

HISTELEC NEWS

NEWSLETTER OF THE SOUTH WESTERN ELECTRICITY HISTORICAL SOCIETY

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BIG SIX TO BE INVESTIGATED

The Big Six Energy Companies, that's SSE, Scottish Power, EDF, NPOWER, EON, & British Gas, are to be referred to the Competition and Markets Authority (CMA) to investigate their charges for energy to domestic and small business customers only. This investigation, which will take 18 months, will explore whether the companies co-ordinate the price changes instead of passing on any reduction in the costs to the customer. Meanwhile the supply industry wallows on without adequate incentives to build new power stations.

Electrical historians might recognize the letters CMA from the past? Cable Manufacturers Association indeed!

BRITAIN'S GENERATION IN A MESS!

Eggborough Power Station's bid to convert to biomass fuel similar to Drax, has been refused, which means that we will lose 2GW of generation (4% of UK's Electricity) and Hinkley Point C will not come on stream until 2023 and any other projects are stumbling due to the above referral of the Big Six Suppliers of Electricity as mentioned above. What a mess the UK's generation business is in? Bring back the CEGB or some central office of control and planning!!

With that scenario one might expect that the officers of the National Grid are worried. Well they are not surprisingly planning to create more major interconnectors with Europe and the Republic of Ireland. The new connections to Europe will be to the Netherlands with the possibility of importing 6853GWh. Also it is offering generous payments to large industries and businesses to turn off lights and machinery during peak times. One wonders whether this idea is at all practical? We will watch with great interest!

BRISTOL TRAMWAYS GENERATION

You may recall that the late Marcus Palmen wrote two supplements to this newsletter on the above topic detailing the two power stations constructed solely for the Tramways Company. Last year Marcus and Peter Lamb got together to unite the two into one story involving additional information Marcus had found on the internet and Peter in our archives. The Society has agreed to have this printed into an A5 booklet format and the photographs of the massive American power plant included are exceptionally good. Copies are now available at £2.00 each plus £1.50 post and packing (cheques to SWEHS) from **Peter Lamb**
35 Station Road, Backwell, Bristol BS48 3NH.

SOX HOSEGOOD

Charles "Sox" Hosegood has died recently; it is fitting to remember him here even though he was not a member. He gave us a talk on the early days of the SWEB Helicopter Unit of which he was the first pilot. His tale of flying the first Augusta helicopter from Italy to Bristol with the then Chairman of SWEB Bill Irens was a considerable entertaining saga. Sox joined the Navy in 1939 going on a pilots training course and then was stationed at Poole, flying Walrus amphibians on search and rescue missions. In 1944 he was sent to USA to be trained with Sikorsky machines for use in anti-submarine operations. He did experimental work with helicopters landing on ships, the photos of which indicate he had some hairy moments. With the War over, he joined Bristol Aeroplane Company as a helicopter chief test pilot. He survived a serious crash in 1952 at a Filton Air Show when his twin engine tandem rotor helicopter nose-dived into the ground. He joined SWEB in 1963 and set about establishing the helicopter unit, which was originally set-up with a grant from Electricity Council as an experimental basis, and became the very successful unit it is today.

STAKEHOLDERS

Western Power Distribution have been applauded by OFGEM as being the only distribution company to be fast-tracked with their business plan, whereas the others have had to go back to the drawing board so to speak. One of the aspects of their excellent performance is satisfying their consumers and their stakeholders. So I asked WPD "Who are the stakeholders"? Alex Wilkes and Nicki Johnson of the Stakeholder Engagement Team answered my enquiry.

The Stakeholders are obviously 7.8 million business and domestic customers. To get to the root of these they do research, hold workshops and update customer panels, Government, Parish Councils, major energy users, charities in order to get feed-back. They also run awareness campaigns. It all sounds very fluid, but I guess it works?

CAIRNS ROAD

David Cousins has been given a desk-top computer and has donated it to the Society setting it up in our Cairns Road Centre office. It is proposed to acquire a printer/copier to go with it, which will replace the very large photocopier there. The SWEHS data files will then be available on the computer for visitors and members alike. Come and explore our fascinating archives.

SWANAGE WEEKEND

With a dismal weather forecast for the weekend in April, 38 members and friends gathered at the Grand Hotel, Swanage on the Friday evening. Most had gathered at lunchtime at the New Inn, Knowle for lunch in an old pub with much character and then drove down the road to Tyneham Village, the village from which residents had been forcibly removed during the last war in order to allow the site to be used for gunnery practice and after the war they were never allowed back. It was an eerie experience but the sun shone. In the evening we had a talk on the nearby Jurassic Coast.

