

HISTELEC NEWS

NEWSLETTER OF THE SOUTH WESTERN ELECTRICITY HISTORICAL SOCIETY

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HINKLEY PS DELAY

The French state-backed company EDF having got the Chinese involved to partly finance (40%) the new Nuclear Power Station at Hinkley and find that their partner is having second thoughts. The Chinese "team" China General Nuclear Corporation (CGN) and China National Nuclear Corporation (CNNC) made an agreement on the understanding that the Chinese companies had a share of the work. With the French state-backed Areva in financial trouble over the new nuclear station in Finland, the Chinese want assurances that the French Government would bail it out if necessary. To add to the gloom the Austrian Government is challenging the subsidy proposed by our government to EDF, so anything can happen I guess! What a mess!!

HINKLEY 400kV LINE DELAY

The pylon line planned to stride through Somerset has been further delayed by another three years to mid-summer 2022, which reflects the present problems highlighted above.

WIND FARMS CONTROVERSY

In February BBC Country File dealt with the subject of land-based wind farms interviewing those for and against including a National Grid representative. The main anti-lobby gave the figure which wasn't denied that National Grid is paying £1M a week to switch wind turbines off i.e. when not needed. At present they said that 4,500 had been commissioned and that we were only half way to the final total required by 2020. It was stated that Eric Pickles is turning down more than he is passing, so he must be deluged with applications!! Scotland is doing very well in this, having achieved enough generation to supply the whole of Scotland, i.e. 10% of the UK's electricity demand, so much so that National Grid are considering a third pylon line connecting the Scottish networks to the English networks.

The Sunday Telegraph were vehemently against wind farms in February stating that the off-shore wind farms at Dogger Bank and another 80miles off the Yorkshire coast (400 turbines) would be a burden on the taxpayer. The latter will cost £6-8 billion and will be heavily subsidised at £900 million a year, so they say!!

PEAK DEMAND WITHOUT WIND!

On Monday 19th January the peak demand of the year occurred and we had insufficient wind at the time. UK Demand reached 52.54gigawatts (GW), when the wind turbines were producing a mere 573 megawatts of power enough to meet only 1% of demand, which is a shame when we have 12GW of on and off shore wind turbines installed. Critics say that cold snaps often occur with periods of no wind. However during December wind energy provided 14% of all UK's electricity needs.

RAIL ELECTRIFICATION

In January a landmark phase for the electrification of the line between London and Bristol was reached with the completion of the shell of a new depot at Stoke Gifford north of Bristol. Here in the future will be serviced the Hitachi class 800/801 trains.

21st ANNUAL GENERAL MEETING

The 21st AGM of the Society was held on 21st March at the WPD Training Centre in Taunton in the morning and was attended by some 29 members and friends. Chairman David Hutton opened the meeting and gave his report on the activities over the last year. Chris Buck presented the Annual Accounts on behalf of the Treasurer, which showed that the Society was in a healthy state with £6,156.64 net balance.

This year there were no great changes in the officers, and there was little change in the general committee as below :-

Chairman : David Hutton

Vice-Chairman : David Hole

Treasurer : Clive Goodman

Secretary : Chris Buck

Committee : Charles Bristow, David Cousins, Brian Denham, John Dike, John Ferrier, Roger Hughes, Paul Hulbert, Roger Neck & David Peacock

Memb. Secretary : Paul Hulbert, also Webmaster

Hon. Accounts Certifier : David Legg

We were disappointed that Keith Morgan had found it necessary to stand down after many years loyal service, but pleased that a relatively new member Charles Bristow had chosen to join the committee this year. In the afternoon members heard a talk by Paul Jewell.

(See talk review on next page)

ANNUAL LUNCHEON REVIEW

Finland In The Raw

After an excellent Winter Luncheon at the Devon Hotel, members enjoyed an entertaining talk by Norman Maudsley about his week sledging with huskies in the wilds of Finland.

