

HISTELEEC NEWS

NEWSLETTER OF THE SOUTH WESTERN ELECTRICITY HISTORICAL SOCIETY

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No. 47

APRIL 2011

WPD EXPANSION

It is with great interest that we hear that WPD through their parent American company have taken over the distribution companies of Midlands and East Midlands and Robert Symons has been made Chief Executive of the expanded company.

One wonders if the above company organisation will sort out the boundary problems between the old SWEB networks and Midlands? It is said that at nationalisation the MEB Chairman visited Warmley Borough Council offering them lower tariffs than SWEB due to MEB's industrial heartland and Warmley agreed to go into MEB.

17th ANNUAL GENERAL MEETING

The 17th AGM of the Society was held on 20th March at the WPD Training Centre in Taunton and was attended by some 40 members and friends. Lunch had been taken before hand at the Merry Monk.

Chairman David Hole opened the meeting and gave his report on the activities over the last year. Chris Buck on behalf of the Treasurer fielded the financial report which showed that the Society was in a sound situation with assets amounting to £5,520.48.

The election of the Officers and Committee members took place for the coming year with the same officers and committee voted in for another year:-

Chairman : David Hole
Vice-Chairman : Chris Buck
Treasurer : Clive Goodman
Secretary : Peter Lamb
Committee : Roger Hughes, John Gale,
Marcus Palmen, David Hutton,
Keith Morgan , John Ferrier,
David Peacock & David Cousins.

Ex-officio Memb. Secretary : Paul Hulbert
Hon. Accounts Certifier : David Legg

After the AGM, Roy Ackrill, a retired Health and Safety Officer gave an entertaining and very interesting insight into his past activities, including HSE film footage.
See report of talk given afterwards overleaf.

EDF ERRATA

Sorry – I said that the British distribution companies owned by EDF had been sold for £5.8 million!! Barrie Phillips was quick to tell me I was wrong and it should have been £5.8 billion – just a few noughts missing!!!

“CAPITAL” OF ELECTRIC CARS UK

A new scheme is being installed in the centre of Milton Keynes of many recharging points for 50 electric cars. The Open University is to monitor the behaviour of the people involved, but has high hopes of increasing the number involved to 1000 with 400 public charging points within 4 years. This is all on the back of the Government offer to motorists of a £5,000 subsidy for purchasing an electric car. It will be interesting to watch this space.

NEW PYLON POLICY?

The Coalition Government have issued a new draft document on guide-lines to Planning Inspectors about the permissions associated with Pylon lines. The media is suggesting that it is a “watering-down” of the existing rules. Over the next ten years, National Grid will need to build 200 miles of 400/275kV lines in order to interconnect new nuclear power stations and the off-shore wind-farms. The Department of Energy and Climate Change (DECC) is concerned that if these were all to be undergrounded, there would be a public outcry at the extra costs added on to their electricity bills in order to pay for it. National Grid has stated that burying the lines would cost £22million per kilometre as against £1.8million per kilometre overhead. Objectors don't agree believing that lines can be undergrounded for far less; Denmark has been quoted at £3.5million per kilometre.

HUMPHRY DAVY ARCHIVE

A rare copy of Humphry Davy's first contribution to science has been discovered in the library of University College London. This edition of Davy's “Essays on Heat, Light and the Combinations of Light” was published in August 1799 when Davy was only 20 and set him on the road to scientific fame, which is more surprising since he was a largely self-taught Cornishman. The book offers an insight into the early thinking of the most famous scientist of his time, being knighted in 1812, he discovered the chemical elements sodium, potassium, calcium, magnesium, boron, barium and chlorine and iodine, and of course popularised lectures at the Royal Institution from which his assistant Michael Faraday launched his own career.

WEEKEND AWAY APRIL 2012

We have enough people for the Weekend Away at Oxford in April 2012 to make it viable, since 36 members and wives/partners have signed up for the event, although more members would be welcome.

NUCLEAR SUPPORT

At the end of March, four letters appeared in the Times supporting Nuclear Energy and one is reprinted here :-

Sir, As I read the interview with Lord Ashdown (Mar 26), in which he argued that the disaster at the Fukushima nuclear power plant in Japan has made nuclear power "unsellable", I was reminded of the saying, They who misinterpret the past will be condemned to bungle the future. The Japanese people will for sure learn many lessons from the earthquake and tsunami tragedy, but what lessons should they and we learn about nuclear power?