Next day we took a train ride to Corfe spending a lovely sunny day exploring the derelict castle. Some of us returned for lunch in Swanage exploring the town. The day was rounded off with a talk in the evening on the history of Swanage via post cards.

On Sunday a coach took us to Compton Acres, delightfully ornate gardens attached to house on the edge of Poole called Clifton Heights, which is now a wedding reception centre. It was built in 1924 by a Margarine manufacturer, Thomas Simpson in Italian and Japanese styles, but there is a wooded valley also, which gives the gardens a particular charm. Unfortunately this time, it did rain and we ended up dodging the showers but most of us completed the circuit around the gardens with the sun breaking through at the end. Then off to a boat trip from Poole Quay. It was a great sea adventure with quite a strong swell, which got worse as soon as we emerged from the large Poole harbour with white topped waves striking the sides of the boat. So the Skipper was forced to curtail the voyage heading back into the harbour and instead gave us grand tour of the richest properties along the shoreline of Sandbanks and Clifton Heights.



SWEHS Weekenders set off from Poole

In the evening a quiz was organised by David Hole. What a delightful way to spend a weekend in a charming hotel in a stunning location. Well done the team who organised the event.

Peter Lamb

Postscript

The opportunity was taken at the end of the Sunday evening meal to mark the retirement of Peter Lamb and John Gale from the committee at the recently held AGM. Our new chairman, David Hutton, presented each with a Bristol Blue-glass paperweight in recognition of their considerable service to the Society over many years.

Chris Buck, Secretary

LATEST ON SOMERSET PYLONS

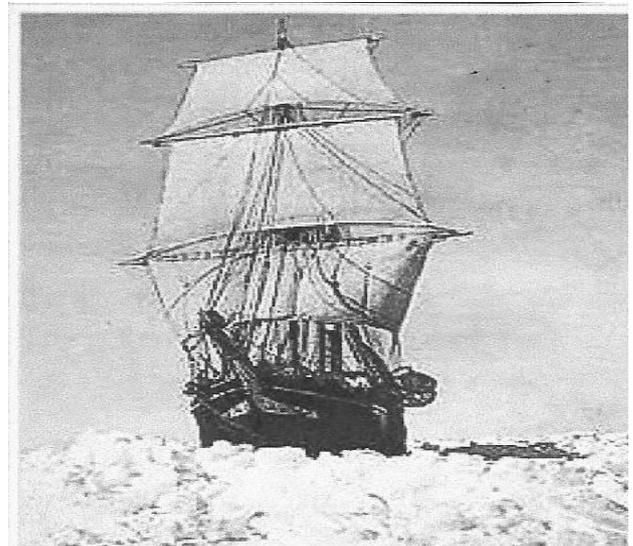
National Grid are on their last hurdle in the 400kV pylon line from Bridgwater to Avonmouth, since they have submitted a planning application. The submitted scheme largely follows the M5 route, but includes dismantling both 132kV lines near Nailsea, one of which will be replaced with underground cable. The next stage is for examining inspectors to review the proposed route and then report to the Secretary of State for Energy & Climate Change, who will make the ultimate decisions. The decision is expected by 2015.

SEABANK 3

The local papers in Bristol recently carried a big consultancy advert about a proposed third gas-fired power station at Seabank on the coast of the Severn Estuary north of Avonmouth. This consultancy relates to getting planning permission and it stated that the size of the new unit would be 1,400 MW and it was being proposed by SSE. You may be interested in the current units. Seabank 1 is 755MW completed in 1996 and Seabank 2 is 385 MW completed in 2001, so the new station is twice the size of the existing two units, both of which were built by Siemens.

SHACKLETON'S ANTARTIC ADVENTURE

On Saturday 17 May 38 members and guests assembled at the Highwayman's Haunt, Chudleigh for lunch followed by a captivating illustrated presentation by committee member John Dike on Shackleton's expedition to Antarctica. The Society had not made use of this venue for several years but since the pub had changed hands it was decided to give it another go because of its location. We were not disappointed and had an enjoyable lunch so will be making use of this venue again. John's presentation made much use of photographs taken by Frank Hurley, the expedition's photographer.



Shackleton's Ship "Endurance"

John also showed examples of the very basic cameras in use at that time. The expedition started in 1914, finishing in 1917. Because of the imminence of World War I Shackleton sought permission about the acceptability of mounting such an expedition at that time.

