

# HISTELEC NEWS

NEWSLETTER OF THE SOUTH WESTERN ELECTRICITY HISTORICAL SOCIETY

No. 29

APRIL 2005

## SUNSHINE BLESSING ON YOU ALL!

Isn't it great to be rid of the Winter dark days? This recent season seemed more dismal than usual and now I am busily planting my veg for all I'm worth, it's so much more elevating. Best wishes to all the gardeners amongst you.

## ANNUAL GENERAL MEETING

The Annual General Meeting went off well. We had a good turnout and the speaker, John Bates, was most interesting on "Collectables with a Difference".

The Officers and Main Committee were elected as follows :-

Chairman : Roger Hughes  
Vice-chairman : John Heath  
Treasurer : Clive Goodman  
Secretary : Peter Lamb  
Committee : Chris Buck, John Gale, David Hole,  
David Hutton, David Peacock

South Sub-Committee (SSC)

Chairman : Ted Luscombe (also on Main Committee)  
Committee : John Ferrier, Roger Christy, David Hood,  
Keith Morgan, David Rees.

We welcome our new Chairman in Roger Hughes, who is the first ex-CEGB man to head the Society. Roger thanked Chris Buck for so ably leading the Society over the last two years. John Bates, our speaker, successfully entertained members with some unusual collectables, which he has amassed over the last ten years, scouring many fairs and car boot sales. A vote of thanks was accorded to him by John Haynes.

## SWEB CHRONOLOGY

We were delighted with the interest shown in the Chronology issued with the last edition and apologise for the few mistakes, which some of you were quick to point out. In the future it may be extended and published in a bigger format.

## SUSSEX-BY-THE-SEA

Final numbers for Sussex Holiday is 32 members and friends, including Bucks, Collard, Coneybeares, Crichtons, Ferrier, Gale, Grimshaws, Haynes, Heaths, Hills, Hoopers, Hughes, Hulberts, Lambs, Morgans, Palmens & Wrefords. Please ring Peter Lamb if anyone still wishes to join us.

## MARCONI ARCHIVES

At last the Marconi Collection has been saved for posterity. The complete archive and artefacts have been found homes at the University of Oxford. The early archives dating from 1895 are going to the Bodleian Library, whereas the 250 artefacts from the Collection will go on permanent display at the Museum of the History of Science. The University says the Collection will form the basis of a major exhibition planned for 2006. Maybe we should make a visit there?

## NUCLEAR LOBBY

Great news that the Nuclear lobby has gained some noteworthy supporters from the "greens". James Lovelock, described as a "green-thinker" and Hugh Montefiore of "Friends of the Earth" have both come out in favour of building new nuclear power stations. As our existing nuclear stations close, it is essential to start building new before we lose the necessary expertise.

## ARCHIVES RECEIVED

SWEHS Archivists are going to have a busy time in the next six months absorbing a great deal of material recently received. Firstly Glyn England has donated many photographs, from which a separate album is being created. Eric Edmunds has donated three boxes of material, including some excellent early photographs and some early tomes of CEPC. Graham Warburton has donated some photos and other material about cradle guards to create a folder on the subject. Finally the daughter of the late Scovell Whitmore has donated a small amount of archival material to the Society.

## SALTFORD BRASS MILLS

Members of Bristol Industrial Archaeological Society contacted us last year wanting some help to get an old water driven dynamo at the Mills producing electricity. John Gale agreed to help. He suggested connecting all the field coils in parallel, which had some measure of success. They were delighted.

## FERRANTI CABLE

We have recently received two long lengths of original Ferranti cable from Deptford Power Station. John Heath has done some research on the subject, details of which will be included in the next edition.

