

HISTELEC NEWS

NEWSLETTER OF THE SOUTH WESTERN ELECTRICITY HISTORICAL SOCIETY

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April 2016

HINKLEY SHAMBLES

Will it, won't it ever happen? That is the question! The accounts of EDF at their AGM in February showed debts of 37million Euros and in March their Chief Financial Officer resigns. Steep falls in the energy prices have contributed to this situation. It shows some doubt in the ability of EDF and her partner CGN, the Chinese state-owned company to finance the Hinkley Point project. The French company are keen for it to proceed to showcase their expertise to win future orders for their nuclear and electrical businesses and are keen to put more money in but this could breach EU Rules. Another idea is for EDF to sell-off its national grid RTE. One thing – at last a Government Select Committee has now got involved in investigating the issues.

GREEN POLICIES IN THE MELTING POT

Billions of pounds of investment in new energy projects are being lost due to the Government's failure to reach key policy decisions, so says the CBI. The CBI Director General Caroline Fairburn had a meeting with the Amber Rudd the Energy Secretary to ram home their complaint. They were complaining that UK Industry is paying higher costs for electricity than our European competitors. This point has come to haunt the Government with the Steel Industry in financial trouble. So do they nationalise it, may be subsidise it or even part own it or even orchestrate to enable the Steel Industry to have lower electricity prices. Those are the considerations at the moment.

SMART METER PROGRAMME

At least 2 million smart meters have already been installed, (including my house). The Government's Smart Meter programme however has been thrown into chaos following intervention from the EU. We have been encouraged to allow them to be installed as a benefit to the consumer, but basically they are mainly a benefit to the electricity provider, who then avoids sending someone to read the meter. The meters send back a signal of readings to base every ½ hour and here is the problem. The EU wants to harmonise the UK's electricity market with Europe, where in Germany and most of the EU smart meters send back signals every quarter of an hour. The change-over would entail significant changes to IT systems across the industry. In the end it is the consumers who will pay for any changes made!
Peter Lamb

22nd ANNUAL GENERAL MEETING

The 22nd AGM of the Society was held at the WPD Taunton Training Centre on Saturday 19th March, attended by 32 members and guests. In the absence of the Chairman, attending a funeral in South Wales, the meeting was very ably chaired by the Vice-chairman, David Hole. David summarised David Hutton's report and expanded on some of the highlights of the year. The Secretary then provided background to a briefing paper recently submitted to WPD explaining the background to and development of the Society, with a view to strengthening the relationship with the WPD. In the absence of the Treasurer, the Secretary presented the certified accounts for 2015, showing net assets to be £6,689-00, an increase of £533-35 from the previous year. The Secretary explained not to read too much into this, because of the timings of monies passing through the accounts in connection with weekend away.

Two committee members were standing down, Roger Hughes and Brian Denham. David Hole thanked both for their contribution; in Roger's case over many years including a two year spell as Chairman.

All existing officers were re-elected with no great changes, except a new lady committee member :-

Chairman : David Hutton

Vice-Chairman : David Hole

Treasurer : Clive Goodman

Secretary : Chris Buck

Committee : Charles Bristow, David Cousins, John

Dike, John Ferrier, Paul Hulbert, Roger Neck &

David Peacock. Also Susan Hole was elected. .

Memb. Secretary : Paul Hulbert, also Webmaster

Hon. Accounts Certifier : David Legg

(Report by Chris Buck - See talk review next page)

NEW FRENCH ENERGY PLAYER

A new company has been established in the UK known as "Engie UK", which is the British division of GDF Suez, the French national gas group, one third owned by the French State, with which it is intended to launch a new retail energy business competing with the big six. GDF Suez employs 20,000 people in the UK and is Britain's eighth biggest electricity generator making £3.7 billion revenues in UK in 2014. With EDF a main player here, is it the French Government's intention to take over the UK completely? May be it's a new ploy to keep us in the EU?

POWER CRISIS

National Grid has the problem in hand, so I read. France, Netherlands and other countries will compete for the first time in the capacity market auction, which aims to secure 45 gigawatts of electricity until 2019/20.