First, that most of Japan's 50-odd nuclear power plants on some 17 sites survived the twin catastrophe of earthquake and tsunami without mishap; only those on the Fukushima Daiichi site, the oldest nuclear stations in Japan, dating from 1970, came to grief. Second that the disaster at Fukushima could have been prevented by ensuring that the diesels for emergency power were installed high enough to prevent their flooding by the tsunami or were better protected from it by a higher sea wall. Third, that some of the subsequent damage to the flooded plant could have been prevented by different remedial measures; almost certainly the hydrogen explosions which destroyed buildings and important equipment could have been avoided by earlier venting of those reactor buildings.

Nuclear power has to be "done right" to be safe but, if it is done right, it can give us much of the low-carbon, reliable-base-load electricity generation that we will need in the future if we are not to be too dependent on scarce oil and gas and intermittent renewables. The modern nuclear plants planned for the UK are a far cry from the 1960s designs of Fukushima and we are far from an earthquake zone. For us to abandon our nuclear energy plans now would be to misinterpret Fukushima and bungle the future for our children and our grandchildren.

Dr Derek Pooley Former CEO UK Atomic Energy Authority, Drayton, Oxon

OLDBURY – THE LATEST

Oldbury Power Station has reached a significant milestone in the site's lifecycle, having just received its last ever delivery of nuclear fuel. The last bulk fuel delivery from Springfields is now being loaded into the reactors as part of an intense period of refuelling. This will see all the site's remaining fuel loaded into the reactors in order to maximise generation for the remaining life of the station. The first ever fuel loading took place on Reactor one at Oldbury on 25th July 1967 and was done by hand! Since that date all refuelling has been carried out by machines.

This last fuel delivery will be subject to the same modern techniques as all other fuel deliveries, including detailed checks for manufacturing defects, before being loaded into the fuelling machine. This machine will remove the old fuel elements out of the reactors and at the same time replace it with the new elements.

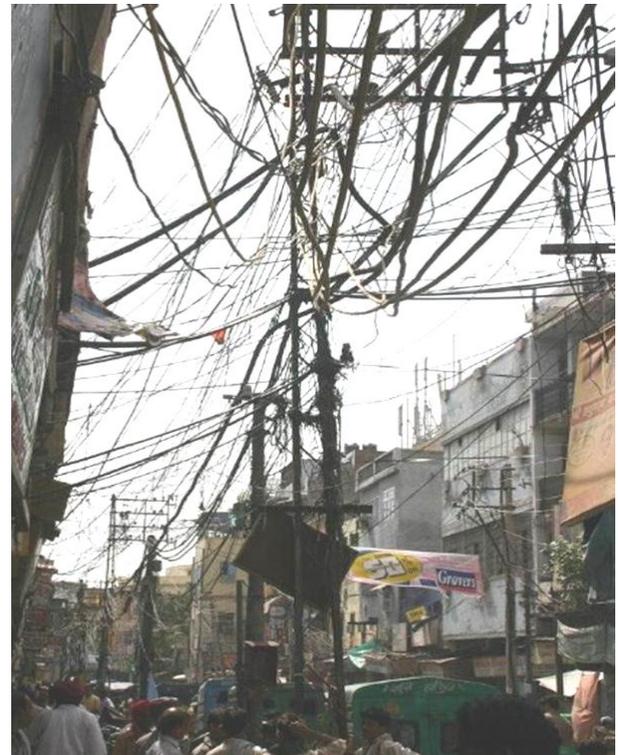
Reactor 1 first produced electricity in November 1967 whilst Reactor 2 started electricity generation in April 1968. Both reactors are due to stop in June 2011. However it is thought that there will be enough fuel remaining to keep one reactor going past the current deadline and well into 2012. A safety case is currently being prepared to obtain approval for this to be done.

Chris Buck

INDIAN WIRESCAPE

Two members have sent in photos of Indian street scenes of overhead wires with the caption :-

“This is India, where your call comes from etc.”



