UNDERGROUND ELECTRIC RAILWAYS COMPANY OF LONDON, LIMITED: CHAIRMAN YERKES' 1903 STATEMENT

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BACKGROUND

Many will have heard of the pivotal role of Charles Tyson Yerkes, Chairman of the Underground Electric Railways Company of London (UERL), in the development of the network in the 1900s. When looking through the first volume of UERL Board meetings, I found a printed progress update from him, dated 28 April 1903, three years before the opening of the Baker Street & Waterloo Railway.

It ran to seven pages, and was detailed and upbeat in tone. Its intention seemed to be the reassurance of shareholders. The scope of the UERL was large: to build/complete the construction of four tube lines, to resignal, electrify and renew rolling stock on the Metropolitan District Railway, and build a generating station to provide power for all five lines. There were share issues totalling £ millions, with significant support from American investors.

In 1903, the update records the planned/actual lines as follows:

(1) The Charing Cross, Euston and Hampstead Railway, from Charing Cross to Camden Town, and thence to Golders Green and Highgate.
(2) The Brompton & Piccadilly Circus Railway, from South Kensington to Piccadilly Circus.
(3) The Great Northern and Strand Railway, from Strand to Finsbury Park.
(4) The Baker Street & Waterloo Railway, from Waterloo to Baker Street.
(5) The Metropolitan District Railway, in operation from Hounslow West, Ealing Broadway, South Harrow, Richmond, Wimbledon, to High Street Kensington, New Cross and Upminster.

Yerkes stated that lines (1) to (3) above were obtained at cost, without profit to the promoters. The Baker Street & Waterloo Railway had been two-thirds completed, financed by the London & Globe Finance Corporation, when it collapsed. This allowed the purchase of £700,000 worth property and construction at a net cost of about £180,000. The franchise of the Edgware & Hampstead Railway was also obtained. (This line did not open until 1924).

The UERL also bought a controlling interest in London United Tramways (1901) Limited. This had 23½ miles constructed, running into the western suburbs of London, and about 72½ miles authorised.

In 1902 an Act was passed by Parliament to authorise a ¾ mile connection between railways (2) and (3) above, forming the Great Northern, Piccadilly & Brompton Railway.

Yerkes summarised the overall purpose as follows:

"In acquiring all these lines, it has been our desire to form a perfect system of intramural transportation, and to have them all feed into the District Railway, and be fed by the same line. They are particularly adapted to operate in harmony with one another. It is our object to charge a single fare of 2d on the different tube lines from one end to the other. On the District Line, 2d will be the popular fare, but the line will be divided into "zones", the present rate of the District Railway being based upon the mileage the passenger travels.

We believe the introduction of the American system of a one-rate fare will tend to build up the lines and them much more popular".

The Generating Station, to be sited on the north bank of the Thames River, just above Battersea Bridge, was planned to have the following dimensions (converted to metric):

Area of land:	14,852 square metres (m)
Frontage:	
Lots Road:	255 m
Waterfront:	335 m
Main building:	138 x 53 m
Chimneys:	4, each 5.8 m inside diameter x 84 m high
Boilers:	80 Babcock and Wilcox, each 388 kilowatts
Steam turbines:	10, each 5.6 Megawatts (MW), direct coupled to three phase generators working at 11 kilovolts, delivering 5.5 MW

Coal storage: 15,000 tons
Coal unloading machines: 2, each with a capacity of 60 tons per hour.
Condensing water pipes: 2, each 1.7 m diameter
Artesian well available to supply up to 36,000 litres per hour for boiler feed.
Condensing water (from the Thames) per 24 hrs: 86 million litres.
Number of 11 kV cables running 1.6 km to the District Railway: 64, in 10 cm ducts under the pavement.

The planned output of Lots Road was substantial - 55 MW; it was said to be capable of carrying an overload of 50% for up to two hours, giving a short-term peak capacity of 82.5 MW. (However, the aggregate boiler output was 31MW). Comparative power stations are shown below.

Year	MW	Details
1890	0.9	Stockwell, for the City and South London Railway
1900	9	Wood Lane, for the Central London Railway
1904	10.5	Neasden, for the Metropolitan Railway
1905	14	Greenwich, for London's tramways
1906	55	Lots Road

Upwards of 400 men were regularly employed on the conversion of the District Line to electric operation, limited by the capacity of the railway to deliver material in small quantities to many places every night.

Arrangements were noted for the electric operation of the Ealing & and South Harrow Railway, using two sample trains of 7 cars each, powered by a temporary generating station at Alperton. The branch was recorded as 'practically ready for revenue service'.

Progress on the Tube Lines included the following.

Baker Street and Waterloo Railway

85% of running and station tunnels between Baker Street and Elephant & Castle, and 9 of 11 stations, have been completed. There will be a joint station with the Great Northern, Piccadilly & Brompton Railway at Piccadilly Circus.

Great Northern Piccadilly and Brompton Railway

Work is in full operation. Possession has been obtained at 12 of the 20 station sites. Possession of the remaining 8 expected by the middle of July 1904. Construction of station at Finsbury Park being carried out under an agreement with the Great Northern Railway. In the list of station sites, the station opened as Leicester Square is noted under its earlier name of Cranbourne Street.

Charing Cross Euston and Hampstead Railway

Works are progressing under favourable conditions. Possession has been obtained at 6 of the 16 sites. At Charing Cross, a favourable arrangement had been made with the South Eastern Railway, which included use of land beneath their station forecourt. The workshops and yards of the Railway Company were to be located at Golders Green. "It will be some time before the Charing Cross, Euston and Hampstead is far enough along to our connecting it".

Yerkes concluding paragraphs are quoted in full.

"I would say in connection with the building of our Tube Lines that the soil beneath the surface of London is particularly well adapted for the running of tubes, it being an excellent clay which cuts easily and makes fine tunnels under the Greathead system. The depths of these Tube tunnels differ very materially, being from 40 feet to 120 feet below the surface. They will, however, average about 65 feet. The lifts used will be of the most approved type, and will operate swiftly.

The work is progressing as rapidly as we can expect, in fact more rapidly than any other work of the same kind has progressed heretofore in this country.

There is no doubt that we are having first class work done. Our rolling stock is also of the best quality, and our Power House will be second to none in the world. We expect to be running electrically over the District Road the latter part of next year, and also operating the Baker Street & Waterloo Railway at about the same time. It is too early to predict just when we will be operating our other lines".

The information in this article has been taken from the minutes of the UERL Board Meeting held on 21 June 1903, having been read to Board Members on 28 April. The archive references are Acc/1297/UER/01/001/061 and Acc/1297/UER/01/001/032, respectively.

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