REVIEW WINTER LUNCHEON 2016 "SWEB to BBC AND MORE"

The Winter Luncheon was held at the Devon Hotel, Exeter, attended by 40 plus members and guests. After a good meal we were then given an interesting talk by Geoffrey Bell on aerial filming from a working "model" helicopter. Some members will remember Geoff as he joined SWEB in 1979 as a transport fitter at Watcombe and stayed in that post for twenty years. His interest in flying model helicopters led to him being asked by Derek Mudge, the overhead lines foreman, if it could possibly carry a line across a valley, so he took up the challenge. This was successful and used several times over the following years. When giving a demonstration of the helicopter at a local fete, Geoff was approached by a BBC producer and asked if it would be possible to carry a film camera. Development was started and a filming career was shared along with his daytime job at SWEB. As filming and development became more demanding, it became necessary to set up a contract with the BBC to pay for his trips direct to SWEB thus allowing more time for filming.

The workload continued to grow and at the age of 48 Geoff made the life changing decision to give up his career as a mechanic and join the BBC Natural History film unit full time. Since leaving SWEB he has done many opening title sequences on various BBC programmes BBC and other production companies.

Geoff's main customer now was John Downer Productions/Discovery/BBC Worldwide and it soon became obvious that there was a need for an on-board precision engineer, so he employed his son Martyn as a partner and formed Flighteam Specialized Camera Devices. Their company was asked to work on the "Spycam" series and produced specially housed cameras such as BoulderCam to film lions, DungCam and PlopCam to film elephants, MirrorCam and FishCam for bears and PenguinCam for their trip to the Antarctic.

During filming they had some dodgy moments while working close to wild animals. Despite being so close to many dangerous animals his closest to near death incident occurred when filming on Mount Krakatoa in Indonesia. To get to the filming site they had to cross a lake in a rickety wooden boat; when they were in the middle of the lake the volcano decided to spring into life and showered them with lava and red hot rocks. One of these rocks about the size of a car landed a few feet from the boat. He finished his presentation by saying that the last 28 years had taken him to some of the most extreme locations in the world but could honestly say that these trips were worth it!

Peter Ireland



Picture of Geoff's Model Helicopter in our Museum

THE AGM TALK - THE BATTLE OF TRAFALGAR.

The battle of Trafalgar took place on the 21st. October 1805 and, following our AGM and lunch, John Dike retold the story via his "multi-media" presentation. This included sound, vision, "stills", video and film and a variety of props which, together with some audience participation, enlivened the whole thing. He even had a cannon which, aided by Paul Hulbert, he fired and accidentally "shot" the chairman!

John portrayed our national hero, Horatio Nelson, in a slightly different light and presented evidence which suggested that Nelson was by no means perfect and had made some errors of judgement with his tactics during the battle. He even raised doubts about some of those tactics suggesting that Nelson was not, in fact, the first to use them. John's description of the weaponry, the violence and the horrific injuries of naval warfare reminded us that bloodshed, cruelty and senseless loss of life is nothing new.

Nevertheless Nelson won and beat the Spanish and French fleets. So I would like to say that he wasn't such a bad "son of a gun" after all. However, after John explained the derivation of that phrase, I can't say that any more. The term relates to "hanky-panky" on the Gun-deck when the ship was in port producing unwanted off-springs!!

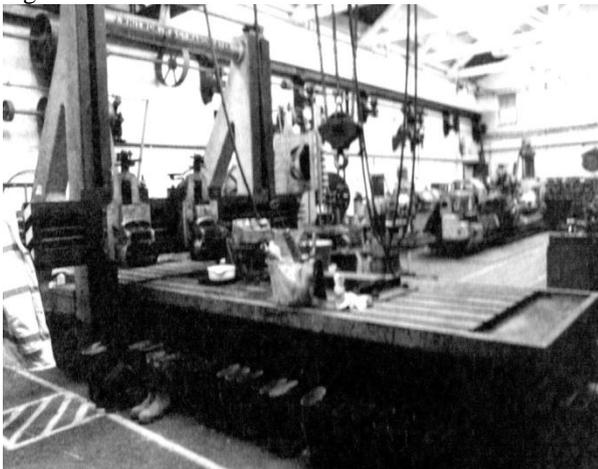
The whole thing ended with the entire assembly joining in singing "Hearts of Oak", (a first for an AGM, I think) so you can imagine how much we all enjoyed it. Thanks are due to John and Jo for organising such a splendid entertaining afternoon. *David Hole*

SOLAR PANELS ON WATER

Thames Water is currently installing 23,000 solar panels on 61,000 floating pontoons covering a tenth of the Queen Elizabeth Reservoir at Walton-on-Thames. It will be Europe's biggest floating panel project. It will have a peak capacity of 6.3 megawatts and it is hoped to provide enough energy to support the nearby water treatment works. Three companies appear to be involved, Ciel et Terre, a French company expert in floating pontoons and Ennoviga Solar, and Lightsource Solar Energy, both solar experts, but no "made-in-Britain" label unfortunately.

