUGUST 2008

SUMMER'S OVER – WHAT SUMMER!

Welcome to our Autumn programme, see diary at end. We hope you managed to enjoy the Summer. The brief hot weather made me forget how bad it had been!! Then I was quickly reminded by the rest of the rubbish weather.

SWEHS FILM FESTIVAL

Please make a note in your diaries of Saturday 22nd November, because your committee has gone to a lot of trouble to design a whole day's viewing at Taunton, involving four sessions of an hour each, two in the morning and two in the afternoon. The first hour will be the "Early History of SWEB", the second will be "National History Interest", the third sessions will be "SWEB Major Projects" and the final session will be "National Projects and Privatisation". Each session will end with some amusing films some of which will be culled from John Dike's portfolio.

JAPAN – HOW GREEN?

With world leaders meeting in Japan in July at Hokkaido (at the Windsor Hotel – sounds very English!), the G8 leaders are discussing the touchy subject of Environmental Commitment. Japan has considerable "green" credentials with their car firms producing hybrid cars, fuel cell aircraft and offices with solar panel windows etc., but look underneath this public façade, you find that Japan burns twice as much coal as it did ten years ago and domestically it's a very different story.

Their shops and supermarkets are more keen than in the UK on wrapping items using 30 billion plastic bags a year, which represents a full day's supply of oil imports. They like their apples wrapped and at home they keep kettles automatically on with water at near boiling temperature throughout the day and amazingly they love heated loo-seats, which remain always warm in readiness for their user, wow!!

Did anyone notice what the G8 leaders agreed? European leaders wanted a reduction in greenhouse gases by 50% by the year 2020, but they couldn't get USA and Japan on board so they only agreed a 50% reduction by 2050, which is pretty meaningless given the long timescale and a wasted opportunity. President Bush signed off the summit with these words "Goodbye from the world's greatest polluter" - - That was supposed to be humorous!!

SEVERN BARRAGE

One wonders whether it will ever happen!! However you may be interested to know the latest situation. At last in May, John Hutton, the Government Business Secretary, formally placed a contract with a consultancy to "manage the environmental study". The two year feasibility study is being conducted by consultants Parsons Brinckerhoff, a New York company founded in 1885. By "manage" one assumes that much of the work will be subcontracted out. The costs of the study haven't been disclosed.

Malcolm Wicks, Energy Minister, visited Bristol in June and was reported as saying the project would be scrapped if it didn't meet a series of strict tests, which didn't hold out much hope really. He said the final decision would be made in 2010.

BARRAGE RIVALS

The Severn Barrage has many rival schemes, so it would appear. The Bristol Evening Post quoted in July ten options in total given below. You will have heard of submerged turbines involving lagoons within the River Severn. Well this newest idea is two tidal fences involving 260 underwater turbines at a cost of £3.5M as against £16M, but would only generate 1% of the nation's need as against 6%. The idea is to have two arms attached to the coast on either side of the Bristol Channel leaving a gap for shipping and the normal flow of the river thus avoiding disturbing both shipping and wildlife. Just the job for the faint-hearted!

Excluding No.2 (**main one**) below, the rivals are :-

1. Outer Barrage from Aberthaw to Minehead
2. Middle Barrage from Lavernock to Weston
3. Middle Barrage from Lavernock to Hinkley
4. Inner Barrage at English Stones
5. Upper Barrage at Beachley
6. Tidal Fence between Lavernock and Weston
7. Lagoon Enclosure at Welsh Grounds
8. Three Lagoon Enclosures
9. Tidal Reef at Aberthaw to Minehead
10. Severn Lakes 1km wide on site of Lavernock to Weston incl. a wave farm and marinas

STOP PRESS

EDF £12Billion take-over of British Energy (the UK's nuclear company) has been stopped by the shareholders as not being enough money! – see page 6 for further info.

TAMAR BOAT TRIP

Following the very successful boat trip around Plymouth harbour and up the Tamar as far as the Royal Albert bridge in 2003, we arranged another boat trip, but this time with the aim penetrating the river Tamar as far as Calstock. Although the day started with very indifferent weather, it was cold, wet and windy most of the way down from the Bristol area, but improved as we came in to Plymouth to find our car park near the Barbican.

