

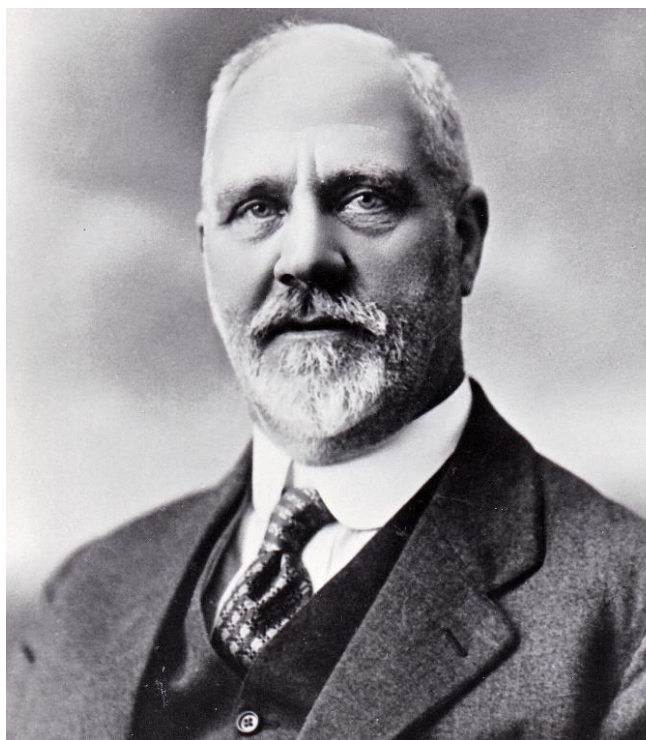
## PORTISHEAD'S FIRST GENERATING STATION & NORTH SOMERSET'S ELECTRIFICATION

*by Peter Lamb*

*This article was first written for Bristol Industrial Archaeological Society (BIAS) annual journal (2021) following their previous journal featuring early oil engines locally manufactured and it is an interesting story featuring a generating station at Portishead established in 1913 well before the much larger Portishead A & B stations from 1929. The building is still there whereas the others have been totally removed!*

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An electricity generating station was built at Portishead in 1913 well before the familiar, now removed Portishead A & B Power Stations were built. It was commissioned in a new building by Frank Christy of Christy Brothers of Chelmsford at Gas Lane, Portishead, now named Old Mill Lane.



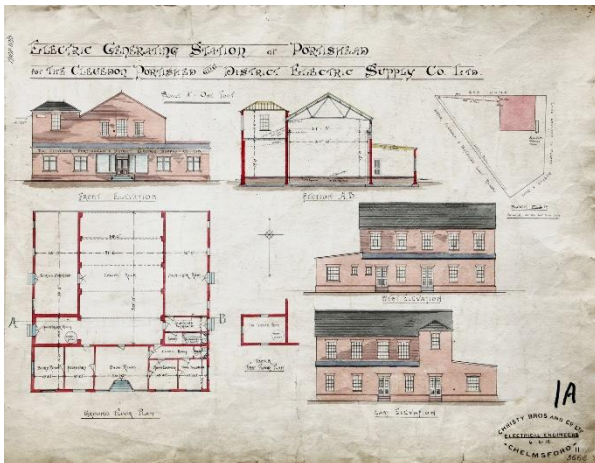
**Fig.1 Frank Christy**

Frank Christy had been trained at Cromptons, Chelmsford and the proprietor Col. Crompton

encouraged the much younger man, Frank to set up his own company “down the road” in 1883 with his father Fell Christy, brother Leonard Fell Christy and a Somerset man, James Norris, who had been in partnership with his father previously. However presumably when Norris left, the company was renamed Christy Brothers in 1906.

Much initial work was carried out in the South West, particularly at Bristol for Grace Brothers Flour Mills and HH Budgett of Kingswood in 1844. Their first public supply in the South West was at Bude in North Cornwall in 1908, having also set up previously installations in East Anglia and I -O-W. He was then in his forties and was a great entrepreneur getting around the country in those early days by trains and coaches. Nevertheless, he died a ripe old-age of 91 in 1957.

