Supplement to the HISTELECT NEWS No. S62

April 2016

WESTON-SUPER-MARE ELECTRICITY SUPPLY

By Peter Lamb

A brief history of Weston-Super-Mare's electricity history is given below following finding in the Archives of a brochure called "Electric Light and Power", dated 1907, giving much detail for that year and issued by The Mendip Press Ltd., then of 32 Waterloo Street, Weston-Super-Mare, the present offices of the Weston Mercury. It would appear that the firm was sponsored by at least 50 other electrical undertakings to publish the brochure nationally, all of which were associated in some way with British Electric Traction Co. Ltd.(BET) We have considerable archive of the Weston company, however the story has been difficult because as a subsidiary of BET, all the Engineer's Monthly Reports were sent to London without a copy stored at Weston.

Weston-Super-Mare was one of the last major towns in the South West to have public electricity supply in 1901. For example Taunton was the first in 1886 and Bristol in 1893. Many displays of electricity had taken place in the town and the most impressive display was staged by Laing, Wharton & Down with 20 arc lamps along the front for one month in the Summer of 1887 and Mr Wharton giving a lecture to a packed audience in the Victoria Hall in October of that year, but the Town Council still couldn't be persuaded to promote electricity.

Pressure continued from many quarters, but particularly about the need for a tramway system, until the Town Council agreed to obtain an Electric Lighting Order from the Board of Trade in 1895.

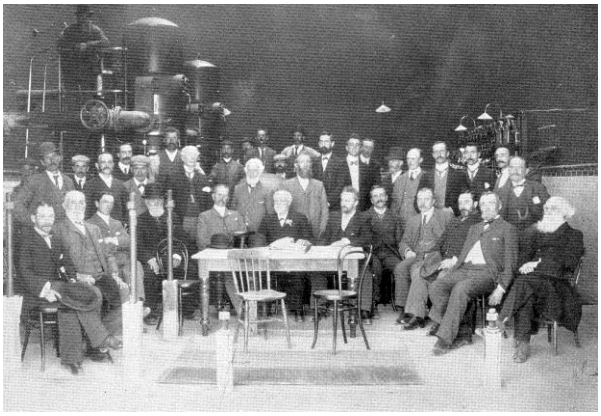
Locking Road Generating Station

A new company was then set up in 1899 called the Weston-Super-Mare and District Electric Supply Co. Ltd., and then a Tram Order was obtained also in 1900 to give them the necessary powers with a capital authorisation of £ 80,000. A new generating station was then constructed at Locking Road with direct access to the GWR Railway line for importing the necessary coal, and the first public electricity supply was commissioned in May 1901. Alongside the generating Station was built a large tram shed, which began operating a year later.

Cables being laid along Locking Road

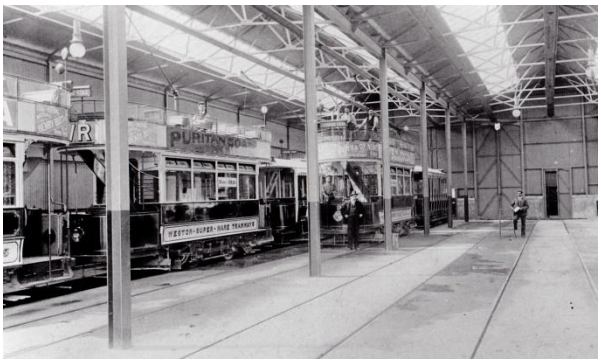
Initially only 134 lighting consumers were connected in the first year, which had only risen to 260 by 1907, however the trams were more successful in carrying 778,965

passengers in the first year, rising to over 1,000 annually.



Opening Ceremony in 1904

Initially the Plant consisted of 5 Babcock & Wilcox Boilers with wooden cooling towers, 2 – Raworth Universal steam engines driving Brush dynamos, a year later 2 –Browett-Lindley steam engines were added giving a total capacity of 1300HP at a time when the Bristol Undertaking was installing steam turbines. The electricity supply made available was 230v and 460v continuous DC, the lower voltage for domestic supplies and the higher for the tram motors. Within a short time 2.9 miles of track had been laid with tramcars provided by Brush Ltd, fitted with BTH motors.