Having recovered from the shock of the high Sunday parking** charge, we found our way around the Barbican and our waiting boat. This time 64 members and friends had booked for the trip but unfortunately three failed to make it on the day. Our departure was delayed by a speedboat race being held in the Sound. Whilst spectacular to watch it was hardly an advert for energy conservation or noise abatement!

We got under way after about ten minutes or so and Ted Luscombe gave as a running commentary as we passed the Naval Dockyard - linking it to our onshore visit in 2006. Once clear of the Dockyard, the Road and Railway bridges, and the Navy depot at Ernesettle the boat crew served a splendid buffet lunch. It was a welcome excuse to go below decks as it had started to rain. We had priced the trip on the basis of 50 people but with the extra income from the additional 16 passengers it was decided to spend the balance on a selection of cold sweets - and excellent they were! Time passed quickly - probably aided by the flood tide (and the good food), the rain stopped and we were soon around the bend in the river with a superb view of the Calstock railway viaduct. Built 100 years ago(?) it is still a real spectacle today. Right on prompt a single car DMU on the service from Plymouth appeared to cross the viaduct on its way to Gunnislake. We moored at Calstock just before 2.00pm and were given just over half an hour to explore the delightful riverside village. .

A group us railway nuts set out to find Calstock railway station in time to meet the DMU on its way back to Plymouth - by now the sun was shining and it was a very pleasant interlude. Several of the riverside houses looked enticingly beautiful. Two- thirty saw us start the return trip - surprisingly the tide was still flowing so our return trip was no quicker but time to enjoy riverside places - the quay at Coteheal, Halton Quay, Pentille Castle, Cargreen and of course dozens of yachts riding at their moorings. Those interested in the Transmission system had good views of the 400kV and 132kV crossings - the latter on what appeared to be a pair of 400kV towers, and of course, a Gunnislake DMU crossing the old Southern Railway viaduct across the River Tavy. We threaded our way under the bridges through a virtual armada of yachts and round into the Sound just as Brittany Ferries' new boat, "Pont Aven, was leaving for Santander (or Roscoff) - quite impressive!

I spent the remainder of the afternoon re-exploring the Barbican area. Despite the new luxury apartments all around the north of the harbour, there were some dozen or so commercial fishing boats moored at the fish wharf. Just to complete my day I stopped on the way home to

investigate the new gas turbine generating station at Langage. The place is well under way and looks most impressive. The southern circuit of the Abam - Landulph 400kV line has been turned in and the 400kV (indoor) substation commissioned. All in all a good day out. Many thanks to Ted for arranging another very successful trip.

Roger Hughes

(**Apologies for not finding this out beforehand)

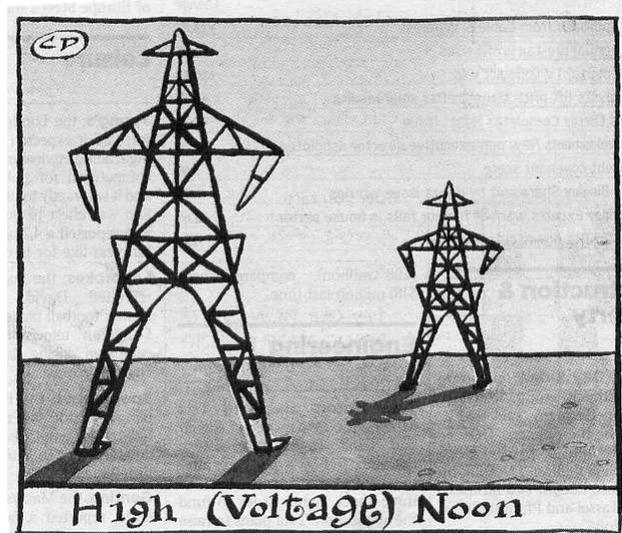
BLACK TUESDAY

Two relatively minor technical problems triggered a major black-out in the UK on Tuesday 27th May illustrating the current vulnerability of the system with reducing generating capacity.

The problem power stations couldn't have been farther apart, first at Longannet, Fife and then at Sizewell B in Suffolk. The loss of large generating sets at opposite ends of the Country in rapid succession created a shortfall across the network. The high demand had been caused by the sudden cold snap when much plant was out of service for Summer maintenance. Extraordinarily black-outs were experienced over a wide area - South London, Cheshire, Merseyside, East Anglia and Teesside.