UNDERFALL YARD BRISTOL

Bristol City Docks, as we know it today, was established in 1804 to 1809 by creating the Floating Harbour by damming the River and digging a diversion known as the “New Cut”. Docks maintenance workshops were built at a site of the Overfall Dam. Because of the silting up of the harbour, Brunel converted it into an underfall, hence the workshops are known as “Underfall Yard”. Over the years the workshops and machinery have been left as they were when in operation in Victorian times and it has recently been declared a Scheduled Ancient Monument. A £½ million Lottery grant has been secured for preserving this and creating a new visitor centre. However the Underfall Yard Trust has stated that £4 million is needed to preserve the Victorian Dock buildings, improve public access, support maritime skills, preserve the sluice gates, hydraulic pumps and motors etc. In 1906 Bristol Corporation Electricity Department built a large Rotary Substation nearby presumably driving two large DC motors replacing the steam engines.



Bristol Docks Workshops Underfall Yard

DOUNREAY HISTORY

On 1st March 1954 the Government announced that the Dounreay military airfield would be the site of Britain’s first fast reactor development programme. The UK Atomic Energy Commission subsequently operated three nuclear reactors on the site between 1958 and 1994, which pushed back the frontiers of science to become World leaders in fast reactor technology. A heritage management group has been set up, Dounreay Site Restoration Ltd., in order to keep whatever is worth keeping such as the complete reactor control room. The reactor spheres are to be dismantled due to the high cost of maintenance.

LONDON’S CABS GO ELECTRIC

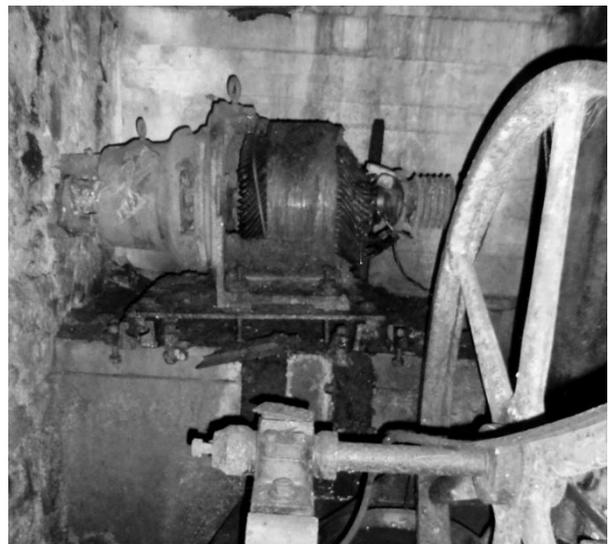
By January 2018, all London’s black cabs must be capable of running on zero-emission, which is why Geely, the Chinese automotive firm and owner of the London Taxi Company is building a new generation of electric black cabs. The company, which is situated north of Coventry is hoping that wireless inductive charging pads can be installed in the road at taxi ranks to reduce the down-time for charging.

NUCLEAR WASTE

South Australia is keen to provide dumping grounds for the World’s nuclear waste. A Royal Commission recently found that remote parts of South Australia could absorb 13% of the World’s nuclear waste. Spent fuel cells could be held for hundreds of thousands of years deep underground in steel and copper canisters. To sweeten the pill to local communities, the Australian Government is offering A\$10 million of investment in local infrastructure and other projects. The report said that the territory had a unique combination of stable geology, arid conditions, low seismic activity coupled with a stable Government and economic structure.

MELLS RIVER HYDRO SCHEME

We have been sent some photos of an old pre-war hydro schemes which has recently been unearthed (see photo) at Mells, a small village near the town of Frome in northeast Somerset. They are situated on the Mells River at Wadbury House and old Fussells Ironworks, the latter giving electricity supply to the nearby hamlet of Great Elm. Robin Thorne advises us that the plant composed of Gilkes vortex turbine and a Metvic alternator as he states the supply was 230v 100amp at 50cycles gained from reading the plate. Also included in this find is a Metvic Switchboard, so we guess the plant was installed sometime in the late 1920’s. Robin is trying to re-establish hydro schemes in that area, so we should be hearing more about his endeavours in the future.