## COAST ELECTRIC (SWEB)

In the Autumn we were very interested to receive a paper from Chris Carter, a Management lecturer at University of St. Andrews. It was entitled "The Long March of the Management Modernizers – Ritual, Rhetoric and Rationality. In the mid-1990's Chris Carter came to SWEB and interviewed 75 staff members, so the paper said. This included 5 members of the senior management, but when they were interviewed, they were promised anonymity to ensure "high quality access", so that the paper includes 5 pseudonyms. The idea was to analyse the changes taking place in the organisation and management since privatisation in 1990.

Therefore the few of us, who have studied the paper, have enjoyed putting real names to the pseudonyms. One of these, described as TQM Manager, is obviously our member John Muggleton, who agrees that it was himself.

The paper implies that the modernisers experienced some resistance to changes by the professional engineers due to their "unnecessary rituals", and therefore were sidelined in the promotional structure. Funny but I did not recognise that happening at the time! *Peter Lamb*

*(The paper will be placed in the archives and will be available for anyone wishing to study it further)*

## PETER TUDBALL REMEMBERS MINEHEAD ELECTRIC SUPPLY COMPANY & BEYOND

I started to work for the then "Minehead Electric Supply Company", a subsidiary of West of England Electricity, in February 1946, based at the Alcombe Works as an apprentice at the age of sixteen.

At that time with the war just over, there were many changes taking place. During the war only essential work and development was carried out, so there were many projects in the pipeline at this time. Those who were in the services were returning (they were guaranteed their employment when demobbed), and new recruits were taken on as labourers, mainly laying HV underground cables to new substations in the town of Minehead. The work was all manual, not many mechanical aids that I recall. Large lengths of streets were dug up and were exposed for sometime and lit with red oil lamps at night and in many cases a night watchman with his coke brazier was to be seen.

I would estimate that on the outside gangs, there would be 60 to 80 personal employed in the late 1940's. There was only one smallish lorry in 1946, two Ford saloon cars and a couple of combination motorcycles available to those few who could drive. You either walked or cycled! Protective clothing was not provided in those times. There was not much protection in the lorry either except of course for the driver and the ganger, who always sat in the front, plus a small canopy at the back, for those who could find something to sit on!

The Generating Plant at Alcombe Works was very interesting with the most modern generators being the National 5-cylinder diesel engine, the Carel's 3 cylinders and the Sulzer's, all of which were huge and powerful. There were also three gas engines, which ran from our

own gas-making plant, the newest one being the Gardner (4 or 5 cylinder) with others being a twin and the other a single cylinder (Hindley and Fielding). These last two had massive flywheels, which were so large, I thought that if they came off their bearings when at full speed, they would have destroyed half the houses in Marshfield Road. The gas engines were very temperamental and not always reliable, but when the plant was dismantled (in the late 1950's) it was discovered that 18 inch pipe from the retort to the engines had furred up to such an extent that a penny coin would not have got through the aperture. If this had been known at the time, they would have worked more inefficiently! The demand for electricity was ever increasing and new generating plant had not come on line in the country, so this plant was used extensively especially at peak times. There was a cooling plant (which froze in those hard winters) so I assume some of the engines were water-cooled. The switchgear was very primitive with exposed contacts! It was in 1949 that one of the cylinders on the "National" blew back, causing an inspection plate to blow out, just missing one of the operators, but he was only slightly injured, which was fully reported in the local press. It was a relief to the local residents, when the generation plant was closed, as the noise was rather loud and monotonous. I was lead to believe that the depot at Alcombe was once a sawmill before the M. E. S. Co. took possession (1916) and then more or less in the middle of a field.

The company had several houses in the town for the managers and office staff presumably to encourage people from other parts to come to the area. Mr Short (Manager) lived next to the "Alcombe Works" which was called Marshleigh. Fairleigh was next door and others in Minehead were Coteleigh, Northleigh and Southleigh. These were all before WWII. Established employees were able to have their electricity at half price and this privilege was enjoyed by many, even after vesting day (1948). One widow lived in her house until the year 2000, and that was the end of an era.