WATT'S WORKSHOP

The Science Museum has revamped Watt's Workshop, which they inherited as long ago as 1924 and made it more accessible to the public. It came from the attic of his Birmingham house, which hadn't been touched since his death in 1819, a veritable goldmine of industrial artefacts where he conducted experiments and it reveals the amazing breadth of interests of an extraordinary man.

His most important legacy was to realise the potential of the Newcomen Pump, an inefficient primitive steam engine of 1712. Watt spent ten years wrestling with how to improve it and his solution involved adding a separate cylinder to condense the steam produced. Watt's engine could be used everywhere to boost output from mines, potteries and textile mills etc., and so began in 1774 Britain's industrial revolution. Watt made a fortune with his entrepreneur backer Matthew Boulton producing steam engines in their Soho Works in Birmingham. Ben Russell, Curator of Mechanical Engineering, said "he was a potter, a sculptor and chemist but most of all he was a scientific entrepreneur". He invented the word "horsepower" and it is not surprising, I suppose, that the word has now been replaced in general usage by the "kilo-WATT".

LYME REGIS ELECTRICITY GENERATING STATION – NEW RESEARCH

In June 1909 Lyme Regis became the first town in Dorset with a public electricity supply. For the next forty years, almost to the eve of nationalisation, the town produced its own DC supply in the Old Malthouse beside the Town Mill. The Malthouse, after years of dereliction, has recently been refurbished for use as an exhibition space. If you go there you'll see some massive fire-charred beams in the roof. They are of oak and about fourteen inches (35cms) across.

The charring dates from when the generating station caught fire during the night of 27 October 1947. The building then was still capable of producing electricity and also housed a mercury arc rectifier for converting AC to DC: Lyme Regis was in the throws of changing over to a supply from the national grid. The Malthouse was burned out and only the quick thinking of neighbours stopped the fire spreading to cottages nearby. Luckily for the Council – the owners - the Malthouse was remarkably well insured.



The Malthouse October 1947 after the fire

The Malthouse is a very old building, but just how old is a mystery. A small group of volunteers from the Town Mill has been trying to find out. Records at the County Archives in Dorchester trace it back to the 1740s when, like the Town Mill, it belonged to the town. But it could well be older than that.

In April 1644, during the English Civil War, a powerful Royalist army began probably the most famous episode in the town's history, the Siege of Lyme Regis. Despite attempts to storm the town and then burn it down by shooting fire-arrows into the mainly thatched houses, the siege failed and after nearly two months the Royalists withdrew from 'that villainous town of Lyme'.

However, the damage done was considerable. As well as the buildings destroyed by fire, one report stated "scarce a house in Lyme remaining undamaged and hardly a room into which shot had not entered".

When the war was over, the victorious Parliament voted money for the town and looked for proper compensation. One of the Royalist commanders, Lord Poulett, lived on an estate at Hinton St George near Crewkerne. As well as having to pay Lyme £200 a year in perpetuity, he was

ordered to provide 2,000 oak trees from his estate for the rebuilding of the town and replacement of ships destroyed in the siege.

Could the beams in the old generating station be from Lord Poulett's oaks? There's one way we might find out: dendrochronology. This scientific method of dating timber by analysing tree-rings could reveal when the trees for the Malthouse beams were felled. The Town Mill has therefore commissioned Dr Andy Moir, a professional dendrochronologist and research fellow at Brunel University, to analyse samples of the Malthouse beams. He is due to visit Lyme to start work on 21st March. With luck we'll discover whether or not the burned beams in the Malthouse are Lord Poulett's oaks, repayment for the fires he started in the famous Siege of Lyme.

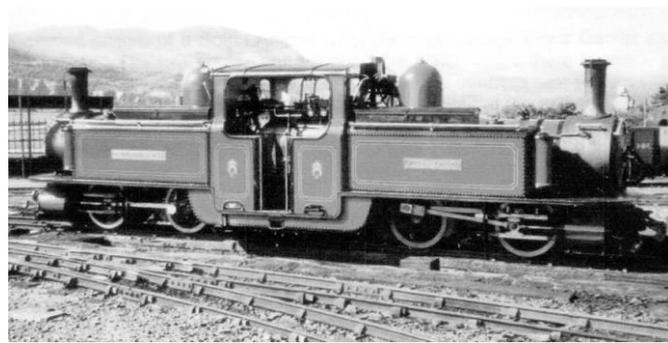
Martin Roundell Greene

AVONSIDE LOCOMOTIVE WORKS 2

In our August issue we featured an article by John Coneybear about some friends of his campaigning to get a blue plaque erected on the site of Avonside Loco Works, near Temple Meads Station in Bristol. In it he asked some leading questions about the Fell and Fairlie Locos made at the site and we received a very detailed response from Graham Warburton. Although we are not a railway society, many of our members are keen railway enthusiasts, so here are some brief details from Graham's six page epistle, which included 7 pictures. Anyone wanting full details can get a copy from the Secretary.