Great Elms Hydro Station on the Mells River

EXETER GENERATING STATION

Exeter’s old generating station at Haven Road, which was converted into a mixture of flats and business units a few years ago, has started generating electricity once again!! No, don’t get too excited, a solar array of panels has been fitted on the roof. The building, which is City Council owned leased building, has had 105 panels installed under the City’s green initiative, giving it is hoped an estimated 30,000 kilowatt-hours of energy per year.

TOTNES WEIR HYDRO

A hydro-electric scheme on the River Dart at Totnes Weir is nearing completion. 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 Cross-flow 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.



The New Hydro Station on the River Dart showing the Fish Ladder (Peter Luxton pic)

GLOBAL EMISSIONS EXCEED EU'S GREEN EFFORTS

More than 2,400 coal-fired power stations are under construction or planned around the World. The worst offenders are China with 1,171 and India with 446 plants planned, which doesn't include their existing stations. The nuclear disaster in Japan has prompted that country to invest in 45 new coal plants. This means that the new stations will issue 6.5 billion tonnes of carbon dioxide a year undermining the efforts of the Paris Climate Change Conference. It doesn't seem fair when Great Britain pledged to close 12 coal plants.

CITY POLLUTERS!

Beijing and Delhi have serious problems of pollution such they are bringing in measures to curb the problems. In 2015 in Beijing went on red alert with 2 million cars banned from the city, also schools, factories and building sites were closed down. The red alert, which is called when pollution reaches 200 to 300 micrograms per cubic metre, is a welcome sign of recognising the serious problem involved. In India generally the situation is bad with 13 cities being the worst polluted cities in the World. In Delhi cars are to be banned alternate days in order to curb the hazardous conditions there.

SIDNEY ERNEST BRITTON

It is 70 years since the death in harness of S E Britton (1874-1946) a remarkable municipal electrical engineer of the 'old order'; some of his ideas remain ahead of their time. Most of his work was in Chester where he was Chief Electrical Engineer, from 1908. Originally a Londoner, he was a pupil of Colonel Crompton and had previously worked in Barking, Southampton and Motherwell.

His accomplishments included the installation of a hydro-electric plant on the River Dee, and his relentless push for rural electrification. The hydro plant, tastefully designed, was opened in 1913 with a generating capacity of just over 700kW from three water turbines. Its power turned out to be cheaper than its steam-generated rival, a three-wire dc installation dating from 1896. After Britton masterminded the conversion of Chester to ac supply in 1932 the hydro station sported a motor converter.

Under Britton's guidance Chester acquired the former government generating station at Queensferry to replace its earlier plant. Able to draw on this, Chester extended its supply to nearby rural areas, a major interest of Britton which brought him worldwide fame. He was an invited speaker at the Third World Power Conference, Washington DC, 1936. Rural electrification was an important 'plank' in F D Roosevelt's New Deal, hence Britton (who strongly approved of this initiative) was quoted in the American media. He noted that the Americans had developed a fly electrocutor, but with dry humour observed that these were not necessary on Cheshire's electrified farms since these were clean and fly-free.

The Chester 'Special Orders' for rural electrification (1923, 1927) opened up 134 sq miles to electric power; about half the farms thereabouts were electrified by c1940. By that time Britton had been elected president of the IMEA (1923-24) and organised a famous public lighting display in 1936.

Occasionally the reach of this remarkable man exceeded even his grasp, for example a proposal to develop the River Dee with sixteen hydro stations, starting from Llangollen. Needless to say, the British 'system' failed to rise to the challenge, but with today's concern/flap over renewable energy, who knows?

Many of these details can be found in *Chester Electric Lighting Station* by Gordon Emery, whose efforts contributed to naming a Chester road after this great Electrical Engineer. **Roger A S Hennessey**

HINKLEY C CONNECTION

The Government has given approval to the new Grid line to be constructed through Somerset to Bristol using the "T" Pylons. The proposals are to dismantle 67 km of existing 132kV lines and to erect 47 km of 400kV overhead line, 8 km will be placed underground; interestingly overall there will be 105 fewer pylons; but when will it happen?