CARTOON

The cartoon below featured in the Times 30th May 2008 business pages :-



TRANSISTOR HISTORY

The inventor of the first working practical transistor died in May this year. It is amazing that with something so well-known that his name is not made more public. The man in question was Morgan Sparks, not a bad name for an electrical inventor? He was born in 1916 in Colorado and worked for 30 years at Bell Laboratories, New Jersey. As with most inventions it is not generally down to one man. He arrived at Bell Laboratories in 1948 just when the group's physicists, Bardeen and Shockley were developing the first transistor, an achievement which won them the 1956 Nobel Prize for Physics. Sparks developed methods of adding impurities to the germanium crystal and managed to make the semi-conductor sandwich thinner than a sheet of paper. Bell Labs announced the first workable transistor in December 1951, thus heralding the new age of digital electronics.

GOINGS ON – UP NORTH

Since Colin Hill and his wife moved to Yorkshire in 1992 he has now given almost 80 talks on the history of domestic electricity and four exhibitions at the Colne Valley Museum. He writes :-

“Lots of people ask me if there is a national museum of electricity and, sadly, there isn't but I refer them to Christchurch, Amberley or Bristol. There is nothing similar in the north. It's perhaps because of this that I get very good attendances at my small exhibitions.

I find it fascinating to go out to various WIs, TGs, Probus Clubs, Local History Groups and so on, who meet in obscure halls (sometimes difficult to find, especially on dark nights). Most seem to have a former ESI employee and these universally regret the loss of their former organisation. At one meeting of the Union of Catholic Mothers the whole audience disappeared just as I was about to start. The leader said "We'll be back soon. We can't face your talk till we've had mass"!

I once had the surreal experience at Mytholmroyd History Group of meeting a man I knew very well in Bridgwater. Neither of us recognised the other! Age is clearly having its effect. I visited one church where the hall was full of people sorting jumble. On enquiring where my group was meeting I was told "Get through yon door, lad, afore we sell thee!" I now live next door to a former butcher and antiques dealer who frequently leaves me a bag of electrical bits "in case there is anything useful" (usually not the case). A few weeks ago he arrived with a couple of large tubular lamps with GES caps. They seemed to have a long quartz tube down the centre. I had not seen anything like them. Asked to explain he said he had been to the local tip and had found the police disposing of a box of these into a skip so he "cadged" a couple for me. They were no less than 600W rating and he told me he understood they were commonly used to provide heat and light for cannabis growing!

An interesting hobby can lead one into unexpected pastures. I noted a case in Leeds where a cannabis grower had received serious injuries from digging outwards from his cellar to connect with the mains cable under the pavement. He succeeded in this with great effect.

Best wishes from the wild north -(and 'er indoors)".

Colin Hill

SWITZERLAND'S AMAZING RAILWAYS

My wife Ellie and I spent 10 days of July travelling by rail from Salzburg in Austria to Lucerne in Switzerland. We chose this holiday for two reasons, our joint fascination with mountains and my great interest in railways. During the trip we travelled on no less than 13 trains, all pulled by electric locomotives, stopping overnight at Innsbruck and Interlaken on route.

The most spectacular part of the journey was along the route of the 'Glacier Express', which is known as the slowest express in Europe, as its average speed is about 23 miles per hour. This is because it employs rack-and-pinion track for long lengths of the route. The track also gains height by means of spiral tunnels cut inside of

various mountains, and so goes round in circles before emerging high above the original entry tunnel mouth. We spent about 4 hours on the Glacier Express, climbing from the town of Chur, situated at 1994 feet above sea level in the Rhine valley, to the Furca Tunnel at 7,088 feet high in the Swiss Alps. We then dropped down to the town of Brig in the Rhone valley at a mere 2,200 feet, a distance of about 75 miles from Chur.



The Glacier Express

We travelled by a different train to our overnight hotel at Interlaken, ready for our trip the following day up to the mountain ridge known as the Jungfrauoch. On this ridge, next to the Eiger, is situated the highest railway station in the world, 11, 333 feet above sea level. It is staggering to think that this station was opened in 1912. The last section of track was built inside a curved tunnel over 2 miles long which took over 7 years to complete. We climbed to the Jungfrauoch station via 3 different rack-and-pinion trains and found ourselves well above the snowline and at a temperature of just above zero degrees C. We came back down by a different route, three trains again being necessary.