After extracting himself from various layers of arctic clothing, including the essential “idiot mittens” (Well, that’s we used to call them – Paul H), Norman explained that controlling a dog sledge is quite simple. You shout “Hey” to turn left and “Jay” for right, and there are two brakes. But there is no reverse gear if you get it wrong...Norman’s determination to take his excellent photographs added an extra layer of complexity – imagine trying to take a “selfie” while hanging on to the sledge, steering in the right direction, and ducking to avoid low-flying pine branches.

Sledging is a very active pursuit – you are bobbing up and down so much that it’s warmer than travelling in a snowmobile, even in temperatures of minus 30 degrees. The organisers showed a real respect for the huskies – for example, dogs eat first, before the travellers. Animal welfare is a key priority. The group started by travelling 20 km per day but got up to 40 km by the end of the fifth day. The dogs seemed to realise when they were nearly home, and were keen to get back quickly. They spend their two-day weekends at the base camp in their family groups.

We admired Norman’s photographs of forests and frozen lakes, plus a brief glimpse of the Northern Lights, but we were surprised that there was so little wildlife – all Norman and his colleagues spotted was a few birds. Norman concluded by telling us a few stories about his activities as a collector for the Devon Air Ambulance Trust. After a vote of thanks by Chris Buck, there was a collection in aid of the Air Ambulance that raised £192.70, bringing Norman’s total raised over the last couple of years to £4567.

If anyone knows a group in South Devon that would enjoy one of Norman’s various interesting talks, please ask David Hole or me for Norman’s contact details.

Paul Hulbert

AGM TALK REVIEW

A fascinating talk was given by Paul Jewell, Policy Manager for WPD in the afternoon of this year’s AGM at the Taunton Training Centre, entitled “Producing & Storage of Electricity at Home”. Paul explained where the development of domestic solar panels and the tariff incentives applied to them could be taking us in the future. Covering what additional use we can make of electricity generated through solar panels and the possibility of storing the excess energy generated.

As an aside Paul outlined how, when WPD took over Eon networks, he was given the task of converting their organisation to the Team Management concept as operated in the South West and upon completion a saving of £119M per annum was realised!

As Policy Manager, Paul explained that he was responsible for the ‘Innovation Strategy’ in WPD and went on to illustrate some 27 schemes that were on going, some with the approval (and funding) of Ofgem and others not! One such scheme operating on the Birmingham network is to measure the ACTUAL short circuit level by creating a s/c at various points on the network at around mid night over a set period and comparing it with the design parameter for the network, this seemed to establish that there could be an additional 10% capacity available compared to the design parameters!

Paul spoke in great detail of the current project operating in Knowle West, Bristol called ‘SOLA BRISTOL PROJECT’ in conjunction with Bristol City Council with an Office, 5 Schools and 27 Council Houses. The Council Houses have had Solar Panels fitted and Siemens Lead Acid Gel batteries fitted in the loft space where previous water tanks had stood (handling carried out by Pickfords!). The lighting systems have been converted to a DC 24 volt network with wiring modifications to deal with volt drop problems. It was interesting to note that this project finishes in June 2015 when WPD will be switching the mains input off as they do not want on-going responsibility for anything on the consumer side of the meter! So it is a little uncertain as to how the tenants may react, particularly the one who has recently purchased his property!

Paul also mentioned the possibility of extending the voltage limits to +_ 10% with the saving that could be achieved on network capacity requirements! It was a good measure of the interest created by Paul’s presentation by the fact that there were plenty of questions at the end and nobody wanted to ‘rush off’ despite the fact that it was the final Saturday of the Six Nation’s Rugby competition! *Roger Neck*

SOLAR TREE

Recently an unusual construction appeared in Millennium Square, Bristol and I didn’t have to wait long for it to be featured in the local paper. It is part of the celebration of Bristol gaining the title of European Green Capital for 2015. As you may perceive from the picture, it is many solar panels attached to a lattice steel structure. *Peter Lamb*