Locking Road Tram Shed

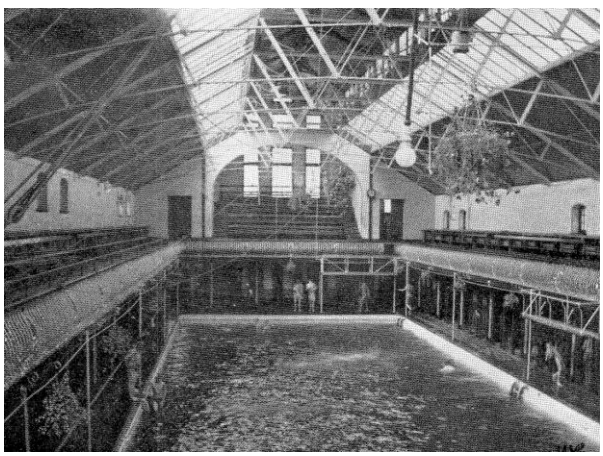
The majority of the shares providing the capital were taken up by an investment company associated with British Electric Traction Co. Ltd, (BET), a prime mover being Emile Garcke, since the chairmen and many directors over the years also served on the BET Board, more details later.

Initially the Chairman was Mr WL Madgen with fellow Directors : G Ratcliffe-Hulme, Geo Offer & Geo J Somerville. The Managing Engineer is given as Mr. Marcus Nash AMIEE, who was trained at the City Guilds College, South Kensington and later worked for Midland railway and Sutton Electric Tramways before joining the Weston company in 1904.

You may be interested to hear that at that time, electricity was supplied to Birnbeck Pier to drive the machinery for hauling up the Water Chute boats and to drive a Flying Machine. Also Grand Pier was provided with electricity to supply lights for the new Steamboat Jetty.

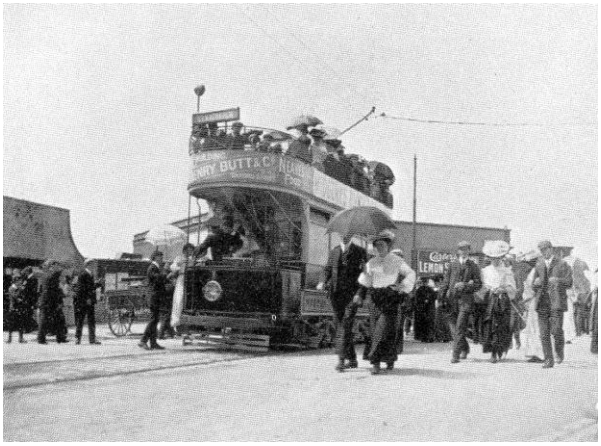
In the 1907 brochure it was reported at that time that "A great increase has been made during the last year in the number of Arc Lamps installed, as many as thirty having been connected with the mains for outside lighting in the High Street alone". Also the cables were laid in earthen-ware troughs made locally by WSM Royal Potteries.

The brochure listed other connections : - Lance and Lance's new premises, the Royal Hotel, WH Smith & Son, St. Peter's School, Perrett's Model Bakery, G. Sparke's Joinery Works. Also typical lighting was shown in views of the Knightstone Theatre and Baths as below.



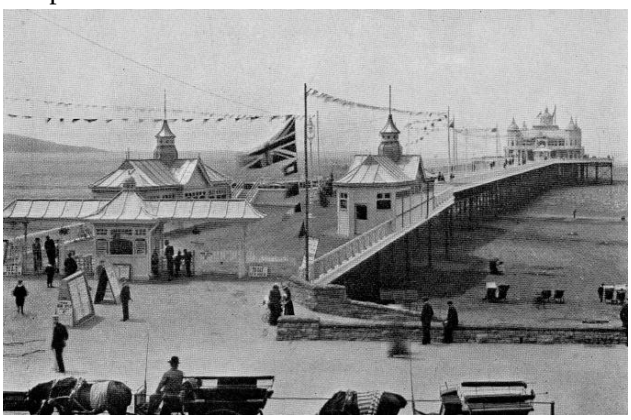
Knightstone Baths showing Lighting

By 1909 with the domestic load growing it was necessary to increase the generating capacity so a 300kW Brush Steam Turbine was purchased driving a Siemens DC Generator, so that total capacity was then given as 1,150kW with the first Raworth generating sets removed, but also appeared a 3rd Browett-Lindley Steam Engine set which probably had been purchased second-hand.



A Tram setting off from Sanatorium End

It wasn't until 1925 that it was decided to invest in much larger machines when 2 – 1300kW Brush Lundstrom Turbo-Alternators were purchased to commence giving supplies at AC 230/400v. A change-over of the DC system commenced the next year with the acquisition of 2 – 500kW Mather & Platt Rotary Converters. Maximum capacity was then 3,650kW with only a maximum load of 1,177kW. Since only two tramways circuits had been established in town, the tram load could be described as very modest in comparison to the domestic load.