SHACKLETON TALK continued

Permission was granted and the expeditionary force set sail in the Endurance for Antarctica and the Weddell Sea, planning to land and set up camp near Vahsel Bay. The plan was to head for the South Pole and then move on across Antarctica to the opposite side to reach the Ross Sea and rendezvous with a second ship. However, the best laid plans soon went widely adrift and what had started as an expedition of adventure soon became one of survival.

On reaching the Weddell Sea the Endurance got stuck in pack ice because of the early onset of the Antarctic winter. At the mercy of the drifting ice the boat gradually drifted away from its intended destination. Because of the fear that the boat would succumb to the pressure of the pack ice the crew transferred to the three life boats. Endurance did eventually break up, although materials were salvaged. Eventually all three life-boats made it to an uninhabited and very inhospitable island – Elephant Island. It was soon realized that to stand any chance of rescue some of the crew would need to sail on in one of the boats to South Georgia where there existed a whaling station. Although by now the party had only one sextant for navigation purposes the boat eventually reached South Georgia, from which a rescue party was sent to rescue those remaining behind on Elephant Island. Although in the sense of the original objective the expedition was a failure, in other ways it has received acclaim through the endurance and survival of those who took part and, in particular, Shackleton's leadership and resolve.

Chris Buck

FLEET AIR ARM MUSEUM VISIT

Our visit to the museum in Yeovilton, on the 19th June turned out to be very successful and enjoyable and we have to thank John Dike for organising a great day out. 34 of us met for coffee in the "Swordfish Restaurant" at about 10.00hrs in perfect weather and so we got off to a good start, although, at the time, I did wonder if it was the best way to spend such a glorious day!

Following coffee we were given a private presentation in the conference room. Although I can't remember our speaker's name I will remember him for a long time. He had been a "Sea King" helicopter pilot and a high ranking officer in the Fleet Air Arm during his career and it definitely showed. (John found out later that he had survived a serious crash when the tail rotor of his helicopter had become detached and he had spiralled into the sea.) He told us the story of the Fleet Air Arm's history from the beginning of the 20th century up to the present and a bit beyond into the future. His delivery was witty, very entertaining and, clearly he "knew his stuff". I could have listened to him for much longer but lunch intervened.

After lunch we split up to explore the 4 separate halls of exhibits. Hall 1 was devoted to World War 1 aircraft with the star being the Fairey Flycatcher, I guess and some more modern Westland helicopters, Hall 2 contained World War 2 aircraft, particularly the Naval version of the Spitfire, the Supermarine Seafire and a wide variety of other planes, including the American Harvard.



Paul Hulbert in front of the Harvard (a selfie!)

Hall 3 was very different since we boarded HMS "Ark Royal" via a short simulated helicopter flight onto the flight deck where aircraft landed and launched during very realistic simulations. We left the flight deck and were cleverly conducted on a tour of the "Island" i.e. the turret of the Aircraft Carrier, where we saw many aspects of the ship's operation played out before us, finally leaving the noisy flight deck via an aircraft lift, all of which involved a host of incredible experiences.

Hall 4 brought us almost up to date with more modern aircraft. Here the "star of the show" is Concorde 002 and one might think you can't get much more modern than that! However, when one remembers that she was only a prototype, first flew from Filton in 1969 and her final flight was to Yeovilton in 1976, then one realises that perhaps we are "showing our age".

Anyway it was a good day, an educational day and a social day. Chris and I enjoyed it and we are glad we went even though we missed some good weather.

David Hole

WPD TALK TO RPEC

In July Paul Jewell, Policy Manager of WPD gave a talk to the Retired Professional Engineers Club in Bristol entitled "Producing & Storing Electricity at Home". It was a fascinating review of some of the experimental research projects being undertaken on the distribution system by WPD. The specific research project in the home culminated from investigations involving large number of small generation facilities developing on the network, such as solar panels and wind turbines. They had been surprised that the networks were not so adversely affected as had been anticipated, but of course are developing with two way power flows. The main project involved fitting solar panels on the roof of a house in Knowle West, Bristol with the DC electricity so generated stored in batteries fixed in the roof space. The project involves both the City Council and Bath University, who are undertaking the technical studies involved. They are intending to widen the project to include a school and may be also a commercial premise. He said that WPD are undertaking over 30 other research projects on their distribution networks authorised by Ofgem as are the other distribution companies.