Fell Locomotive

This was designed by John B Fell and operated on a four wheel central rail system in order to gain better traction and were made for railways in both France and New Zealand. The railway in France was situated in Mont Cenis Pass between France and Italy. The locos for NZ were shipped out in kit form for assembly there and surprisingly one has been preserved at the Featherston Museum, Wairarapa.



Fairlie Locomotive above

This was designed by Robert E. Fairlie. A Scottish engineer and carried its water and fuel on the same carriage as the engine .i.e. not by tender, and all the axles were driven. They were delivered to many countries including Russia, New Zealand and Mexico.

There is delightful sequel to this story; member John Coneybear attended recently an unveiling ceremony of a blue plaque on the site of the Avonside Locomotive Works by the Lord Mayor of Bristol.

ANNUAL LUNCHEON REVIEW

Saturday 29th January was cold, very cold, but in spite of this 46 members and guests turned up for our winter lunch event in the pretty city of Wells. Unexpectedly, on our way to the Bishops Palace, we came across a street market, irresistible in spite of the cold. On arrival at the Palace a warm welcome awaited us with hot coffee and biscuits, (just what was required in that weather). For our tour of the palace we split into two groups and we were provided with two guides, one a man, the other, a woman, and I and my little group, joined the latter. Now it must be said that the Palace is a fascinating place to visit, with bell ringing swans, extensive gardens, a huge ruin of a banqueting hall, a small chapel etc. but, for our group, the show was stolen by our guide. She was the quintessential "little old lady" barely 5ft tall, charming, enthusiastic and, surely, well into her "eighties" yet she rushed us around the garden and up the stairs at a pace more appropriate to someone half her age. She had travelled from her home in Taunton, by bus, to be our guide and would be returning the same way!

Our lunch, which followed at the Swan Hotel, was generally agreed to be excellent and the service provided by the staff was faultless.

Our day was rounded off by a presentation, given by Cyril Routley, describing life on the SS Great Britain during a long sea voyage, using photographic material from the Brunel Institute. Cyril, who has given us a talk before, has the knack of speaking, without notes or gimmicks, and yet he is able to demonstrate a comprehensive knowledge of his subject. All in all a most enjoyable day, if you were unable to come, you missed a treat!

David Hole

MV BALMORAL VISIT.

On Tuesday 1st March, members and guests paid a visit to the Balmoral, which was moored in Bristol's Floating Harbour undertaking a Winter refit following being given a large grant. We were invited by Basil Stockbridge, who is one of a team of volunteers who keep the boat 'Ship-shape and Bristol Fashion.' Being a cold and dirty workplace, we all turned up in warm, old clothing, not in our usual 'man about town' SWEHS clobber!

We began with an introductory talk by the Marine Superintendent, Ian MacMillan, who explained the on-board electrical system to us. Two diesel-engines power two 220volt DC generators run in parallel. From the same shafts, belt-drives run two 230volt single-phase AC generators. The output from the DC generators feed a switchboard, with a plus 110v and a minus 110v busbar. Each busbar is earthed to a common-point via earth test-lamps. The AC generators supply such 'creature comforts' as fridges for the Bar and the Dining Hall, necessary when tourists are on board.

After the talk we split up into three groups, and did a short tour of the boat to see for ourselves the work in hand. Several volunteers were hard at work, welding, painting and re-assembling one of the air-pressure vessels (used to start the diesel engines).

For me the highlight of the tour was the engine-room, crammed with the diesel engines, DC and AC generators, DC and AC switchboards, air-pressure vessels, and endless pipe-work snaking everywhere. There was also a speaking-tube for communication with the wheelhouse! It was still retained, even though there is also now a telephone link.