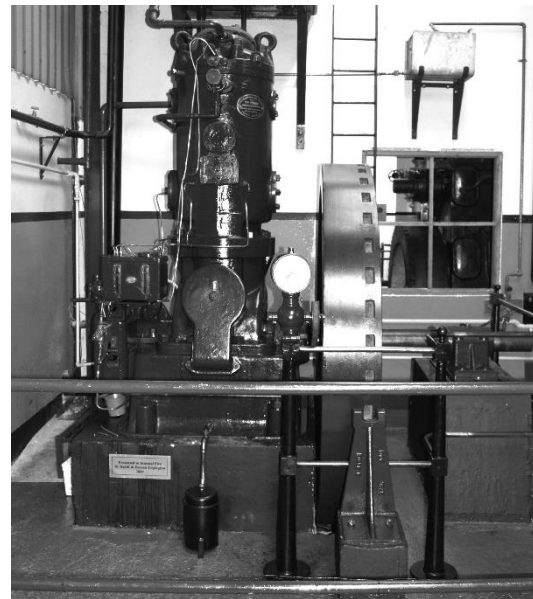
Frank Christy created a new company to run the outfit, it was called the Clevedon, Portishead & District Electric Supply Co. Ltd. The Registered Office was the “Power Station, Portishead” with Ernest Tole as Secretary & Engineer. The use of the words “Power Station” is ironic, considering that it only housed two engine sets at 50hp each.



**Fig.2 Original Generating Station, Portishead**

In the new building, two 50hp Petter oil engines drove dynamos to supply a DC installation 3 wire 200/400volts. The engines were manufactured in Yeovil and the company created a new division, named Westland Aircraft Company in World War I to build seaplanes then. We don't know the make of the dynamos, but it is likely to have been Crompton's. One of the original Petter Oil Engines can still be seen at the Museum of Power in West Wales, see Fig.3, since it was rescued from a quarry in Devon. Maintenance problems occurred with the engines within a few years and They were replaced by ES. Hindley Vertical Gas Engines, manufactured in Bourton, Dorset.

Having obtained an Electric Lighting Order in 1911 for the Clevedon, Long Ashton and Abbots Leigh areas, they were approached to supply South Liberty Colliery outside the City boundary and therefore outside Bristol Corporation Electricity Department (BCED)'s area of supply. Frank Christy therefore started negotiating for a supply from BCED at Bower Ashton. An agreement was signed in 1915 and a 6.6/11kV transformer installed at Bower Ashton, near the Railway Bridge. An 11kV cable, made by Henleys, was then laid to the colliery.

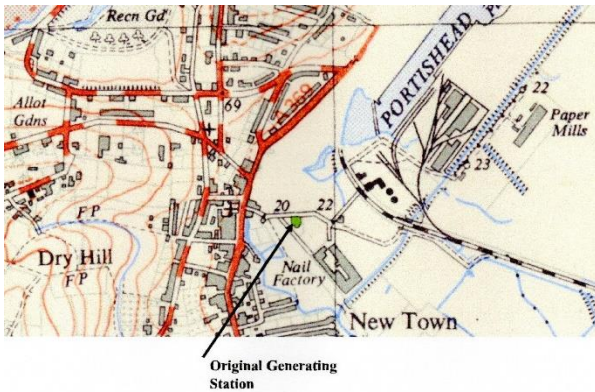


**Fig.3 The original Petter Oil Engine in West Wales Museum of Power**

During the World War I, the Government handed the Admiralty the task of building more merchant shipping. The National Shipyard Company was established to build three new shipyards at Chepstow, Beachley and Portbury. The last one, on the banks of the River Avon at Sheephouse Farm, needed an electricity supply and a tremendous battle ensued between BCED and Clevedon, Portishead & District Electric Supply Co. Ltd.; and the Board of Trade (BOT) awarded the contract to the Portishead company involving a hefty sum. Instead of building a bigger generating station, Christy's chose to lay an HV underground cable all the way from Bower Ashton, using the BCED supply previously negotiated. The cable route took the Portishead Road over 7 ½ miles, so it was a major project and parts of the cable are still in operation!

