

HISTELEC NEWS

NEWSLETTER OF THE WESTERN POWER ELECTRICITY HISTORICAL SOCIETY

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April 2018

SPLENDID SPRINGTIME

After such a ghastly winter, I guess we are all looking forward to a lovely spring. In some ways this spring should be a launching of a new era for the Society, with expanded horizons under a new name and wider territorial coverage. We hope that everyone will embrace the changes and give us more support at our Cairns Road Centre, particularly with using and maintaining the archives. *Peter Lamb*

24th ANNUAL GENERAL MEETING

The 24th AGM of the Society was held at the WPD Taunton Training Centre on Saturday 24th March, attended by some 40 members and guests. David Hutton briefly read his Chairman's report, expanding on some of the highlights of the year. Clive Goodman presented the Treasurer's Report for 2017. The accounts showed the net assets to be £6,298.09, a decrease of £1,124.51 from the previous year brought mainly about by costs associated with materials purchased for Cairns Road.

Mike Gee was elected as Chairman, replacing David Hutton who has served for 4 years. The rest of the committee largely stayed the same

Chairman: Mike Gee
Vice-Chairman: David Hole
Treasurer: Clive Goodman
Secretary: David Peacock
Committee: Charles Bristow, David Cousins, John Dike, John Ferrier, Susan Hole, Paul Hulbert, David Hutton, Peter Lamb, John Muggleton & Roger Neck.
Membership Secretary: Paul Hulbert, also Webmaster
Hon. Accounts Certifier: David Legg

After the morning elections and lunch at the Merry Monk, an afternoon session saw Alison Sleightholm, WPD Director designate give a fascinating talk on the "WPD's Successful Expansion into South Wales and the Midlands", see page 3 for a review.

ELECTRIC CAR SALES DOWN

After the initial boom, electric car sales are down by a third this year. Reasons are being put forward for the downturn such as high prices limited battery range and lack of charging points. Figures provided by the Society of Motor Manufacturers & Traders indicate that more drivers are opting for hybrids. The Government maintain that they are doing their bit by offering grants towards purchasing both electric and hybrid cars. 130,000 claims had been made for its

plug-in car grants scheme and 11,500 charging points had been installed, including rapid chargers.

WHISKY GALORE

Another renewable from whisky I read, but we are not going to get tipsy! There is a waste from distilling whisky; it is called draff and pot ale – what's left of the grain after fermentation. The Scottish malt whisky industry produces 750,000 tonnes of draff and two billion litres of pot ale. A new firm has been established called Celtic Renewables. From the waste, it is proposed to build a new factory to produce a biofuel called bio butanol, which can be used as a direct replacement for petrol. That is assuming that some of us still have petrol cars of course!!

HYDROGEN TRAINS

The Government is getting mired in the slow progress of electrification of the rail network, since only 50 miles has been commissioned since 2010, due to the high cost of electrification. Hydrogen trains have been suggested to replace dirty diesel. The only company exploring this is the French company Alstrom, who are near to commissioning a rail service in Germany using this technology. The Alstrom train will emit only water, using hydrogen fuel cells to create electricity

BATTERY IMPROVEMENTS

Britain may get into the battery business after all! Johnson Matthey (JM), chemical engineers, are developing enhanced lithium nickel oxide for use in batteries. This boosts performance of electric car performance by a third. The two main battery manufacturers now are Tesla and Panasonic with the latter gaining 40% of the market. JM is a big company with 13,000 staff in 30 countries. Their main product being catalytic converters, some 60% of their sales.

WINTER LUNCH REVIEW

Our Winter Lunch was held at The Devon Hotel, Exeter on Saturday 3rd February and on arrival, to celebrate Ted Luscombe's 90th birthday he laid on bucks' fizz for members and guests.

After an excellent lunch, David Hutton our chairman made a presentation to Ted of a Bristol Blue glass paper weight together with a birthday card signed by members. Ted was a founding member of the Society and he and Peter Lamb recalled their first contact with each other before our Society was formed. A special birthday cake for the occasion was served to all, see picture.