The Superintendent assured us that the boat would be ready for sailing the Bristol Channel with visitors aboard, in under 3 months. This was impressive considering the large amount of work awaiting attention. 'Do any of you wish to become a volunteer?' he asked hopefully!

John Haynes

'ELF AND SAFETY'

After the AGM our Chairman, David Hole, introduced our speaker Roy Ackrill, who is a retired Health and Safety Inspector. He promised an interesting talk and slide show on various aspects of Health and Safety.

Roy commenced with a brief summary of his career, which started with firms in the Midlands and he progressed to a position in the Civil Service as a Factory Inspector. He showed us some interesting HSE videos of some of the horrors that he had encountered during his inspections.

With the coming of the Health and Safety legislation Roy became a Health and Safety Inspector.

Roy explained some of the aspects of Health and Safety and the many myths and misuses associated with it. Many of these tales, which feature in the press are not connected with it at all, being attempts by individuals to cover themselves against the 'compensation culture' and blaming 'Elf and Safety'.

He went on to show slides of common 'Elf and Safety' issues and discussed the origin of some of them.

After questions Chris Buck proposed a vote of thanks. Chris noted that he had met Roy on numerous occasions and thanked him for a very interesting talk. *John Gale*

WIND FACTORIES IN UK?

Gamesa, the Spanish wind turbine manufacturer, has promised to invest £127 million to build factories in Glasgow and Dundee employing 130 people and Siemens have indicated their intention to invest £80 million to build a factory in Hull. Are they going to manufacture the turbines here or just assemble them here? Sounds very competitive, they are chasing 30 gigawatts of wind turbine business promised by the Government. The Spanish company's Chairman said they intended to make UK their "global capital for wind development". Why would a Spanish company want to do that and not a British company? There must be lots of money to be made in this wind business!!

I wonder if it is that good - a windfarm developer, Renewable Energy Generation Ltd., own Goonhilly Windfarm and have just doubled its size. They are also in the Bio-power business using waste cooking oil. They are not doing that well with a £600,000 loss reported for the past six months.

WORCESTER GENERATING STATIONS

Tom Sheriff has regularly sent us interesting articles to this journal usually about his consultancy work in the sub-continent of India. This is a shortened version of his submission this time.

Tom worked for sometime in the Midlands region of the CEGB and Hilton Road Power Station in Worcester being in the Midlands Region came under Bristol Grid Control. It was at the top order of merit operating its two 15 MW single cylinder Parsons sets on base load 24 hours per day and 7 days per week. The following is some brief details of a chapter on a book that I have been writing on the development of power stations, and concerns the early days at Worcester.

In 1889 Worcester City Council applied for "Electric Light Powers" and on these being granted, they appointed a Mr G E B Pritchett of Oxford Street, London to report on the feasibility of a hydro electric scheme. In November 1890 he recommended the construction of a generating station at Diglis Weir. Tenders were invited in November 1891, and by March 1892 fifteen tenders had been received and were examined by Sir William Preece, who was at the time Engineer in Chief to the GPO, (also consultant to Bristol City Council). Sir William was considered to be one of the leading authorities on electricity at that time. Preece estimated that the Council should see a profit of £5,300 on a £10,800 turnover, the cost of construction was assumed to be approximately £40,000. The Committee accepted the tender submitted by the Brush Electrical Engineering Company for a combined steam and water power station, generating at AC only, for £21,005. The Committee had favoured a DC system with banks of storage batteries, but by January 1892 they had agreed to adopt the AC system.

However the Severn Conservators objected to the use of Diglis Weir and an alternative site had to be found. Mr Willis Bund, whose family still owned the entire site, offered the Powick site to the City of Worcester on a 99 year lease at £160 per annum, or as a cash sale for £5,000 in December 1892. The Council purchased the entire site for £5,000, and also accepted the revised estimate from Brush of £23,029.

Thomas Rowbotham of Coventry Road Birmingham, constructed the buildings for £14,797, and Sir William Preece was appointed Consulting Engineer. Building work commenced in the Autumn of 1893. The opening date was fixed for 11th October 1894, and the Mayor of the City of Worcester, Mr G R Wilkinson, opened it then; the street lights were switched on for the first time that evening, and together with the supply to domestic consumers the total load on the system was 200 kW, which at that time was generated by hydro-electric power. There were four 125 kW alternators installed, with Nos. 2 and 3 being driven by 160 hp water turbines, or alternatively by steam engines or a combination of both. No 1 was driven by a steam engine, while No 4 alternator was driven by a water turbine only.