REVIEW OF CARDIFF WEEKEND

This year's weekend away was based on the Radisson Park Hotel at Llanedeyrn, near Cardiff from Friday 22nd April to Monday 25th April. In a change to our recent breaks, only the visit to WPD Lamby Way, on the Friday afternoon and that to the National Assembly for Wales – Y Senedd at Butetown, on the Saturday were pre-arranged. The organising committee provided our 40 members and guests a comprehensive list of suggested things to do and see in and around Cardiff.

We were welcomed to WPD Lamby Way by Sean Sullivan, Control Manager, Peter Roberts, Emergency Planning Co-ordinator, Andrew Meadley, Control Room Shift Manager, Jonathan Whetter, Contact Centre Team Leader. After refreshments, we were given an excellent presentation on the Centre, its operation, work load and response targets. We were then shown around the various sections and how these interface with each other and WPD's local work centres. The technological changes over past years were very impressive.

On Friday evening, Fiona Peel OBE, a member of the Wales Official Tourist Guides Association gave a very interesting and amusing 'potted' history of Cardiff, its development over many centuries, its buildings, statues and parks and the importance of the Marquess of Bute (a Scottish family) to Cardiff and the Valleys.

The lasting impressions of the visit to Y Senedd building on the Saturday were of its unique internal design representing a tree featuring much use of timber and Welsh slate and the enthusiasm of our guide, Gareth Coombs, who also outlined the constitution of the devolved Government for Wales. After dinner that evening, Dave Hole entertained us in his unique way with a quiz.

The many places visited by members in Cardiff included the Castle, the Cardiff Story Museum, shopping area and arcades, National Museum & Art Gallery, Bute Park, Llandaff Cathedral, Cardiff Bay and a little further afield, Duffryn Gardens, Tredegar House and St Fagan's National History Museum. There were good bus services into Cardiff for those not using their car. We were lucky yet again to have had fine weather, a good choice of hotel, so many places to visit and excellent speakers. *David Cousins*

CARBON CAPTURE & STORAGE (CCS)

The Government's axing of the funding for Carbon Capture and Storage has caused a major blow to industrial concerns involved in this new technology. Even the Government's Energy Select Committee have slammed the decision. This sector of industry was hoping to be at the forefront of new development at two sites in Yorkshire and Peterhead in Scotland. The obvious advantage for this technology is to achieve an extension of the working of coal fired power stations and also be a world leader in the process. Many groups will be lobbying in the next few months to overturn this decision.

NEW AIRSHIPS

There are extraordinary things happening in the air industry. In February I read that British company, Hybrid Air Vehicles has built an airship, The Airlander for the US Army, described as the longest aircraft in the world with a length of 302 ft (92 metres) and being made at Cardington Air Base in Bedfordshire. However after construction the order has been cancelled, whis not surprising since in March I read that Lockheed Martin are building airships 280ft long for a British company, Straightline Aviation, based at Wolverhampton, who has ordered 12. The US airships are filled with helium and powered by four diesel engines and can travel 1400 miles for transporting goods to remote sites.



New British Airship

ELECTRIC SUPERCAR

Tesla Cars, a new company in California has built an electric supercar which will hit 200mph. It is Faraday Future and having built a "concept car", it now intends to go into production. Watch this space!

They have also launched a new production model Model 3, costing £24,000 reduced to £20,000 with Government subsidies, which has a travel distance of 215miles on a full charge. Tesla's enthusiasm knows no bounds with the intention of opening 14 outlets in Britain mostly at out-of-town shopping malls.

HORNSEA WIND FARM

The largest wind-farm in the World has started construction on-shore, which will be a 120 km off the North Yorkshire Coast. It is being developed by Dong Energy and will consist of 340 wind turbines each between 5 – 8 MW 1.5 gigawatts, and will be assembled on-shore until 2018. A cable connection is intended to make land near Grimsby.

CAIRNS ROAD GET-TOGETHER

At the April Get-together at Cairns Road, we had a large turnout of 10 people. Brian Denham had driven all the way from Devon to do some archival research and big surprise was a visit from 90 year old Don Spur (ex-SWEB engineer), who was so impressed he joined on the spot, saying he never knew this set-up existed. We obviously need to do some publicity and we do urgently need some additional help with the archives.