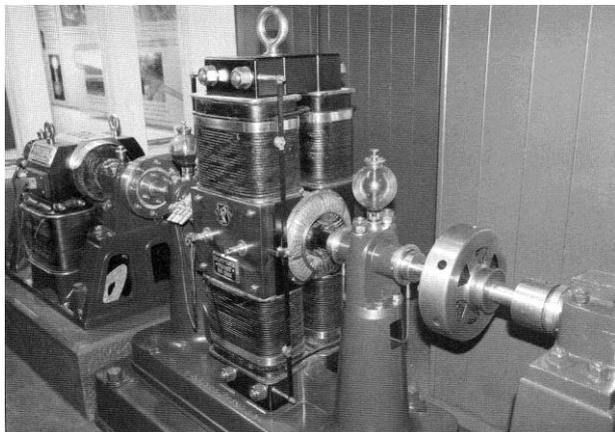


ECOTRICITY

Recently in the papers a profile was publicised of Dale Vince, who established Ecotricity in the Nineties and has made his fortune out of the green energy revolution. He has become a multi-millionaire on the back of Government subsidies, since the firm now has a £70M annual turnover. Ecotricity is definitely at the forefront of the wind industry in this Country having established 20 land-based wind-farms involving 59 turbines and receiving £6M a year of Government subsidies over the last six years. They also supply electricity to about 150,000 consumers. The firm is based at Stroud in Gloucestershire with Mr Vince living nearby in a grand castle-style home and running his own manufactured electric car costing £750,000, again subsidised. We should applaud someone who is doing the right thing to satisfy Government policies and helping to generate electricity from alternative means than fossil fuels, but on the other hand should he be allowed to make such fat profits from subsidies? One must ask, what is the best way forward to achieve a satisfactory solution in these circumstances?

CRAGSIDE

The Association for Industrial Archaeology (AIA) of which we are members, reported in their recent Bulletin on a visit to Cragside, the original home of Sir William Armstrong. It is reputed to be the first house in the Country to be lit by electricity in 1889 and was powered by a water turbine remote from the house, which is these days run by the National Trust, who have had the house rewired. Their article included a picture of one of Armstrong's original Gilkes turbine/dynamo sets that powered the early filament lamps of Joseph Swan. The original plant was replaced in 1938 with a Francis type turbine, which was discontinued with the arrival of a public electricity supply in 1947. Now a new hydro-electric system has been installed using an Archimedes Screw with LED lights in the house!!



The original Dynamo at Cragside – by kind permission of AIA

MANCHESTER SHIP CANAL CRUISE

We are very surprised by the big response to this event. We have 43 attending, so it should be great fun. It proves that our Weekends Away are popular, particularly ones with a boat trip involved!!

JOHN DIKE'S PRESS LETTER

Dear Editor - perhaps this could go in My Opinion?

"I am one of a number of ex professional power engineers who are very concerned about the Government's Energy Policy. We spent our working lives ensuring that the electricity supplies to the South West could meet the demands of the customer even if the system was weakened by line or power station outages. Security of Supply was an absolute requirement. And now politicians, who lack engineering knowledge, have taken us down a path towards potential disaster by investing in inefficient and unstable renewables such as wind turbines and solar farms and by delaying the construction of new power stations.

Today we hear that the Energy Secretary has grudgingly admitted that there is some risk of blackouts this winter by stating that things will be OK as long as we don't have more system problems. Unfortunately in the real world problems do occur, particularly when the supply system is creaking at the seams to meet the demand. His contingency "plans" include asking factories to work overnight. National Grid have confirmed that the reserve capacity has now dropped to only 4%.

The consequences of a serious failure of electricity supplies in a developed country such as ours are unthinkable. We depend so much on electricity for all our needs. Imagine a hospital relying on its emergency generators with only a limited supply of diesel and all those patients on life-support systems and with the difficulty of obtaining fuel from blacked-out providers. Imagine the possible breakdown of law in urban areas without lighting, or food shortages as refrigeration fails in supermarkets and warehouses, or the inability to maintain heating for the elderly or infirm, or a lack of water as the utility pumps fail.

And on that very cold and windless December day, with the wind turbines standing stationary in a despoiled landscape, like crosses in a graveyard to the energy industry, and the winter light dimming, with ammeters at the solar farms flat-lining, and with demand for electricity at its peak, no doubt our Energy Secretary will have his fingers crossed! **John Dike**
Members' views would be most welcome in response to this letter that John sent to the Telegraph. Send to the Editor for inclusion in the next issue in August.