Ted Luscombe cutting his 90th Birthday Cake

It was then Peter's turn to give a talk entitled 'The Titanic and The First Investigative Journalist'. He explained that his mother's maiden name was Stead and she drew a family tree showing him as her great uncle who lost his life when the Titanic sank in 1912. Peter decided to investigate this famous gentleman including a visit to the Titanic memorial in Belfast where Stead's name is enshrined.

Stead was born near Newcastle in 1849 and was educated by his father, Rev. William Stead at home later attending a school in Wakefield where he met George Newnes, a later well-known publisher and journalist. William wrote for a Darlington newspaper on political and religious issues and became an editor of the Northern Echo at 22 and married there. His interest in politics led him to meeting William Gladstone. He later moved to London to work on the Pall Mall Gazette becoming editor where he campaigned on many sensational issues on the poor, the state of the Navy and child prostitution. He became involved with General Gordon and the Mahdi massacres in Sudan. He published books on political issues and had interest in Spiritualism. His list of contacts and associates included, Cardinal Manning, the Archbishop of London, Bramhall Booth, George Bernard Shaw, Rhodes and many more.

Certainly, a famous relative to be proud to have, but unfortunately for Peter, he found out later that he was not directly related but Peter then showed he was directly related to an international lion tamer to everyone's amusement! It was an excellent presentation with a twist at the end for the 45 members and guests present. Thanks also go to Dave, Christine and Sue Hole and Keith Morgan for all the arrangements.
David Cousins

BLETCHLEY/WOBURN WEEKEND

The Weekend Away for Bletchley Park and Woburn Abbey on 5th-8th October has got off to a good start with 39 people signing up. All the bookings have been made, but if some decide that they can come after all, they need to contact Peter Lamb or David Peacock soon.

FRANCIS TOMBS CAPTAIN OF INDUSTRY

Francis Tombs was what we once called a 'captain of industry'. His career took him from GEC Erith to the chairmanship of Rolls-Royce and embraced a long spell in the electricity industry, as chairman of the South of Scotland Electricity Board and later, of the Electricity Council. He became President of the IEE. His experiences and insights, presented in a lively if occasionally repetitive text supply background as to how these businesses were run and, in his judgement, ought to have been run had politics not intervened capriciously and unhelpfully. He pressed for a version of the 'South Scottish' solution to the tensions between the CEBG and the Area Boards in England and Wales. He hoped for a strong 'Electricity Corporation' and all-purpose Areas, but Tony Benn, his political chief, kicked the plan into the long grass. It ran out of parliamentary time; Tombs resigned, leaving an enfeebled Electricity Council to preside over a system he found dysfunctional. So, as he records it, is the 'British system' in general, plagued by amateurism, party politics and short-termism. Published in 2011, his analysis of underlying problems still bites, even if his solutions and forecasts for electricity supply tend towards hit-and-miss. Whether you take his side or not, compelling reading.
Roger Hennessey

(*Power Politics* by Francis Tombs (published 2011, on Internet £5-25)

WASTE PLASTIC INTO FUEL

With the large amount of plastic waste finding its way into the oceans largely from Chinese and Indian rivers, the above topic would be something worthwhile. Less than 10% of plastic waste is recycled due to the difficulty of sorting it into the different types. Oxford University has developed a technique using a process called pyrolysis. This involves heating the mixed waste so that it thermally decomposes and turns into a dark liquid, known as pyrolysis oil, which has had few viable uses to date. Scientists have been working a catalytic method of upgrading the oil into usable fuel. A new company has been spun out of these methods called Oxford Sustainable Fuels.

AGM TALK REVIEW by Paul Hulbert

We were very pleased to welcome Alison Sleightholm to talk to our Society at the 2018 AGM. Alison is taking up the role of Resources and External Affairs Director from 1st April. She has been with SWEB and WPD throughout her career, and clearly knew many of the people in the audience well.