On the last day of our hectic holiday we relaxed by taking a ride on a paddle-steamer around Lake Lucerne, and took a more leisurely look at the mountain scenery! We were blessed with clear, sunny weather on our travels, which meant we were able to view the Swiss landscape at its very best.

John Haynes

NEW STEAM ENGINE

Steam buffs will be pleased that the first new steam locomotive has been constructed by the A1 Steam Locomotive Trust at Darlington (the first for 50 years). It is a replica of the Tornado Peppercorn Pacific Class and has taken 18 years to build at a cost of £3M. The A1 was originally designed by Sir Arthur Peppercorn to run on the London & North Eastern Railways (LNER), and 49 were built within 1948-49, but were all scrapped. The motivation of the A1 Trust was due to the design being one of the most powerful steam locomotives ever made.

WIND POWER IN DENMARK

Member, Tom Sheriff sent us an article on the above topic written by Dr.VC Mason in September 2007, which was very revealing and may be of interest to all. Here are some extracts :-

About a fifth of electricity produced annually in Denmark is generated by wind. For over 20 years the Danes have invested in developing various sources of renewable energy with a view to reducing their reliance on fossil fuels. Their government has paid substantial sums to wind generators (£250M in 2001) and are now reducing these payments. However they have gained the leadership in the technology and are exporting it far and wide.

However the downside is that they still need a large back-up from fossil-fuel generation due to the unpredictability of the wind power. Also at times they have more wind power than they need and end up exporting it often very cheaply to neighbouring networks of Norway, Sweden and Germany.

One problem I haven't read about before about wind speeds is interesting. Generation starts at 4 metres/sec and increases up to 13 m/s. At about 20 m/s (Gale Force) older machines trip out, modern ones can operate up to 25 m/s, so there is an incentive to replace older machines.

The latest idea is to build much larger and higher land based wind turbines up to 150 metres in height or off-shore at 250 metres, which has brought about a back-lash from the Danish public, who don't wish to see their beautiful coastal landscapes and seascapes made any worse.

BIGGER WIND FARMS

The largest wind farm in Europe is to be built in South Lanarkshire following the Scottish ministers' approval of the plan. This decision will allow Scottish & Southern to erect 152 wind turbines at a cost of £600M between Biggar and Moffat near the M74. What a welcoming sight we will have driving into Scotland! Be assured it will be able to generate 456 megawatts of electricity, since Scotland has an ambitious target to generate 31% of electricity from renewable sources.

FEEDER ROAD

Many will remember working or visiting the 1970's building then known as "Avonbank", named after the original name of the Feeder Road generating station previously on the site and itself named after the original brickworks on the site. When SWEB/WPD moved out they rented it to a communications company who renamed it "Contact House". Recently the Police have acquired the building for their CID headquarters and on 22nd May the Duke of Kent renamed the building "Kenneth Steele House" after the first Chief Constable of Avon & Somerset Police.

Those of you who know that "Avonbank" is the name of the new WPD Head Office building on the same site may be confused. WPD carried over the name for their new building when they moved out of Aztec West.

OFF-SHORE WIND FARMS

Many of the off-shore wind farms have stumbled in the planning process due to the MOD objections. They have said that the high-level wind turbines would interfere with radar around the coasts of the UK due to the proximity of RAF bases. However after the MOD and Government officials got together, some objections have been withdrawn. There is obviously a need for radar operators to be able to distinguish between wind turbines and planes. Two projects have now got the go-ahead – they are Sheringham Shoal off Norfolk and another one off the Northumberland coast.

CAIRNS ROAD DOORS

The old roller-shutter doors to our premises at Cairns Road have been replaced by WPD, as they were badly rusted and compromised security.



BEFORE



AFTER

IEE WIRING REGULATIONS

Those of you who like doing your own electrical work, (notwithstanding Part P of the Building Regulations!), may be interested to know that a new edition (17th) was published at the beginning of the year and came fully into effect on 1st July. The reason for this new edition arises because of on-going harmonisation with European and International Standards, as well as the need to reflect technological developments since publication of the previous edition in 1991. As before it continues in the form of a British Standard (BS7671:2008) – Requirements for Electrical Installations, with the subtitle IEE Wiring Regulations Seventeenth Edition. Thus these are not Regulations in the true legal sense, but more a code of practice. However, certain legal Regulations such as the Building Regulations cite BS7671 as an appropriate standard for electrical installations.