One can imagine Frank Christy visiting the BCED Chief Engineer, Harold Faraday Proctor in the main offices then at the Corn Exchange for further discussions on a fair price of electricity. They must have got on well, and one may presume that he managed to negotiate a reasonable price, since Frank was then given a 24 year contract.





**Fig.4 Map of the area in 1927  
(Ordnance Survey Map)**

The WW1 ended and the Admiralty decided to stop construction of the new shipyard, which was then well under way, and asked for the supply to be disconnected. The local electricity supply company ended up with a power supply on the doorstep of Portishead.

In 1920 the name was changed to the North Somerset Electric Supply Co. Ltd. The Directors were :- H B Napier J P (Chairman), J Hall, J H Woodington, L F Christy, Frank Christy.



**Fig.5 Picture of the Old Generating Station building 2017 in Old Mill Lane**

In 1923 they decided to close down the small generating station using it as a distribution substation. It survived with South Western Electricity Board (SWEB) installing a large 33/11kV transformers alongside becoming a major distribution centre and using the old building as a switching station. Eventually SWEB built a new switch room disposing of the old building. It is now used by a car/van rental firm.

Christy's used the old "Power Station" as a head office until 1928. With the expansion of

their network into Somerset and beyond, described later, they decided that they needed to establish a head office in Bristol and the site chosen was Bower Ashton at Ashton Gate on the A370 emanating from Bristol, where they had already built a staff house and transforming station.



**Fig.6 The North Somerset company's Head Offices at Bower Ashton**

The picture shows the offices in 1932, which appear as one storey at the front with three storeys at the rear view with a staff house to the right.

The North Somerset company was very commercially minded in the 1930's taking a mobile showroom around the villages of North Somerset to sell and demonstrate electrical household appliances. In their brochure of 1932 from which much of this detail derives, it is said that, when opened for display purposes, it will accommodate 40 persons. Two employees accompany the showroom, a Sales Engineer and a Demonstrator. It would appear that the travelling salesroom caravan is much larger than the picture implies, see fig. 8. Also look more closely, the lorry towing the showroom appears to be steam driven!!



**Fig. 7 A Typical Showroom**

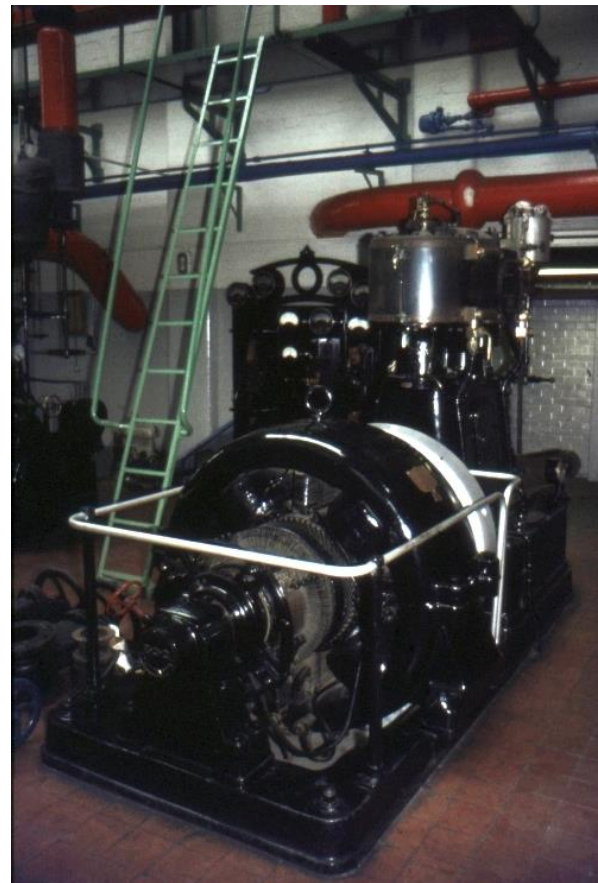
Christys opened showrooms throughout their territory, which compares with Bristol Corporation Electricity Department, who had none at that time. The North Somerset company had 11 showrooms alongside transformer stations and including staff in

residence, called “Resident Transforming Stations”. They were situated at Cheddar, Clevedon, Highbridge, Midsomer Norton, Nailsea, Portishead, Shepton Mallett, Wedmore, Whitchurch, Wells and Winscombe. A typical one is shown in fig.7, believed to be at Highbridge.