Steam for the engines was generated at 120 psig in four hand fired Babcock & Wilcox WIF water tube boilers,

each being rated at 4,500 lb of steam per hour. The three Brush vertical compound steam engines were each rated at 286 hp when running at a speed of 167 rpm. The Mordey alternators were driven by ropes at 430 rpm, and were capable of generating 127 kW at 2,200 Volts, they had stationary armatures and rotating fields excited by Brush-Victoria dynamos, two being rated at 5.83 kW and the third at 6.5 kW.

The flow of the River Teme was very erratic since there had only been 28 days through January and February 1899 when electricity had been generated using water power. Plans for a new power station at Hylton Road, Worcester, were agreed in 1903, this station being opened in 1904. This allowed the steam plant at Powick to be taken out of service and from then on it remained in operation only as a hydro electric station. By 1925, Powick generated less than 7% of the Worcester supply and the site was sold. Powick remained in service as a hydro electric station with the Worcester Corporation Electricity Department until 1947 when it passed on Vesting Day to the Midlands Division of the British Electricity Authority until it was closed by the Central Electricity Generating Board in 1973. **Tom Sheriff**

MEB VAN

A retired electricity meter man drove his Austin A35 van with MEB markings on it for many years and when it was replaced with a new model in 1973, he bought it and is still driving it around 40 years later in Wolverhampton where he lives. That must be unique, especially as the van has 97,000 miles on the clock! Not only that but he has a collection of 50 old electricity meters in the van.



SEEB VOLTAGE CHANGE-OVER

(John Perkin recalls his days in SEEBoard)

I was asked in the early 1970's to streamline and complete the voltage change-over programme in Seeboard's South Kent District. The two operatives were shortly to retire and the costs of the operation excessive. After much consideration I decided that the only items at risk were electric blankets. I designed a reply paid folded A4 sheet to be sent in advance to all addresses about to have their voltages increased. The residents were requested to enter details of all electric blankets. These were inspected and if worn or rated at less than 240V were replaced free of charge.

After the voltage change-over had been completed the residents were invited to report any failed lamps or appliances. Only a few lamps and one refrigerator had to be replaced free of charge. Within a few months the voltage change-over programme had been completed with a cost reduction of around 90% and the two operatives were able to retire. **John Perkin**

CHAGFORD

Recently we have been contacted by a local group in Chagford wanting our information on their original hydro-electric station. We provided our past research on its history. It was constructed in 1891 and rebuilt with new plant in 1940 and then closed down in 1994. This group wishes to reconstruct the hydro-station.

Perran Newman, one of the leaders, has brought us up to date, he says that things are progressing well. They have commissioned a study into the cost of refurbishment and have gone out to the community for pledges in an IPS (Industrial Provident Society) structure. They have £124,000 pledged to date. Next they must do some careful sums to decide on the maximum bid price at the June auction.

He went to Mary Tavey power station the other day and found that they have a complete set of drawings for the upgrade that took place in 1940. They also have blueprints for the 1914 upgrade. They have also discovered that the original 1891 waterwheel was located under the existing turbine house (obvious really) - all the granite work is still in place. If they acquire the site he has agreed to do an illustrated article on the site for a local history magazine and we would have a copy for our archive. Have a look at www.case-chagford.co.uk.

WILLIAM PRIOR – PIONEERING ENGINEER

Ex-Chairman of YEB, his obituary appeared recently in the "The Yorkshire Post", who accorded him the title. I first met Mr Prior, or Bill, as he was more commonly known, at my interview for the post of General Assistant Engineer (Operations) at Hinkley Point way back in early 1962. He was chairman of my interview panel. Not a successful start since I had arrived almost three hours late thanks to British Railways. I knew nothing much about "atomic power" but I was put more at ease when much to my surprise, Mr Prior wished me a happy birthday. After some health tests (including a visit to see Prof. Heartfall at Leeds Women's Hospital) I was amazed to be offered the job. I started work at "The Point", still a muddy building site, and I soon became aware of Mr Prior's intense interest in the plant and his staff, who he always addressed by Christian name. On a Saturday morning shopping spree into Bridgwater with my wife, I heard the words "hello Colin" from behind. It was Bill Prior who I introduced to my wife. She was suitably awed and, as soon as we had parted, she asked "He's the Station Superintendent? But he was wearing a CEGB donkey jacket" I said he always did. A comrade of mine tells me that he recognised him after 30 years! Such was the man.