So what are the changes? At first sight, the structure of the document seems little changed, with the main body still divided into seven parts and followed by appendices. However, the last two parts have been re-ordered, so that special installations and locations (part 7) now follows inspection and testing (part 6). Part 7 has been significantly extended to include a number of new situations. The number of appendices has increased from seven to fifteen so there is now a lot more supporting technical information.

As with many things, the devil is in the detail. The new Regulations call for much greater use of residual current devices (RCDs), in particular for all circuits supplying electrical equipment located in bath/shower rooms (which includes lighting) and also where cables are concealed in walls or partitions at a depth of less than 50mm if the normal methods of mechanical protection cannot be employed (which is usually the case!). In practice this is likely to mean that new installations will be controlled by consumer units fitted with individual RCBO's residual-current operated circuit-breakers with integral overcurrent protection.

One interesting change is that 13A socket-outlets are now permitted in bathrooms in prescribed circumstances. In practice, however, this is unlikely to happen unless one lives in a mansion with very large rooms since, as well as being RCD protected, such a socket must be sited more than 3 metres horizontally from the boundary of zone 1 (the edge of the bath/shower tray)!

If by now you are thinking that these new Regulations will involve you in a lot of expense upgrading your existing installation it is worth remembering that they do not apply retrospectively. The introduction states that existing installations installed in accordance with earlier editions of the Regulations may not comply with the new requirements in every respect but that this does not necessarily mean they are unsafe for continued use or require upgrading.

As before the Regulations will be supported by a number of Guidance Notes, which are currently being updated and will become available in due course.

Chris Buck

WELCOME NEW MEMBERS

We are delighted to welcome two new members, they are Oliver Miles, Chris Hogg and Mr Hennessey.

MEMBERS NEWS

Peter Lamb – has had a second bout of Cellulitis. It was doubly unfortunate since he was on holiday in the French Alps and therefore didn't see many mountains.

Colin Hill – His wife Norah has had a rough two years with cancer and severe back problem affecting her right leg, but she is recovering after treatment and the good news is that she is starting to walk again.

PASSING OUT

Two members have died since the last newsletter, Stephen Marshall, SWEB ex-Secretary & Solicitor and Bill Ellicott.

Stephen Marshall

We were saddened to hear that Stephen had died in May. Stephen had dedicated his life to SWEB starting as a Junior Assistant Solicitor back in 1959. After finishing his law studies he had taken a job with a private practice in Northampton before coming to SWEB. He quickly rose to become Assistant Solicitor in 1965 before gaining the top job in 1974. When SWEB was privatised he was appointed Resources & External Affairs Director only staying in that post for two years retiring in 1992. All his spare time over the last few years had been taken up looking after his disabled wife, so after her death about five months ago, he had been looking forward to participating more in our activities.

HYDROGEN – THE NEW FUEL?

An energy consultant to the Government has advised them that with the high price of oil continuing, the economics of hydrogen energy is looking “increasingly compelling”. There are developments around the globe, which are encouraging. Enel the Italian energy group recently inaugurated the first hydrogen power station near Venice, the £40M plant will power 20,000 homes. At present hydrogen is produced from natural gas which undermines its “green” credentials, but it can be extracted from water using electrolysis driven by nuclear, solar or wind power. California has established a network of hydrogen filling stations supplying a few hundred prototype cars. Did you know that the gas used previously in the UK, known as “town gas”, contained 50% hydrogen? Well I suppose not being gas engineers we wouldn't, would we?

BRUNEL INSTITUTE

Many of our members are interested in Brunel, so it may be of interest to know that a new learning centre is to be built alongside the SS Great Britain as part of a comprehensive redevelopment, including housing within the Great Western Dock complex. It will be known as the Brunel Institute and will house as much of Brunel's archival material as can be collected together in Bristol. It is reported that Bristol University will be involved in the centre. So serious is this project that the Director of the new Institute has recently been appointed, presumably to marshal as much material as possible prior to the completion of the building.

NUCLEAR SITUATION

Two difficulties in the nuclear industry could affect the British Energy value mentioned on page 1. With problems in some of the British plants the share of electricity in the UK produced by nuclear has fallen to 15% and as further closures occur could fall to 10% by 2011. Also on the other side of the channel, EDF have had some radioactive leakage incidents at four of their plants in France, which doesn't help matters.