**Fig. 8 Mobile Showroom**

By 1911 Christys had already installed a DC generating facility in the C & J Clark Shoe Factory in Street. Power was provided by a Bellis & Morcom Steam Engine (150BHP) driving an Electric Construction Company (ECC) of Wolverhampton Dynamo giving a DC supply of 440 & 220volts. Since an Electric Lighting Order had been obtained by Christys for Clark’s factory to provide public supplies, they were lighting a 100 public lamps by 1916. A close association existed between Christys and Clarks, since both families were Quakers and were linked by marriage. Having obtained a Lighting Order for Street, it was easy to transfer this into a new undertaking for the surrounding territory, the Mid-Somerset Electric Supply Company. Two of Clark family members were included on the Board with Mr JB Clark as Chairman.



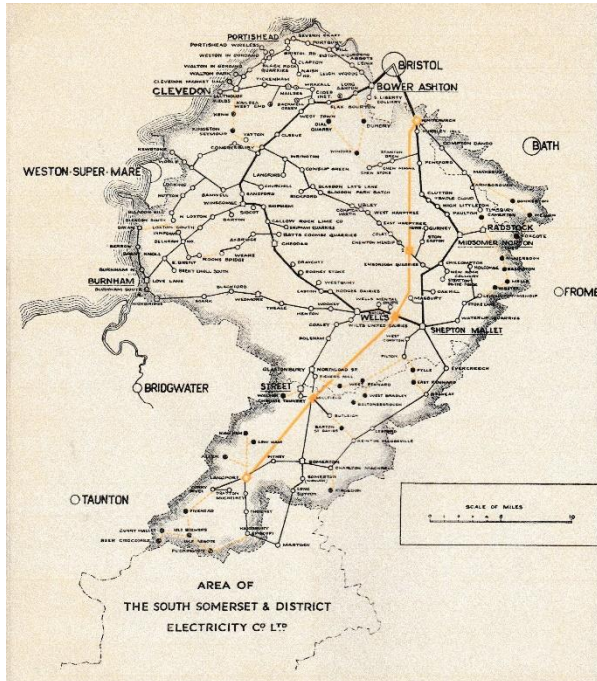
**Fig.9 Clark’s Factory Bellis & Morcom Set in situ at Street (Photo Iain Miles Collection)**

Earlier this year, members of the Westonzoyland Engine Trust discovered that the Clark’s Factory DC generating set had survived in situ until fairly recently, see Fig. 9, (picture taken on a SIAS visit to Clark’s boiler and power house in 1985). It was subsequently removed for private preservation around 2002. Trust members, with SIAS assistance have secured it for eventual display at the Westonzoyland Pumping Station Museum near Bridgwater. It is hoped to move it to their site during the latter part of 2020 for permanent display.

It was inevitable that they would surround small undertakings, which had established small generating stations supplying DC to villages and towns, many of which had obtained the necessary statutory powers. These undertakings were bought by the company, they included Cheddar Electric Supply Company, Winscombe Electric Light & Power Company and Wedmore Electric Light &



Power Company in the 1928-29 period. By this time the North Somerset Company also owned, as subsidiaries, the Burnham and Mid-Somerset companies. It should be noted that the electricity supplies to the town of Weston-Super-Mare were operated by a separate company, owned by a national company British Electric Traction Co (BET).



**Fig 10 Network Diagram in 1932**

The taking of an AC electricity supply from Bristol Corporation Electricity Department (BCED) started an incredible momentum for the North Somerset company to buy all their electricity from BCED from two sites, one at Bower Ashton, and the other at Whitchurch, see the network diagram fig. 10, with electricity coming then from Feeder Road Generating Station. They built a vast 11kV network across the countryside reaching as far as Street. It involved by 1932 bolstering the network with a 33kV line from Whitchurch to Langport, more or less in the style of the modern Grid Systems. In 1936 a second 33kV line was constructed from Bower Ashton, at a site known as Kennel Farm, to Congresbury and beyond towards Burnham. By 1932 the mains laid or erected included 221 miles of 11kV line, 30 miles of 33kV line and 350 miles of low voltage mains, a considerable investment.