Weston's Grand Pier in 1907

No more plant was purchased until the mid-1930's, when the Brush Lundstrom sets appear to have been upgraded to 2,200kW each, according to Garcke's Manuals and the capacity of the station is then given as 5,000kW with 7,187 consumers.

In the early 1920's the company opened offices and showroom at 11Waterloo Street but by 1940's had moved to 19 Waterloo Street.

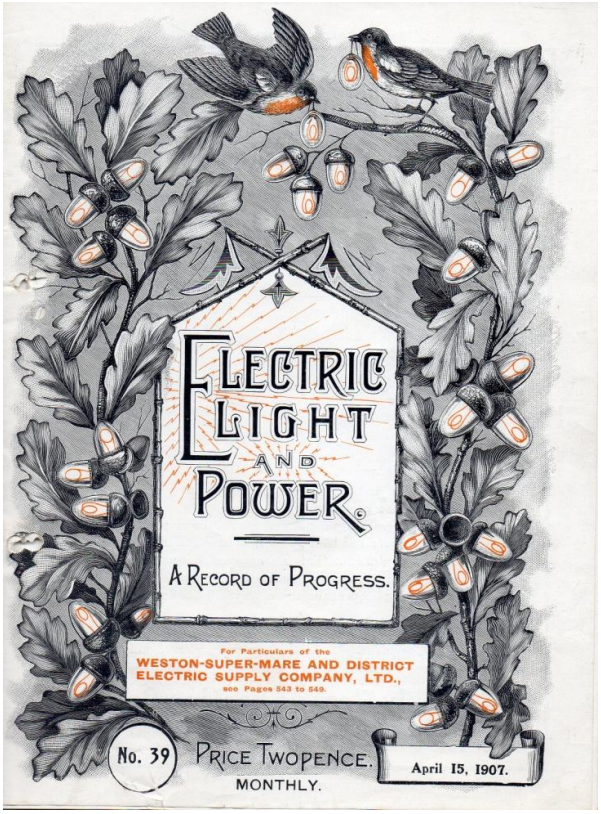
By 1937 the Tramway system was closed down but nevertheless at that time, the domestic load appeared to be growing at a faster pace and more capacity was needed. The Electricity Commissioners insisted that this was given by the CEB in the guise of a Grid bulk supply at 132kV, single circuit described as a "Supplementary Supply", so they were still keen to keep their generation operational.

Looking at more detail of the people running the company over its lifetime, we find that the chairmen and directors were all at different times involved in companies associated with BET in London. For example in 1910 we find that Mr Madgen, the first Chairman, is a Director of Brush Engineering Ltd, a wholey owned BET company, which they bought in 1906,

It is interesting to note that a family member Sidney Garcke is a director of the Weston company in 1930 and later on in 1939 one of the directors is Kenneth Garcke!

At nationalisation in 1948, the number of consumers had risen to10,479 with an maximum load of 3,566kW, the trams were no more, and the system had been changed to AC with a bulk supply from the National Grid.

The 1907 brochure, which inspired this research, was printed in Weston at what is the now the Weston Mercury offices on Waterloo Street.



The Cover of the 1907 Brochure

The above front cover of the brochure is worth inspecting, because its design encompasses light bulbs as acorns on a tree, which is an entertaining design! ***Peter Lamb***

The 1907 Mendip Press Offices

APPENDIX

A BRIEF HISTORY OF BET

In 1895 Emile Garcke a German emigrant electrical engineer came to London and set up a company called the Electric Construction Company, but being a strong supporter of electric traction he also set up the British Electric Pioneer Company, which was registered in the following year as British Electric Traction Co (BET) with Garcke as Managing Director.

In 1903 BET purchased Brush Electrical Engineering Co., from the original American company following their financial problems, with Emile Garcke as the Chairman. BET encouraged new tram companies being set up by investing heavily in their shares to take overall control and dictating who the directors should be. To enable this, they set up a subsidiary company of BET, the British Electrical Federation Ltd, a wholly owned company of BET at 88 Kingsway, London with the following objective "formed to provide its members with officers, legal assistance, office accommodation in order to purchase stores, goods etc". These offices became the central hub of the above activities, presumably manipulating the purchase of electrical plant and equipment at the same time. No wonder Brush Engineering did so well with over 50 tram companies tied in some way to BET by 1910.

With the demise of the trams at the end of the 1920's, and certainly by the wartime in 1939, BET kept going very successfully financing their electrical distribution companies until nationalisation and then branched out into broadcasting systems. A biography of Emile Garcke would indeed be interesting, having also started Garcke's Manuals, of which we have a good run from 1904 to 1961 and regularly use them for information on all enquiries relating to ESI undertakings.