MEMBERS NEWS

John Dike – We are on hols in New Zealand and on Sunday we were sitting in a bar in the centre of Christchurch when at 1.15 pm the 5.7 magnitude earthquake hit, the strongest since the 2011 one that destroyed much of the city. There was a rushing sound like air coming out of the ground, heavy shaking for ten secs and a further 20 secs before reducing. My cider was spilt and it was very scary. Bits fell off the ruined cathedral near us, cliffs fell on the coast and sewers and electricity items were damaged, but no major damage as the old buildings had fallen down in 2011 and some replaced with stronger construction. People were very frightened by it and we spent the day in Hagley Park before returning to the hotel and receive one of the 100 aftershocks that had us hiding under a table!
John Dike from Oz

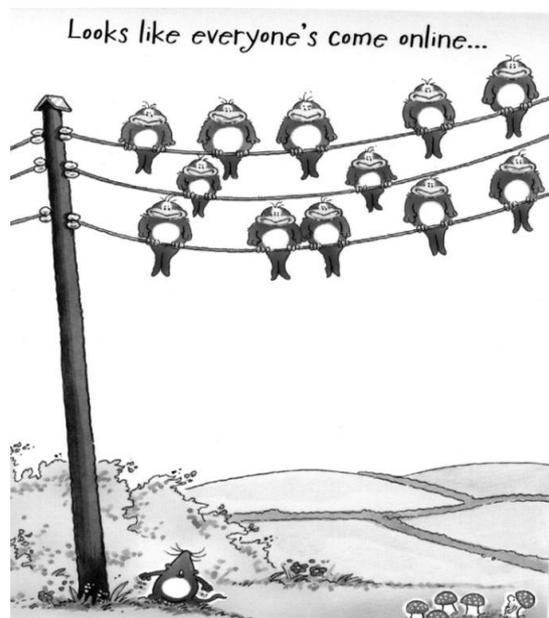
Peter Lamb - I was listening to Radio Bristol on 1st April when a familiar voice sounded during their "listen to the expert" session. Yes it was none other than our newsletter editor! Peter was asked by the female presenter "what is electricity"? He gave a very reasonable response by saying that it was electrons excited by wafting a metal wire in magnetic field. Then the lady ploughed on with a question about the history of when it all started and Peter gave a very good synopsis of the major names and dates adding that Bristol was somewhat tardy in starting to use electricity and why. The subject matter had been triggered by earlier talk about the release of Tesla's new electric car in this country. When asked if we would all be driving such vehicles soon, Peter's response stated that although battery technology had improved rapidly lately, it was unlikely to replace conventional engines for mass production for some time yet. *Peter Ireland*

WPD & SOLAR ENERGY

There is an increasing demand in the UK for more energy to be produced from renewable sources. As a consequence, large swathes of land are being turned over to solar parks or wind farms. Nowhere is this trend more evident than in the South West where more than 1,000 requests were made between April and the end of September 2015 to connect 1,800 MW of renewable energy to WPD's network. The massive influx in demand for photovoltaic connections is driven by a reduction in the cost of PV panels and green subsidies that offer a guaranteed rate of return over 20 years. There are practical implications for WPD's network. Managing the massive number of applications has put a considerable pressure on the organisation, since they have to be analysed to comprehend their impact on the network. Some applications including one in Cornwall was for 8MW requiring reinforcement of the network.

WPD HELICOPTER UNIT

WPD Helicopter last year took delivery of its fifth Airbus EC135 Helicopter replacing one 30 years old, following a replacement programme to increase efficiency and better support network services teams. On route patrols each crew can inspect between 80 and 100km of 11kV lines.



WREFORD MUSEUM DONATION

Last year Member Mike Wreford donated many old historical text books to our Archive. This year he has had another clear-out and donated two very old appliances – an ornate fire and a two pin copper kettle, both of which will be on show shortly. See below.



STOP PRESS

We have lost a very important member, our oldest member, Eric Edmonds, the undisputed electrical historian of Cornwall, has died in April, well over 90. A eulogy will appear in the next issue.

FOR YOUR DIARIES – COMING EVENTS

Wed 15th Jun - VISIT DEAN FOREST RAILWAY

Programme for the day to be advised once 2016 train times are known.

Sat 17th Sept - VISIT TO PLYMOUTH DOCKYARD RN MUSEUM

Arrangements to be confirmed.

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.