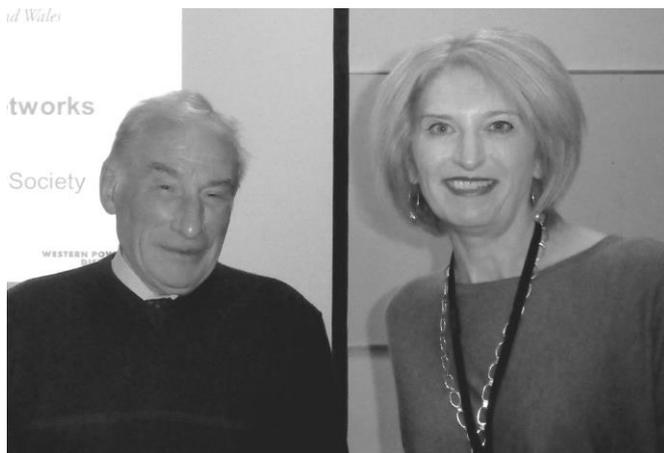
Alison set the scene by describing SWEB's path from privatisation in 1990 through to becoming a purely distribution business as Western Power Distribution in 1999, then taking over the South Wales distribution business in 2000. She then concentrated on the acquisition of Central Networks, the bold move in 2011 when WPD took over the East and West Midlands from E.ON, more than doubling the size of the network and the organisation.

The Midlands businesses had a very different organisational structure and culture. It was decided to change the Midlands to match WPD ways of working, with the emphasis on customer service. Working methods, team organisation, software – everything was changed to “WPD standard” in just 9 months, led by the key line managers from the existing WPD area, alongside their normal duties. 13 new depots were established and major new IT systems were installed. Staff were transferred into the new structure after counselling, and they were all trained in WPD systems ready for the switchover.

The changes led to dramatic improvements in customer satisfaction and network performance, alongside improved efficiency. OFGEM recognised these achievements by fast-tracking WPD at the last Price Review, the only Distributor to be green-lighted on all criteria.

Alison said “The key success factor is leadership and taking staff with you. It’s never about processes, it’s all about people”

In a very frank Question and Answer session, Alison stressed WPD’s emphasis on education and training, with the major apprenticeship programme building the talent for the future. She said that the next few years would be just as challenging, with the increases in electric vehicles needing charging and the number of embedded generation connections.



Alison with new Chairman Mike Gee

Quizzed on the role of women in the industry, Alison said that WPD’s gender pay gap was good compared to the rest of the industry, but she is keen to get more women into engineering roles. She asked Historical Society members to encourage their young female relatives to consider engineering as a career.

ELECTRICITY & THE FIRST WORLD WAR

To recognise the end of the WWI 100 years ago, WPD asked us for information on how the electricity supply industry fared in the Great War. Member Roger Hennessey gave the most thorough response.

To understand the patterns of development 1914-18 one has to bear in mind how confused and backward, by international standards, was the UK system of electricity supply in those years; about 600 separate undertakings, some private, some municipal, often

isolated from each other, with a plethora of voltages, frequencies, and variations of AC and DC. If nothing else, the war encouraged the government intervention to extract greater efficiency in this muddled system. In doing so it understandably emphasised munitions production above all else. This resulted in serious distortions, with investment and action concentrated on areas like Sheffield or Rotherham (steel, armaments, and munitions) at the expense of others.

Thus, Manchester had its application to build a large new station turned down, whereas Rotherham’s went ahead. Instead, miles of interconnecting cables brought about a more efficient distribution in the Manchester region. Similarly, Birmingham (Nechells) and SWS (Stourport) had their plans for new stations postponed, although Birmingham was allowed some modest increase in capacity on existing sites.

But overall, there was spectacular growth in using what already existed & thereby improving load factors. In the case of Birmingham, from 25% - to nearly 40%. Sheffield’s capacity alone quadrupled. Putting it another way, aggregate national sales rose 1914-18 from 2100 GWh to 4000 GWh.

Rural electrification, already on a distant back-burner, made little progress, except where munitions production entered the picture. The relevant government departments, the Board of Trade, Local Government Board and Ministry of Munitions established various policies. The Ministry of Munitions, for example, discouraged manufacturers from setting up their own power plants, insisting that they purchased power from existing more efficient undertakings.