He was born in Goole and his family moved to Barnsley where he attended grammar school. In 1939 he followed his father's footsteps to the Yorkshire Electric Power Co. as an apprentice electrical engineer at Barugh Power Station. At evening classes he got an HNC in 1943 and advanced from switchboard attendant to shift charge engineer at Barugh and then to operations supervisor at Stockport Power Station. In 1952 he moved to the new BEA Keadby Station from where he progressed to nuclear power via Harwell and Calder Hall to become Station Super at Berkeley PS and thence to Hinkley

Point. His career then took him to Assistant Regional Director (Generation) CEGB North West Region, Director of Generation South West Region, and Director General South East Region and, by 1976, to the Electricity Council where he was responsible for industrial relations. He found that politicians made this his least enjoyable time as their short-term thinking did not match his long-term vision for the industry.

He was awarded a CBE in 1979 and then became chairman of the Yorkshire Electricity Board, living near Wetherby. He went on to become a part-time member of the National Coal Board, "retiring" in 1984 to become part-time Chairman of the Isle of Man Electricity Authority. He was a chartered engineer and fellow of the IET. I was unaware of his recorded passion for trains and traditional jazz. He died recently at the age of 86. A Pioneering Engineer indeed! *Colin Hill*

GRAPHENE

Carbon is a dirty word these days, not because it is the major constituent of soot but because everywhere you go people are banging on about reducing their carbon footprint. There are plans to capture it and they even trade it as undesirable waste.

But there is soon going to be more carbon in our lives – not less! All our electrical gadgets are going to be stuffed with it and scientists are pretty excited about it. Carbon is multi-talented; diamonds are made of carbon and graphite also. It all depends on the molecular structure. A new material Graphene, which is a single sheet of carbon atoms, a layer detached from graphite. Graphene conducts electricity far better than copper or silicon. Silicon chips waste about 75% of electrical power due heating up whereas grapheme is energy efficient and doesn't need cooling.

This material was discovered accidentally by Prof. Andre Geim of Manchester University in 2004. With a graphite pencil he made some scribbles and then overlaid them with Sellotape and when lifted he found that he had a sheet of graphene one atom thick. Other scientists have been experimenting with this ever since, redesigning electronic components used in every day devices. Some of the improvements, which could be on the horizon, are telecom networks, mobile phones, computer screens and more efficient solar panels etc. Surprisingly it could be that this carbon material might be helping in the future to reduce one's carbon footprint after all!!

TORQUAY HISTORY

John Dike has agreed to join Peter Lamb to co-author a booklet on the history of the Torquay Undertaking 1887-1948. They have already had a two day research session at the Devon Record Office and have started writing. Watch this space!

SUPPORT FOR SUPPLEMENTS

The editor has run out of suitable supplements. Any offers to write some biographies say Michael Faraday, William Preece, Clerk Maxwell or Ambrose Fleming or even short histories of some of the smaller undertakings in the South West would be appreciated.

SMART METERING TALK

Our April meeting at Cairns Road, a presentation by Derek Lickorish on 'Smart Metering' was preceded by an excellent buffet lunch at the Westbury Park Tavern. Derek outlined his career after moving to EDF following the sale of SWEB's supply business, his retirement from EDF and his subsequent consultancy roles involving smart metering and as Chairman of the Government's Fuel and Poverty Advisory Group (FPAG).

His talk was illustrated with a potted history of his involvement in Smart Meters that started in 1982 at SEEBoard. Derek outlined the potential benefits of smart meters including better billing and feedback on consumption for customers and suppliers. The meters would include prepayment facilities built in with the opportunities for more flexible tariffs and enabling customers to identify how to reduce their energy use. The downsides are the present higher cost of smart meters that will be charged to the customer and how to mitigate these costs for poorer customers. During his discussions with an Indian manufacturer of smart meters, Derek had taken the opportunity do a little site seeing and showed us some delightful places he had visited in India including the Taj Mahal. He spoke of the extremes of poverty and wealth that exist, low number of customers connected to mains electricity and safety standards.