GRID ELECTRICITY STORAGE

WPD are not the only company with experimental systems on the distribution networks. Six advanced energy storage units have been installed at Grid substations on the distribution systems in Northern England. NEC Energy Solutions has completed the commissioning of these energy storage units totalling 2.9 MW and 5.7MWh of storage capacity. The six units were installed in both urban and rural locations for Northern Powergrid, the largest of which is at Darlington and smallest at Wooler, Northumberland. The units are lithium-ion battery units packaged in a variety of containers and existing buildings. The idea is to store electricity produced by renewable energy sources at off-peak times. The cells are made in USA and China.

ST. MARY'S POWER STATION

(This article was written by Michael Thorne, a new member of the Society, who has a keen interest in all forms of power and transport infrastructures, and owns the nationally famous Coldridge Collection of Massey Ferguson Tractors .He has produced several books and DVD's. It has been edited and abridged by John Dike.)

Having visited the Isle of Scilly for many years I was introduced to Richie Christopher of Western Power Distribution who, with two colleagues, maintains and runs the power station on St Mary's and the electricity supply system throughout the islands. Richie has those natural island qualities of resourcefulness, the ability to think and work laterally, and a sense of pride in the responsible positions that such people hold. This article attempts to give an outline of the story of the development of the provision of electricity to these islands from its inception in 1932 to the situation today where they are supplied by a submarine cable from the mainland.

In 1932 the power station was built, on a site previously known as Worsells Quarry, by a group of local entrepreneurs who saw the business potential of such a venture. They set up the St Mary's Electricity Supply Company. Initially this only supplied the island of St Mary's. In 1957 this company was taken over by SWEB and, following this acquisition, and over the period 1958-1966, they installed five new generating sets supplied by Lister Blackstone. These were driven by 8 cylinder in-line Lister diesel engines running at 750rpm. Sets 1, 2 and 3 were rated at 450kW and No 5 at 250kW initially but it was then uprated to 350kW following the fitting of a turbocharger and a new camshaft.

And then in 1966 a 950kW Lister Blackstone with a 16 cylinder diesel engine was added to the station. At that time the average load was 1200kW. In 1972 the next generating set to be installed was a Paxman V12 with a rated output of 1000kW. This was virtually the same as fitted to the early InterCity trains with an output of 2000BHP. The locos had one at each end. The engine used a fabricated crankcase and block as opposed to cast steel on the Lister Blackstones. This has proved problematic over the years due to the development of hairline cracks making it difficult to repair oil and water leaks.



Lister Blackstone Engine Set (SWEHS Archive)

In 1985, with the other islands now connected to the station, further generating capacity was required and a Mirrlees Blackstone V12 unit of 1900kW was installed. By 1989 SWEB was required to connect The Scillies to the National Grid at a cost of £8.5m. The pressure for this came from a group of non-island people, living in the Scillies, who had discovered a piece of legislation that if more than six customers demanded it they must by law be connected to the National Grid! As a result of this each electricity customer living on the islands had to contribute £1000! The transmission losses over the 26 miles or so of 33,000 volt cable require an extra 3MW of power to carry the electricity to the islands. The power station on St Mary's provides a standby to the islands in the event of a major failure in the South West of England but would require £8000 a day in red diesel to keep it running!

The beautifully maintained sets are started on compressed air supplied at 350psi. In each cylinder head there is a dedicated valve operated by a rocker, that is not spring loaded, and only capable of being opened by the starting air pressure when the piston is just over TDC firing stroke. As this is repeated on each cylinder in turn it is not long before the air pressure has the engine running. The status of the sets can be monitored in Richie's office or remotely in the Western Power control room.

With all sets running a combined output of 5700kW is achievable. As the diesel engines are only 20% efficient a large proportion of the cost of the diesel is used in heating the cooling water! To achieve this level of cooling a cooling tower principle is employed. As this requires the water to cascade down the corrugated elements inside the tower, which is open to the atmosphere, an additive must be added to eliminate Legionnaires Disease pathogens.

I am indebted to Richie and Western Power Distribution for allowing me the privilege of a behind the scenes viewing of St Mary's Power Station. **Michael Thorne**

DIRTY DIESEL

Ten years ago we were all being encouraged to buy Diesel engine cars, now they are pollutants, making our cities dirty. With some of these green issues, we don't seem to be able to win. There always seems to be a downside!!