I was mainly on the contracting side, which was varied, including metering and installation inspecting. All meters were read quarterly, which meant that most of the contracting was stopped or reduced for about two weeks, whilst the meter reading were carried out. We used to beg and borrow transport (one of the two Ford 8 cars or combination motor cycles) to take larger equipment to site, the rest we carried on our bicycles. We worked 46.5 hours a week, which included 4 hours on Saturday mornings with a fortnight's holiday a year. My starting wages was £1-7s 0d and I would have thought the tradesmen were being paid between £5 to £6 a week then.

We had great deal of hired appliances to service including kettles, cookers, water heaters and wash boilers. Spares were difficult to come by and new appliances also scarce and not readily available over the counter in the 1940's. New meters were scarce and we converted shilling in the slot meters to quarterly to meet the very increasing demand. I do recall changing a 60watt limiter to a 100watt in a local village. (what luxury!).

*Peter Tudball Feb 2005*

*(To be continued in the next issue).*

## **VISIT TO THE HELICOPTER MUSEUM & ANNUAL WINTER LUNCHEON**

56 members and friends met at the Helicopter Museum in Weston-super-Mare on a cold morning on the 29<sup>th</sup> January. After a warming cup of coffee in the “Choppers” coffee shop we were split into two groups and taken on a guided tour of the hanger containing more than 70 helicopters from around the world. We saw the oldest, the fastest and the ugliest helicopters, all explained in good technical detail by our guides. Many of us were surprised how large some of the helicopters were, when we were up close to them and how little room there was in some of the military machines for the crew. When viewing one of the Queen’s flight, some of us were concerned to see the Union Flag on one side of the helicopter upside down – was “one” aware of this we wondered?

After a second cup of coffee to get a bit of feeling back into our bones after an hour or so in a cold hanger we made our way to the Batch Country Hotel for lunch. Did you realise that we crossed the main Bristol to Taunton railway line six times on this journey? The venue and meal were both excellent and Peter Lamb and John Gale were congratulated on finding such a good location for this event. After lunch, Bob Malone (recently retired WPD Chief Helicopter Pilot) gave an interesting and amusing talk on his career in the army as a helicopter pilot and then with SWEB and WPD. *David Hutton*

## **HAYLE GENERATING STATION - A UNIQUE CONNECTION**

*Arthur Fairhurst, member, was Works Manager of Associated Octel, Hayle from 1966 – 70.*

A supply of warm seawater from the Generating Station condensers was a significant factor in the selection, in 1938, of Hayle as the site of a plant for the extraction of bromine from seawater. The efficiency of extraction was temperature dependent. British Ethyl Corporation (BEC), a 50%/50% joint venture between ICI Alkali and Associated Ethyl, made the decision on behalf of the Ministry of Aircraft Production. Bromine was required as an essential raw material in the production of the additive for high octane aviation fuel.

British Ethyl and Cornwall Electric Power (Edmondsons) negotiated agreements for the supply of seawater and fresh water. The station in 1938 drew cooling water direct from the Hayle River, opposite Lelant, but had plans to abstract from the Carnsew Reservoir on the western lagoon of the estuary via a tunnel driven under the river. Responsibility for the construction of all seawater works, intake shaft, tunnel and station pumphouse rested with CEP. A contract with Leightons (London) was signed in April 1939 for the work to start in Oct 1939 and be completed by May 1940. British Ethyl had a programme to complete their process plant by mid-April 1940.

These seawater works were beset by delay, technical difficulties and internal problems from the outset. Concerned at the delay to a strategic war time project Christopher Hinton, Chief Engineer of ICI Alkali, visited Hayle in early Jan 1940 and took the unilateral decision

to remove Leighton’s from site and negotiate a new contract with J Mowlem & Co. This course of action was accepted by Edmondsons. Completion was achieved by Dec 1940 with commissioning by the end of Jan 1941. The process plant was commissioned in July/Aug 1940 with a restricted seawater supply direct from the Estuary.