Many leading electrical engineers had been pressing for a more rational system for years, notably Charles Merz. His professional partner, William McLellan was put in charge of a new Department of Electric Power Supply which aided greatly in bringing about some of the changes noted above. His successor, Arnold Gridley, (later Lord G) another consulting engineer carried on the work. He later chaired an Electrical Services Sub-committee of the Board of Trade which, inter alia, had a potential veto on investment in plant exceeding £500. **Roger Hennessey**

Also from “Electricity in Bristol” by Peter Lamb

“Not surprisingly, the First World War had a considerable impact on the Electricity Department (BCED). Men released for active service were replaced by women who worked as clerks, typists, meter readers, showroom assistants and, eventually, on some engineering duties such as switchboard attendants. 102 men served in the armed forces, nine were killed in action, seventeen were wounded, five won the Military Medal, one the Meritorious Services Medal, one the Croce de Guerra and two were mentioned in despatches. It is a record that speaks for itself.”

TOTNES WEIR HYDRO

A hydro-electric scheme on the River Dart at Totnes Weir has been completed. Dart Renewables Ltd has raised £1.3 million for the 300kW project, which is expected to generate 1,200MWhr of clean electricity each year. The scheme involves two Crossflow Archimedes Screw Turbines, which were made in Holland. These types of turbines are ideal for low head systems and are recommended by the Environment Agency. It is claimed that the scheme will power up to 400 homes, including the local school, King Edward VI Community College, although I doubt whether there will be any direct connection. One considerable advantage to the river environment is the provision of a fish ladder on the weir, which didn't exist before, giving trout and salmon the opportunity to reach the upper reaches of the River Dart for spawning. Peter Luxton has provided many photos of the scheme.



Totnes Weir

FRIGIDAIRE STORY

In 1918 Billy Durant then President of General Motors bought a struggling company in Detroit with his own money. It was the Guardian Refrigerator Company. They had produced their first refrigerator in 1916. General Motors then repaid Mr Durant his investment and renamed the company Frigidaire. GM then applied mass production and sales techniques to the old plant and by 1924 the company was showing a profit. By 1929 Frigidaire had sold 1 million units and the company research department had developed a safer refrigerant in Freon 12 replacing sulphur dioxide or ammonia gas. By 1958 Frigidaire had sold its 50 millionth product and were making freezers, air conditioners and icemakers and later even diversified into all the other household electrical goods and also commercial coolers. In 1986 Frigidaire was sold to AB Electrolux of Sweden.

LONDON ELECTRIC TAXIS

The new London TX plug-in hybrid taxis started in the capital recently. It is able to travel 80 miles on a single charge and has a petrol engine as a back-up. It is a six seater and has been built at Coventry by a state-of-the-art factory Geely, a Chinese owned company.

WPD STORM RESPONSE

During the early March snowstorms and power cuts Western Power Distribution dealt with 2,993 high and low voltage faults and restored 186,596 customers. They handled 32,980 incoming phone calls with an average speed of response of 3.43 seconds. Power cuts can be particularly worrying if you rely on electricity for medical equipment (e.g. oxygen concentrators, stair lifts, dialysis equipment) or if you are elderly, very ill or disabled. WPD has a FREE Priority Service Register that will:

1. Give you a direct number to call in the event of a power cut so you can get straight through to their dedicated team
2. Agree a password with you before they visit, so you feel safe
3. Provide special help, if needed, through the British Red Cross
4. Inform you about planned interruptions to your electricity supply
5. Keep you as informed as possible in the event of an unplanned power cut.

The scheme also covers people with dementia, people with specific communication needs and the temporarily vulnerable, e.g. hospital leavers and families with newborn babies.

During the March storms WPD made 9,027 telephone calls to Priority Customers pro-actively to provide updates and telephone support.

To register yourself, a relative or friend as a Priority Customer contact the Priority Services Team by phoning **0800 096 3080** or emailing **wpdpriorityservmids@westernpower.co.uk** (office hours only) For a power cut **NOW just call 105.**

ELECTRIC PLANES?

Is this a "pie in the sky" project? Rolls-Royce, Siemens and Airbus have teamed up to develop 50 to 100 seater plane running on electricity for short haul inter-city flights by 2030. The consortium said that they would develop the E-Fan X engines in Britain if the Government and its Aerospace Technological Institute would fund the research project. Again we are calling on state intervention to fund green incentives!