AN EPIC TRAIN JOURNEY ACROSS AUSTRALIA

Earlier this year Ellie and I travelled to the Southern Hemisphere with two main aims. The first was to visit our eldest daughter and family in New Zealand, and the second to travel on the Indian-Pacific Railway across Australia.

We had flown across Australia on two previous trips to New Zealand, but very much wanted to see the vastness of the continent at ground level. The IP Railway runs from Sydney to Perth, a distance of 2,700 miles, and takes 3 days and nights to complete the journey. The route diverts into Adelaide and then runs across the Nullarbor Plain and onwards to Perth.

After spending three days in the Sydney Harbour area, (including doing the Opera House Tour), we joined the train and were immediately impressed by the two massive diesel locomotives on the front of the train. These were needed to pull the 17 coaches lined up at the platform. Our cabin was rather compact, with its own ensuite toilet/shower, and a long comfortable settee, which folded up to form bunk-beds at night. I bet you can guess who had to climb the ladder to slide into the top bunk! I found sleep quite difficult because the train swayed continuously, with the occasional massive jerk. I wondered about the state of the track each time I was woken up! Although we spent 3 days on the train, the time passed very well.

The scenery was interesting, and the food was excellent (not to mention the wine!). We met and chatted with many other passengers from all over the world, including Japan, Canada, America and Australia. We exchanged email addresses with several of them. After the first day and night on the train we stopped at the town of Broken Hill. This place is miles from anywhere and gets its' water supply via a pipeline 100 miles long. We visited the studio of the artist Pro Hart, who spent many years painting brightly-coloured pictures of the local people and landscapes. He even had a Rolls-Royce which he had covered with various scenes!

Travelling on we arrived at Adelaide and did a sight-seeing coach trip. We visited the granite obelisk and statue of Colonel Light, the founder and surveyor, who laid out the city in 1837. The temperature was about 34 degrees Centigrade, but we were told the previous week had seen 46 degrees, the highest in Australia at that time! While we were busy absorbing the sights, another 5 coaches had been added to the train, including 2 double-decker car-transporters!

Continuing on towards Perth we crossed the Nullarbor Plain, which, as it's name implies, is treeless. The track here is dead straight for 300 miles, and all there is to see is scrub-land stretching to the horizon. The soil is red, and it was raining for the first time for many years! The rain watered the brown vegetation which turned green,

almost before our eyes! We then passed a large trackside sign welcoming us to 'Western Australia'. In the evening we stopped for a visit to the Kalgoorlie Gold Mine, which has been operating for over 100 years. It was dark, but work was in full swing in the massive excavation below our viewing point. We arrived in Perth after our last breakfast on the train, and were transported to our hotel near the Swan Rive. By a lucky coincidence the next day was 'Australia Day', and we were treated to a superb display of stunt flying and fireworks over the river.

John Haynes



PHILIPS DIMMABLE LAMP

Barrie Phillips has found a most unusual lamp pictured above. It is an Edison screw lamp that fits into an adaptor which can be switched parallel and series two filaments to achieve 60W, 100W and 160W output.

GOOD ENERGY?

If you are a member of the National Trust, you may have had a pamphlet from "Good Energy", which says "Would you like electricity that's local, natural and supports the National Trust". I believe that GE has no way to guarantee that your electricity would come from one particular source i.e. local and therefore they should be arraigned under the Trade Description Act. What do you think?

Peter Lamb

SOLAR FARMS LATEST

The number of new solar farms being built in the UK will double this year, which is surprising in one sense, since the subsidies were cut in 2011, but the reason for the renewed surge is that the cost of solar panels has come down dramatically due to the booming production in China. One of the largest will be David Cameron's own constituency in Oxfordshire at Kencot Hill, which is the site of a World War II airfield RAF Broadwell, so it is considered to be a "brownfield site". It will have 144,000 ground-mounted panels (giving at times 37MW) installed by RWE and then sold on to a finance company.

ALSTOM BATTLE

The French Government have been in a spin over which partner to be allowed to take-over the French electrical equipment manufacturer, Alstom. Both GE of America and Siemens have offered financial packages for a take-over or a partnership of some sort or other with both companies promising to maintain Alstom as a mainstream manufacturer in France. It is not a level playing field since the French Government are intending to increase their holding in the French company to 20% in order to provide some leverage in any future directions the conglomerate may digress. The latest news is that the French Government has overcome their anti-American stance and are going for GE. The GE proposal is to establish three joint ventures in energy transmission, renewable energy and steam turbines, but also in so doing they are insisting that there would have to be \$1.2 billion annual savings accrued through their proposals.