Carnsew Reservoir was owned by Harvey & Co and agreements limited the abstraction of seawater to 2.0 million gallons per hour. In the immediate post war period this increased to 2.6 million gallons, reaching 3.0 million gallons during the 1960’s.

There was no steam generation capacity on the Bromine plant until 1949, all steam requirements being met from the adjacent Station. Fresh water, in lieu of the condensate used, was supplied by BEC and its successors. This supply was initially 10,000 gallons per day rising to 17,000 in 1945. From plant commissioning BEC faced difficulties with its fresh water supply from West Penwith RDC. The water infrastructure was in a poor state of repair and their sources could not meet the sudden upsurge in demand. By Feb 1941 an alternative source was urgently sought. Water was abstracted from Loggans Stream (Copperhouse River) from Sept 1941. A pumphouse was established in Glebe Row, Hayle feeding water via a 1700metre 4inch diameter asbestos concrete pipe to a storage tank on the cliffs above the plant. This was the source of fresh water for the Station until 1954.

Discussions took place between Associated Ethyl, who by Oct 1945 had assumed full ownership, and CEP. The Station Superintendent had been instructed to make a thorough survey of all sources of fresh water, obviously being very aware of the difficulties encountered by BEC. Expansion of generating capacity was under consideration, which led to an additional two boilers being installed in 1947 and a further unit in 1948.

In Nov 1948 the original comprehensive agreement for water supplies was reviewed. The updated, revised agreement catered for expansion by the Station and Associated Ethyl and by inference an increase in supply. The fresh water supply increased to 38,000 gallons per day (gpd) in 1949 and 52,000gpd by 1954. Associated had anticipated expansion in 1946 by increasing the size of the stock tank by 50% and making a connection for a new 4inch diameter main to the Station.

The bromine plant was converted during 1954-5 to a much more elegant process, which did not require large quantities of fresh water. They also installed two auxiliary Clarkson boilers. The fresh water connection was severed but the demand for the maximum quantity of seawater that the Station could pump continued to the final days of the plant in 1973.

*A more comprehensive account of this unique connection between power generation and bromine production can be found in JOURNAL OF THE TREVITHICK SOCIETY No 26(1999), No 29(2002) and No 31(2004)*

*Arthur Fairhurst*

## SAILING CLOSE TO THE WIND

Most of you will have seen the news reports about Ellen MacArthur's remarkable sailing achievement in February. Did you notice that the designer of the Trimaran "B & Q" was Nigel Irens? Nigel is the son of the late Bill Irens, one time Chairman of SWEB, and he honed his skills on his father's Trimaran.

As it happens, I have some association with the latter. I was working on rural development in the Kingsbridge area in 1958 and visited the main substation at Salcombe on the Quay, which had once housed a small generating station, only to find a large Catermaran in there alongside an open type switchboard, transformer and HV switchgear. I returned to the Torquay office to complain to the acting District Engineer, Peter Longman. I was told whose boat it was and to mind my own business! Later Bill Irens bought an even bigger boat a large Trimaran and in 1962 my father retired (from SWEB) to Christchurch. There to occupy myself at weekends I bought a much smaller craft, a Day Boat, having had experience with Mike Hield sailing the same type of boat from the River Axe, Weston-super-Mare. I had a superb time sailing out of Mudeford Harbour and on one sunny Sunday afternoon a massive Trimaran, the biggest boat we had seen in the harbour, came in through the "Run". Naturally I sailed up to inspect it and spotted Bill Irens on the prow, presumably with young Nigel at the helm; I hailed him with an "Ahoy there". He looked down from his high perch, saying "Well if it isn't young Lamb, nice to see you". He then asked me the directions to the Stanpit moorings on the Mudeford side of the harbour. I told him to keep to the right and not to cross the middle. Off they set across the middle and got stranded on the receding tide!! The next week I bumped into Irens in the corridor of Electricity House, where he said "Don't think much of your directions, Lamb". Bang went my promotional chances!!!