EDF NEW NUCLEAR

The near state owned EDF have publically stated that they are developing a new optimised version of the Pressure Reactor being constructed at Hinkley Point, which will be 25% cheaper. Some experts have derided the statement as a sign that EDF is desperate to persuade President Macron for his support. He is known to be strongly in favour of nuclear power; bearing in mind that EDF is in trouble with a £33 billion debt. Remember that the Hinkley Point project is being funded two thirds by EDF and a third by state-owned China General Nuclear. Does that tell you something that nuclear power can only be built by state-owned outfits?

OLD ELECTRIC HEATER

Member, Andrew Smith saw a very unusual electric heater in an Antique Shop in Westbury-on-Trym, Bristol and photographed it to show David Cousins who immediately said "buy it". It was made by a Dutch firm Inventum. Looking at it, one may assume that it will be a star attraction at Cairns Road Museum. See picture below.



Now a Star Attraction in Museum of Electricity

POO-POWERED BUS

Poo-powered buses are in regular service in Reading and other places. Reading in particular has 34 bio-methane gas-powered Scania buses. The gas is produced from farm waste and not exactly used directly since it is injected into the national gas grid.

TURBINE BLADES

At last some components for wind-farms are being manufactured in this country. Turbine blades are being made in Hull for the world's biggest off-shore wind-farm. Unfortunately it is Siemens who are creating this manufacturing centre and they have won a contract to supply the turbines for the Hornsea Project being set up by a Danish firm, Orsted, formerly known as Dong Energy. The wind-farm should be capable of generating 1.4 gigawatts of electricity. Each turbine will be capable of 8 megawatts and will be 200m (650ft) tall.

THE HYDRAULIC TELEGRAPH

Who needs wet string, when you can have a hydraulic telegraph?

The British civil engineer Francis Whishaw proposed a hydraulic telegraph in 1838 but it was never used commercially. There was a transmitter device that applied pressure to a water-filled pipe. If you changed the water level at one end there was a corresponding change at the receiver, moving a float against a graduated index. The system was estimated to cost £200 per mile and with suitable encoding it could allegedly convey a vocabulary of 12,000 words.

According to the Mechanics Magazine in March 1838 "A column of water can be conveniently employed to transmit information. Mr. Francis Whishaw has conveyed a column of water through sixty yards of pipe in the most convoluted form, and the two ends of the column being on a level, motion is no sooner given to one end than it is communicated through the whole sixty yards to the other end of the column. No perceptible interval elapses between the time of impressing motion on one end of the column and of communicating it to the other"

The article concluded speculatively that the "hydraulic telegraph may supersede the semaphore and the galvanic telegraph". Unfortunately the system would have been liable to freezing in cold weather. Francis Whishaw later became an advocate and engineer of the electric telegraph. I wonder why? *Paul Hulbert*

CUMBRIA NUCLEAR

With all the hype and money being thrown into the Hinkley Point site, one wouldn't think that anyone-else would even contemplate another nuclear station, but still other players are keen to join in. Kepco, a South Korean firm has been named as the preferred bidder for Nugen, a division of Toshiba, which is being sold by the parent company. Nugen have the rights for building a nuclear station at Moorside, Cumbria. There will be a problem since the Nugen reactor design was by Westinghouse and had clearance whereas Kepco has their own design, the APR1400. Hitachi are also interested in a potential nuclear site in Anglesey.

ANOTHER NEW ELECTRIC CAR?

With electric car sales slumping, it may seem surprising that someone wishes to launch a new one. Mr Sanjeev Gupta, the Indian steel magnate wishes to do so. He has announced that he will build a "people's car", so named after the VW Beetle. He is seeking to buy a disused car plant in Australia at which to build his new concept. The site was closed down by General Motors in October 2017.

BATTERSEA DEVELOPMENT

The Battersea Power Station redevelopment is nearing completion. The £9 billion project has been developed into homes, retail space and Apple's Headquarters and eventually a 2000 capacity event venue

HAPPY VISITORS

The Severnside National Grid Retired Engineer's Association visited our Cairns Road Centre in November being entertained by a talk by Peter Lamb and then enjoyed a buffet lunch at the nearby pub. They enjoyed the museum, talk and lunch so much that a very complimentary article appeared in the own newsletter being reported to us by member Alan Kitley

TV TALES

The impending Royal Wedding started me thinking. I was four at the time of the Coronation in June 1953. My parents bought a 9 inch Bush TV for the occasion. Naturally it was black and white 405 lines and only had the single BBC channel.