FOOD LIGHTS

Many Nurseries have had greenhouses with lighting system to assist growing, but they are usually expensive. Recently with the reduction in the cost of LED's, experiments have shown considerable success with Horticulturists. The Stockbridge Technology Centre has tried red, blue and yellow systems for growing tomatoes and other vegetables. Unlike other lighting systems LED's doesn't give out much heat, which means they are more efficient but also they can be positioned nearer the plants and also used all the year round.

WPD FAULT CURRENT LIMITER

I was intrigued that WPD's new Fault Current Limiter installed at Castle Bromwich (showcased in the February 2015 edition of *Powerlines*) was manufactured in Australia. The technology is promoted by Israeli based company, GridON and the 30MVA unit manufactured by Australia's Wilson Transformer Company. The University of Wollongong has been at the forefront of developing this elegantly simple solution to rising network fault levels and, perhaps, explains the FCL's Australian pedigree which avoids untried technology and superconductors. Under normal load conditions the core is saturated (low Z) by a split d.c. winding. At its simplest, fault current through the split a.c. winding de-saturates alternate halves of the core and the device operates as a conventional reactor limiting fault current. As soon as the fault is removed the FCL automatically returns to its saturated, low Z, low loss state. Those still with a yearning for mag. curves and hysteresis loops may find wtc.designpost.com and ro.uow.au (search on FCL) useful.

Barrie Phillips

JET AGE MUSEUM

This interesting aviation collection traces the history of Gloster Aviation, via Frank Whittle and the invention of the jet engine, to the delta-winged Gloster Javelin, which still looks futuristic even though it was built in the 1950s. The museum is also developing displays about the Airborne Forces, and a local craftsman is building a replica of a Horsa glider, as used at Arnhem, in the D-Day landings and in the assault across the Rhine. Paul had a particular interest in this because his father-in-law Sgt Bert Collman landed in France in a Horsa.



The museum is much smaller than Yeovilton, for example, but it is well worth several hours to explore it and it is a good example of what can be accomplished by enthusiastic and knowledgeable volunteers. The museum is normally open 10 am - 4 pm on Saturdays, Sundays and Bank Holidays, plus Wednesdays in school holidays. More information available from www.jetagemuseum.org

Paul Hulbert

MARY BERRY

Recently in a TV programme regarding Mary Berry, it was mentioned that she had started out as a SWEB demonstrator at Bath in the 1950's. We had been approached previously wanting photos of her at that time, but we could only find articles in SWEB News.

JAMES DYSON – INVENTOR

There was a fascinating article in the Times recently about James Dyson following the issue of his autobiography called "Against the Odds". His story begins with realisation that dust-bag vacuum cleaners rapidly lost their suction and he set about designing his own. He went through 5,127 prototypes, mortgaged his house and risked bankruptcy before he got what he wanted. Even then he had to force his way into a market dominated by dust-bag cleaners. The saying "Never Say Die" has become a slogan recorded on the walls of the main corridor within his Plant and has become company philosophy. The staff are constantly reminded that success is the product of repeated failure.

He has of course made a fortune and is reputed to be one of the biggest landowners with 25,000 acres, which is as big as the Queen's estates!! He does also live in a very grand mansion of Dodington Park in Gloucestershire and was knighted in 2007. Quite a success story!

ELECTRIC GRAND PRIX

The Mayor of London, Boris Johnson has confirmed that he has agreed to a Grand Prix of electric cars called Formula E in Battersea Park on 27th & 28th June. It will be interesting to discover which manufacturers are competing, already BMW, Renault, McLaren and Williams have indicated that they will take part.

One hopes that Tesla Motors of California will participate with their second electric car, Model S. Tesla specialises in making battery packs and components, so I wouldn't be surprised if their equipment will be housed in other cars. Another new all-electric car is being manufactured by Toyota, called Mirai, powered by cells that combine hydrogen with oxygen and emit only water vapour, but probably won't be available by June this year.