*Peter Lamb*

## MEMBERS NEWS

### David Whitehead & Julian Hargreaves

Following David's move to Amersham, contact has been made with Julian, who already lived there. We look forward to hearing their news in the future.

### Dan Bentham

Dan is now the great age of 93 and must be our oldest member. He apologises for not attending our events, which is not surprising since in the Autumn he moved to East Sussex. If anyone would like to contact him, his address is Thornbury Residentail Home, Hempstead Road, Uckfield, TN22 1DT.

### Brian Chinn

Is not well, suffering with a bad back again. May be it was the back-breaking work he did at SWEB! We hope he gets better soon.

## NON-PETROL CARS

Every now and again an electric car is produced, which is heralded as the break through for a non-petrol car, but that usually is the last we hear of it. I read recently that the car of the future is the hybrid. The Toyota Prius has both an electric motor and a petrol engine. I suppose that would reduce the consumption of petrol. However also development work is proceeding on a hydrogen fuelled

car. It seems that car engines are replaced by fuel cells that convert hydrogen into electricity and steam! Well what do you do with the steam? Presumably waste it. It doesn't sound very efficient, and where does one get the hydrogen? At the moment there is only one filling station in Britain on the A127 at Hornchurch to supply three experimental buses.

## TO BE AN ENGINEER

### **From The Electrical Review 1926**

When your temper is erratic,  
When your staff is mainly static,  
And your letters chiefly queried from HQ,  
When your log sheets must be cooked,  
For the oil which wasn't booked,  
And your requisitions all come back to you.

When the Clerk of Works is snappy,  
And the outside staff unhappy,  
When nothing will go right despite your pains,  
As from place to place you dash,  
You can hear the raindrops splash,  
In the trenches lately dug for cable mains.

When your plant contacts a knock,  
When foundations start to rock,  
Or a faulty lighting cable makes you curse,  
When you feel you are ill used,  
Your good nature sure abused,  
And some well-meant interference makes things worse.

When everything is dopey,  
And you're feeling mopey,  
And it's hard to find a thought to bring you cheer,  
When your unit cost is rising,  
Your consumers moralising,  
Still just thank your stars that you're an engineer!

**VINTAGE WIRELESS FAIR** at Willand Village Hall  
Sunday 17th April - Admission £2.50 for more info  
contact Barrie Phillips on tel: 01392 860529

### **FOR YOUR DIARIES – a Reminder PROGRAMME for the NEXT HALF YEAR Sat. 21<sup>st</sup> May VISIT MONTECUTE HOUSE & WIRELESS MUSEUM**

Meet for lunch at 10.45 at the Wireless Museum. After lunch visit Montecute House.

### **Sat. 25<sup>th</sup> Jun. VISIT BRISTOL EXPLORATORY & WILD WALK @ Bristol**

10.30am for whole day activity including lunch.

### **Fri. 28<sup>th</sup> Oct. VISIT MET. OFFICE, EXETER**

Two groups (15 members each), one in morning and one in afternoon. Pub lunch at the Cat & Fiddle Pub on the A3052. More details nearer the date.

## NEXT EDITION

This newsletter is produced every four months. Please send information, articles, photographs or letters to :-  
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Or e-mail him on [lambvandp@uku.co.uk](mailto:lambvandp@uku.co.uk)

### **ELECTRICITY POEMS**

*From the Torquay Electricity Undertaking April 1933*

There was an old woman, who lived in a shoe,  
She had so many children, she didn't know what to do,  
She gave them a whipping, she gave them some bread,  
And did all the work, when she'd sent them to bed.

The modern old woman, who lives in a shoe,  
Though she has many children, she knows what to do,  
In a "Shoe" all-electric, they are good and well fed,  
And the work is all done, e're she sends them to bed.

### **ANOTHER CRACKER JOKE**

**Q.** How did Noah see the animals in the Ark at night?

**A.** By arc lamp flood-lighting of course.