When ITV came along, due to copyright the BBC programmes were only listed in the Radio Times, but for ITV programmes you had to buy the TV times as well. TV dealers sold tuning adaptors that were screwed to the side of the set, with a plunger that you pushed in for one channel and pulled out for the other.

My Dad was not really convinced that we should spend the money on the adaptor. He therefore bought a TV Times and read it from cover to cover, before grudgingly admitting that we might watch ITV from time to time. As time went on the BBC started to experiment with stereo broadcasting. One channel was transmitted on BBC TV, and the other was on the radio. I can recall stereo effects like trains "going through the living room". There were also musical performances and dramas.

Other members of the family bought the same model of TV set, and when their sets inevitably died we collected the spare parts. From quite a young age I used to peer into the back of the set, work out what valve wasn't glowing, switch the set off and replace the offending article from the spares box. I would switch back on and then make some fine adjustments if necessary using the vertical and horizontal hold controls - remember those?

When TV moved from 405 lines VHF to 625 line UHF, the old sets became obsolete. Colour TVs came in but were very expensive. For the first few months of our marriage we didn't have a TV at all, but in the run-up to Princess Anne's 1973 wedding we bought a black and white set. Then we were invited to my sister-in-law's to watch the wedding on their colour TV (I have no comment to make. I wouldn't dare!)

On the day of Charles and Diana's wedding in 1981, I was at work, and there was a planned shutdown. We were very aware of the potential bad publicity of clashing with the wedding. We had a TV set in the office so that the admin staff could track the progress of the event - that was the excuse, anyway. I remember the radio message going out - "They've kissed on the balcony, you can switch everybody off now!"

Paul Hulbert

ELECTROLUX 62 –

Following the article in the last issue, David Hood remembers:-

I can remember an early 1940s Electrolux cleaner, which looked very like the model 62. You had to take out the dust bag and insert the hose into the exhaust end of the cleaner. I seem to remember that there was an attachment rather like a shower cap that could be used for hair drying. The other attachment using the exhaust end of the cleaner was a paint sprayer. It was rather like a small Kilner Jar with a Bakelite top including an adjustable nozzle. To make it work you had to put your thumb over a hole on the top. It was quite messy!

AC or DC

Q: Do you know how an electrician tells if he's working with AC or DC power?

A: *If it's AC, his teeth chatter when he grabs the conductors. If it's DC, they just clamp together.*

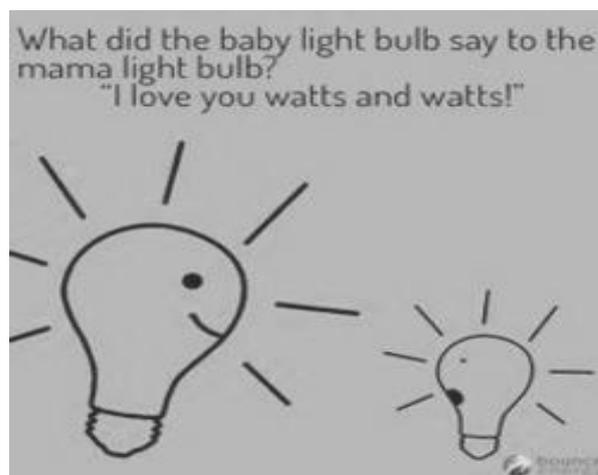
Why did Mr Ohm marry Mrs Ohm? Because he couldn't resist 'er.

WORD PLAY

What was the first nautical use of electricity?

Noah's Arc.

What do you call electrical news? Current Affairs.



FOR YOUR DIARIES 2018

Sat 12th May TALK ON “THE SOMERSET COALFIELD” by Bryn Hawkins at Cairns Road, Bristol at 2.00pm with buffet lunch before at the Eastfield Inn.

Thurs.7th June NEW AEROSPACE MUSEUM, BRISTOL VISIT at Filton, details to follow.

Fri 5th- Mon 8th Oct. BLETCHLEY PARK W/E

NEXT EDITION –

This newsletter is produced every four months. Please send articles, photographs etc to:-
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