CARBON CAPTURE

In March this year, the boss of BHP Billiton, Andrew Mackenzie has said more development should be put into Carbon Capture, since the process if successful could be money-making enterprise around the World. At present the UK is the only country in the EU that is seriously investing in carbon capture and storage (CCS). Our research facility is at Sheffield, but the Norwegians are already at it with their state oil company Statoil operating a system of storage in the Sleipner Field in the North Sea since 1997. He says that despite this, the Government refuses to fund this project and risks being overtaken by the US and China.

It would seem that he is not very well informed, since last year Government funding was given to Shell's Peterhead CCS project next to Peterhead Power Station operated by SSE. The advantage of the site is that it is situated close to existing gas pipes running out to the depleted Goldeneye Gas Field and is capable of capturing 1 million tonnes of CO₂ each year.

PYLONS IN MALAYSIA



In March I spent 3 weeks in Johor, Malaysia visiting my daughter and family, who are there for a couple of years. How would you like to have one of these giant grid pylons in your daily view? I thought they looked pretty ugly! These four circuit beauties, possibly around 100ft high, stride boldly across open countryside alongside roads and motorways in Malaysia.

Also another observation - in view of the great amount of sunshine 30 to 34 degrees there, I was surprised not to see any solar farms or even panels on people's houses. Neither did I see any wind turbines, but then I didn't experience any windy conditions, I guess!

Peter Lamb

NUCLEAR UPDATE

Many members will, no doubt, be aware that following recommendations from the Nuclear Decommissioning Agency (NDA), multi-national Nuclear Management Partners will lose the £9 billion contract and NDA will take back ownership and management of Sellafield. Full background to this little heralded "re-nationalisation" can be found on NDA's website, though private sector contractors will continue to play a major role in carrying out the work. Of course this is but a fraction of our nuclear decommissioning liability. The cost of decommissioning the Magnox fleet alone is £7.5 billion, equating to over £1.5 million per MW installed. Including Sellafield and other sites increases NDA's projected liability to £59 billion (Source - NDA updated 11 February 2015).

These costs show subsidies to other more benign renewables in a more favourable light.

Barrie Phillips

DRIVERLESS CARS

John Spiller, ex-SWEB Chief Engineer, has recently written a strong article in the Bristol Post about the dangers of driverless cars, which are likely to be let loose on the Bristol streets following some Ministerial support. He compares driverless cars to aeroplanes being operated by automatic pilot, a qualified pilot is always on hand to sort out any unusual technical malfunction. He suggests that a separate classification should be established, which demands that a driver schooled in the technical facilities should be on board.

SEVERN VINEYARD CHURCH

The old Bristol Control Room at Feeder Road, Bristol has been let out to the Severn Vineyard Church, so Clive Goodman informs us. The Church started out back in 2009 for people, who may not feel at home at a conventional church, but want to make sense of life etc. They are a sort of evangelical type of Christian church originating in the USA. In this case there services should be electric!!

ILFRACOMBE ELECTRICITY

Barrie Phillips has found a picture of the original generating station battery room in 1903 on the web site of the Ilfracombe History Forum. The generating station was situated in St. Brannock Park Road and operated by Ilfracombe Electric Light & Power Co. Ltd and owned by Edmundsons' Electricity Corporation.



SOLAR POWERED PLANE

The Solar powered aeroplane, Solar Impulse 2, has been spotted in various locations over the last six months in an attempt to circum-navigate the Globe on solar power. However it has reached a stumbling block in India with bureaucracy, having flown from Muscat in Oman. The Indian authorities wouldn't let it take off from Ahmedabad because the pilots papers (Bertrand Picard, a Swiss national) were not in order, however it took off eventually with the co-pilot whose papers were in order.

ELECTRIC PAINT

Whatever next!! Matt Johnson has developed an electric paint that can be used on any surface to enable it to be capable of carrying an electric current. The paint can also be used as cold solder to make electrical components fuse together. His company is called "Bare Conductive".

CERN RESTARTED

For the last couple of years, the Large Hadron Collider has been refurbished and is to be switched on shortly once again. Having discovered the Higg's Boson last time, the next phase in Particle Physics is to discover Supersymmetry, which is all about extra-dimensional space!!