**Fig.11 North Somerset ESC Logo**

The small generation building at Wedmore, which had been converted to a mere substation survived until 1999, when it was burnt down!



**Fig.12 Wedmore Substation pictured in 1980's**

For the next sixteen years taking the company up to nationalisation, no great changes occurred other than expansion southwards and an expanding consumer base from 11,715 in 1933 to 30,962 in 1946. They had laid down an extensive network and showrooms and were taking advantage of their investment.

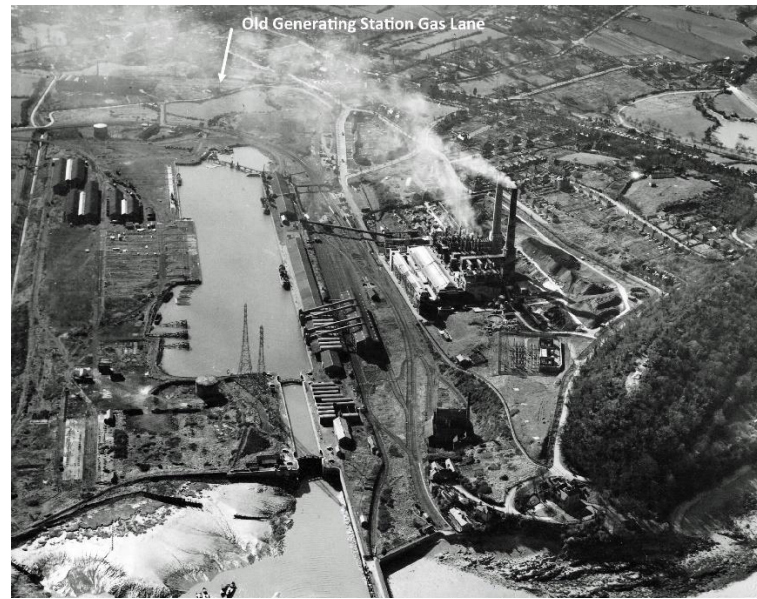
However, taking over the small DC undertakings, would have been expensive with the need to pay for the change-over costs from DC to AC. Portishead local network was changed over from DC to AC in 1920.



**Fig.13 The North Somerset Cable Marker Stone**

Distribution engineers today tend to think of the Rural Development Era in the 50's and 60's post nationalisation, but it was the private companies, who brought the first electricity supplies to the rural areas in the 1930's. The "plums" of the big revenue earnings against capital expenditure had been picked off by the various city and town authorities, since they could obtain loans from the Government Loan Boards. It was therefore left to the energetic private enterprises to develop and extend power lines under bulk purchase from the large city undertakings. Christy Brothers were experts at this and the South West Peninsula should be forever grateful for their endeavours and foresight.

It is incredible that larger power stations were built much later at Portishead and that the electricity for the North Somerset company would eventually come from Portishead once again.



**Fig.14 Portishead A Power Station in 1937**

In the above picture one can just make out the outline of the original building. By an extraordinary coincidence the small old generating building at Portishead featured above is occupied by a firm in the generation business. They are Powertek Services Ltd., offering a service of portable generation equipment. We are advised that as tenants, the building is likely to be involved in a redevelopment of the site in the future, which is particularly disappointing.

#### **References :-**

1. WPEHS Archives, including NSESC Minute Books & Christy Brothers Co., histories.
2. Garcke's Manuals of Electrical Undertakings 1914 – 1948
3. WPEHS Digital Photo Archive.

#### **Thanks :-**

1. International Static Steam Engine Society for information.
2. Iain Miles for photo of Clark's Factory Engine
3. With particular thanks to Member, David Cousins, who maintains WPEHS Photo Archive.