ZEPPELIN OVER LONDON

A Zeppelin airship has been flying over London in July offering trips at quite a high price. The Daily Mail, which carried the article, stated that they are quite safe these days since they are filled with helium which is an inert gas. The comment behind this statement being the disaster that struck the Hindenburg airship in 1937 in the USA, which caught fire killing 35 people, because it had been filled with hydrogen. The London airship was emblazoned with a Stella Artois advert, who had presumably sponsored the exercise. The airships are made by the same original manufacturer in Germany as the original at Friedrichshafen. The firm, Zeppelin GmbH also makes construction machinery, silos and power systems.

ELECTRICITY ALLIANCE

Seen recently in Bracknell, a white van painted in the livery of the "Electricity Alliance". Most intriguing I thought!! Their web site tells me it is an alliance between National Grid and Balfour Beatty, who have been given a five year contract by National Grid to upgrade and develop the electricity transmission network of Eastern England. I guess it is a public relations exercise for when they are working on pylons, since the general public wouldn't recognize Balfour Beatty as being in the national interest?
Peter Lamb

WINDY COUNCIL?

South Gloucestershire Council is proposing to build seven wind turbines, but surprise, surprise they haven't identified the sites. All they will say is that they own the sites. The idea is to power their new office block at Yate with renewable energy.

ALIEN ANTS

You won't believe this, but alien ants in Texas are eating any electrical equipment - computers, burglar alarms, gas and electricity meters, pumps at a sewage facility. All these are considered food for these flea-sized reddish brown ants. So far they have spread to five counties in the Houston area. They appear to have come ashore from a boat and are thought to originate in the Caribbean. The Texan Department of Agriculture is working on ways to exterminate these creatures.

YOU DON'T SAY!!

Que : What did the light bulb say to the generator?

Ans : I really get a charge out of you!

Que : How do you pick a dead battery from a pile of good ones?

Ans : It's got no spark!

LIFE'S QUIRKS

On the first day God created the dog and said: "Sit all day by the door of your house, and bark. For this I will give you a life span of twenty years." The dog said : "That's a long time to be barking. How about only ten years, and I'll give you back the other ten?" So God agreed.

On the second day. God created the monkey and said: "Entertain people, do tricks and make them laugh. For this I will give you a twenty year life span." The monkey said; "Monkey tricks for twenty years? That's a long time to perform. How about I give you back ten, like the dog?" And God agreed.

On the third day God created the cow and said: "You must go into the field with the farmer all day long and suffer under the sun and give milk to the farmer's family. For this I will give you a life span of sixty years." The cow said: "That's kind of a tough life you want me to live for sixty years. How about twenty, and I'll give back the other forty?" And God agreed again.

On the fourth day God created man and said; "Eat, sleep, play, marry and enjoy your life. For this I'll give you twenty years." But man said: "Only twenty years? Could you possibly give me my twenty, the forty the cow gave back, the ten the monkey gave back, and the ten the dog gave back; that makes eighty?" "Okay" said God.

So that is why the first twenty years we eat, sleep, play and enjoy ourselves. For the next forty years we slave in the sun to support our family. For the next ten years we do monkey tricks to entertain the grandchildren. And for the last ten years we sit on the front porch and bark. Life has now been explained to you.

Submitted by John Ferrier

FOR YOUR DIARIES – a Reminder

Sat 27th Sept. VISIT CONCORDE AT FILTON – Group visit in mid-morning and lunch after at a local hostelry.

Sat. 25th Oct. "LIFE OF MICHAEL FARADAY"

Talk by Dr. Peter Ford at Cairns Road, Bristol
2.00pm Talk, including some of Faraday's many experiments. Lunch before at Eastfield Inn.

Sat 22nd Nov. SWEHS FILM FESTIVAL at WPD Taunton Training Centre

A pick of the oldest and special films from our archives shown by electronic projection. Films shown morning and afternoon with lunch in between at the Merry Monk Inn. Also a very short EGM to agree some rule changes.

Sat.24th Jan. 2009 ANNUAL LUNCHEON

Will be held at the Parkway Inn, Sampford Peverell, near Tiverton. Further details will be announced shortly.

NEXT EDITION

This newsletter is produced every four months. Please send information, articles, photographs or letters to :- Peter Lamb 35 Station Rd, Backwell, Bristol BS48 3NH or telephone on 01275 463160 or e-mail him on lambpandv@btinternet.com