MEMBERS NEWS

David Whitehead – has sadly died at the great age of 95 at a Nursing Home in Amersham. He latterly worked for the CEGB, but was involved during the War at a satellite establishment to Bletchley Park, the Post Office Research Station at Dollis Hill constructing some of the complex equipment, being then an employee of the GPO.

ROGER CHRISTY

Members of the society were saddened to learn of the sudden death of Roger in late January 2015. Roger was a founder member when the society was formed in 1994 and for some years was chairman of the southern sub-committee which existed in the early days after formation.

Roger's funeral was held on the 4th February in the Parish Church of St. Feock, which is situated in a beautiful part of Cornwall, hidden between Truro and Falmouth, and quite near to the well known King Harry Ferry. Several of our members attended the funeral on a very cold, but sunny day. The society was represented by Chairman David Hutton from Bristol, and by John Ferrier and John West, both of whom live in Cornwall.

I also travelled from the Bristol area to attend, both as a member of SWEHS, and as a personal friend and colleague of Roger. He and I worked together in the Cornwall Area Planning Department of SWEB for over nine years. We were closely involved in major engineering schemes, including such projects as the Isles of Scilly Mains Electrification scheme and the Delable Windfarm monitoring project. Roger was a very able electrical engineer. His grandfather and father owned the Chelmsford firm of Christy Brothers, which were responsible for many early electricity mains systems, including the Bude Electric Light Co, the Mary Tavy hydro-electric scheme on the edge of Dartmoor, and the North Somerset Electricity Supply Company. The firm was absorbed into the nationalised Electricity Supply Industry in 1948.

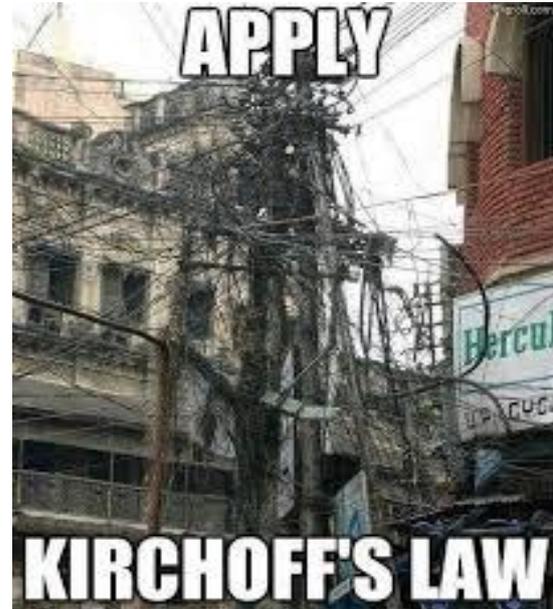
The large and beautiful church of St. Feock was filled almost to capacity for the funeral service. Roger's wife Anthea was supported by Roger's brother, Martin, who delivered the eulogy, and daughters Serena (now living in America) and Alison (now living in Scotland). Roger will be sadly missed by all those who knew him. He was a charming, friendly and helpful person, and a true gentleman!
John Haynes

OVERHEAD LINES IN VIETNAM



Member Graham Warburton has been visiting Cambodia and Vietnam and has sent us a few pictures of the wirescape. He is not the only one who is struck by the crazy overhead networks of foreign parts.

SEE BELOW



FOR YOUR DIARIES – COMING EVENTS

Sat 16th May VISIT TO THE NEWLY REFURBISHED HAYNES MOTOR MUSEUM

Meet at 10.30am with lunch taken in the Museum Restaurant.

Sat 4th July VISIT TO NT BUCKLAND ABBEY

Home of Sir Francis Drake – Meet at 12.00 noon at a local hostelry before proceeding to the Abbey in the afternoon.

Sat 19th Sept MEETING AT CAIRNS ROAD, BRISTOL – TALK “COLLECTABLES WITH A DIFFERENCE” by John Bates.

Lunch at Westbury Park Tavern beforehand.

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.