NEW ELECTRICAL APPLIANCE

The new appliance is an iKettle, but will you want it? It is a simple kettle that can be remotely controlled from your bed by a smartphone or tablet, i.e. a new version of the Teasmade may be? It costs almost £100, so is it worth it, since it still needs to be filled by hand? However in the future it could go hand-in-hand with a robot, which may also prepare your breakfast!!

EXPENSIVE ELECTRICITY?

I have been passed an article from the Sunday Telegraph in July, which is headed "An expensive way to boil a kettle". The writer who obviously lives near or on the Mendips found a new small wind turbine had sprouted up on the Mendips and he went to explore and found that it was only a 50kW unit 120ft high and he considered it would have cost £240,000 to install it and the owner would get back £24,000 a year for the electricity generated. He worked out that it was being subsidised at the rate of 260% - an expensive way to boil up a dozen kettles, hence the title!!

WURZELS AND WINDFARMS

The Wurzels, the 1966 cider drinking singing group are objecting to Wind-farms on the Mendips as well. These days they are based at Norton St. Philip and a proposal has been received with the County Planners for a 236ft turbine at Laverton on the edge of the Mendips. To highlight their objection, they have written a 7 verse song "The Mendip Windfarm Song". I print the 4th & 5th verse to give you the spirit of the song :-

We started our own action group with Ernie, Jake and Sue,

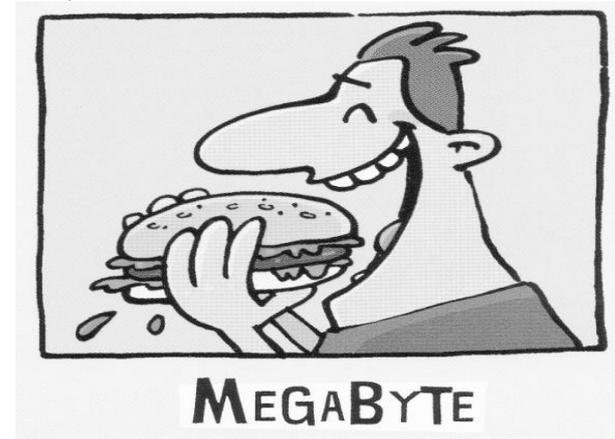
And sat around the pub all night deciding what to do,
We spoke to all the village folk who made it very clear,
They're noisy and they're ugly and nobody wants 'em here

Them windfarms they be all across the Mendips,
You'll see 'em cross from Laverton to Frome,
Them windfarms be all across the Mendips,
They're sure to put the wind up me and you.

FATHER'S DAY CARD

I had an unusual Father's Day card from my son and I thought that I would share one of the pictures involved with you, shown below.

Peter Lamb



MEMBERS NEWS

BRIAN CHINN - Brian has not been very well for some time and is making good progress. He is likely to be home shortly

BRIAN GRIMSHAW - Brian and his wife Marian were not able to attend the Weekend Away, their place being taken by new member Peter Ireland and his wife, so we wanted to know how Brian was doing. He has replied that at the moment he is relatively well and enjoying the good weather. He has encountered flooding recently at his Topsham home due to the storms and has been busy trying to get Government help with the flood defences involving the "Flood" Minister and his MP.

WELCOME NEW MEMBERS

We are delighted to welcome four new members this Summer. They are Roger Blackburn, Peter Lowe, Barry Poole and Joseph Skinner, all of whom are ex-SWEB employees. Peter Lowe started as a SWEB student engineer at Bath and then left for other Boards ending up with South Eastern Board, but recently has moved back to Bristol. We hope that they will have an enjoyable time with us and we look forward to meeting them sometime.

FOR YOUR DIARIES - COMING EVENTS

Sat. 18th Oct. MEETING IN DEVON "Life after

SWEB" Talk by David Jones CBE ex-SWEB

Engineering Director about his career after leaving SWEB as Dep. Chair of South Wales then CE of National Grid. A fascinating & interesting tale at the Nutwell Lodge Hotel on the Exmouth Road. Meet 12.00 noon for lunch with talk around 1.30pm.

Sat. 29th Nov. MEETING - CAIRNS ROAD,

BRISTOL - "SEVERN PRINCESS - AUST FERRY"

-Talk by Tim Ryan about the restoration of the old Aust ferry boat. We will lunch at the Westbury Park Tavern beforehand at 12.00 for 12.30pm.

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.