In his role as Chairman of FPAG, Derek said that the number of people described as fuel poor, where they spend 10% or more of income on keeping the home warm, has increased from 1.2m in 2004 to 4.6m in 2010. The Group's role is to advise Government on possible ways of reducing fuel poverty. There are many reasons for fuel price rises – cost of oil, gas and coal, investment by the energy industry, Government levies including carbon abatement charges. Of concern are poor customers that may not be able to afford energy efficiency improvements in their homes but also, the price of energy. It was an interesting and lively presentation raising many questions which Derek duly answered. The meeting concluded with a vote of thanks by John Muggleton and applauded by the 22 members and friends present.

David Cousins

MEMBERS NEWS

John Dike – John is doing duty as a farmer whilst his neighbour is away – a brave man indeed.

John Coneybeare - John has accepted the post Vice-Chairman of Bristol Brunel Probus Club.

Keith Morgan - Keith and his wife Pat have been on a cruise in February from Acapulco to Barbados via the Panama Canal on the P & O Oceana.

Peter Lamb- Surprise, surprise, who should Keith meet on the Oceana, but Peter & Valerie Lamb. It's a small world even in the Caribbean!

P & O OCEANA

Whilst on their cruise holiday, Keith and Peter unearthed some information, which may be of general interest. The Panama Canal consists of two channels with three locks at either end of the Canal with a big lake (The Gatun Lake) in between. Each lock has a width of 110ft with the P & O Oceana at 105.6ft wide; this leaves only 2ft

either side when traversing the locks. The ship is assisted through by six diesel dockside traction engines, called "Mules", which help to centralise the boat in the lock.

The ship's two 6-blade (19 foot diameter) propellers are powered by 2 X 2.8MW electric motors (2.2kV), which are supplied from four-diesel engine/alternator sets at 11.52MW each operating at 6.6kV, 3-phase 60Hz. Each engine weighs 138 tonnes. To assist slow speed manoeuvring of the ship, four transverse thrusters are fitted, two in the bow and two in the stern. These consist of 4-bladed controllable pitch propellers, mounted in 'tunnels'. They are driven by four synchronous 6.6KV motors rated at 1.7MW/1.4MW. You may also be interested to know that the fuel capacity of the ship is 2654 tonnes. The average daily consumption travelling at 21.5 knots is approximately 205 tonnes, so on a 2 week cruise the cost in fuel alone is approaching half a million pounds or around £220 per paying passenger. We were told that there was no specific "electrical" engineer in charge on the boat, which is surprising with such a sophisticated system below decks, apparently, they only need one if something goes wrong"!! *Keith & Peter*

WELL DID YOU EVER!

1. The other day my wife said, 'The gas stove has gone out.' I said, 'Well, light it again.' She said, 'I can't. It's gone out through the ceiling.'
2. Two atoms were out together and one turned to the other and exclaimed "Oh now I have lost an electron". The other replied saying "Are you sure?", and he replied "Yes I am positive"!

FOR YOUR DIARIES – COMING EVENTS

Sat. 14th May BABBACOMBE DAY-OUT, TORQUAY - Meet at Bygones at 11.00am, lunch to be arranged in a local pub. Afterwards visit Model Village and Cliff Railway.

Fri. 15th July BALMORAL BOAT TRIP

Leave Clevedon Pier at 12.00noon for trip around the Holm Islands returning to Clevedon at 6.15pm

Thur. 29th Sept. MEETING CAIRNS ROAD - SPEAKER WILL HARRIS "BRUNEL IN 21st CENTURY" - 2.00pm Talk at Cairns Road, Redland, Bristol - Lunch before at a local pub at 12.00noon

Around 20th-22nd Oct. date TBA PLYMOUTH LANGAGE POWER STATION and SALTRAM HOUSE– Morning guided tour of new Generating Station, then on to Saltram House (NT property) for booked lunch followed by afternoon leisure exploring the house and gardens (No. limited to 25 for Lamage PS).

Sat. 19th Nov. HISTORY OF CANAL BOATS

2.00pm Talk at the Highwayman's Haunt Inn, Chudleigh - Lunch before at the same location 12.00noon

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