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## EARLY RECOLLECTIONS of the POWER INDUSTRY in B.C.

By A.T. Goward

*The author of this article is vice-president of the British Columbia Electric Railway Company Limited, at Victoria, B.C. Earlier this year he celebrated his fiftieth anniversary with that company, having worked under four general managers and presidents. He knew the west when Victoria had a population of only 17,000. The picture above was taken on the occasion of a presentation made to him on Dec. 19 last.*

In an endeavour to trace something of the beginnings and early history of electricity on the West Coast, I have thought it best to confine myself to those undertakings immediately preceding and ultimately developing into the British Columbia Electric Railway Company, Limited.

For the sake of clarity I have, to a considerable extent, dealt separately with Vancouver Island and the Mainland of British Columbia. As practically the whole of my active life has been intimately associated with the electric utility industry on Vancouver Island, I have sketched this history from the earliest beginnings to the present date.

In the case of the Mainland, I have purposely refrained from going beyond the merely historical, because there are many others far better qualified than I am to deal with the more recent developments that have taken place on the Mainland of British Columbia.

I wish, at this time, to express my obligations to the "B.C. Historical Quarterly", to which publication frequent reference was made in the preparation of this article.

### First Electric Lighting

The story of electricity as a public utility on the west coast of British Columbia covers the surprisingly long period of 58 years, beginning in June, 1883, when the mayor and council of the City of Victoria, Vancouver Island, signed an agreement with **Robert Burns McMicking**, under the terms of which he undertook to erect and support and maintain at three several points in the said City and Electric light with an illuminating power equal in the aggregate to fifty-thousand candles".

McMicking, who is best now remembered locally as one of the over-landers of '62, probably had more experience with electricity than anyone else in British Columbia.

This installation called for the erection of three 150-foot masts, each carrying four or five double are lamps and were expected to light the whole of the more thickly populated part of the city. The agreement was confirmed by by-law in July, 1883, and the installation was ready for service in the following December.



*Photo of Early Victoria showing one of the 150 foot lighting masts referred to in this article.*

*Photo courtesy of B.C. Electric Railway Company.*

The system, according to the annual report of Mayor Redfern, in 1884, and which had been in use about three weeks, was working very satisfactorily. Power was supplied by a 25 hp steam engine driving two Brush dynamos.

However, things do not seem to have been quite so satisfactory a year later. It was necessary to

spend \$22,000 on rebuilding and additions. When this work was completed, lighting masts were located at 29 points as against the original three.

In 1887, Mayor Fell admitted (apparently in his annual report) that the best the city could do about the lighting was "to make the best of a bad bargain". He also seems to have expressed the opinion that while electricity undoubtedly was the light of tomorrow, it was still too much of an experiment for small communities. Some further changes were made about this time and the system carried on until 1891 when the citizens defeated a by-law calling for an expenditure of \$50,000 for improvements.

McMicking, however, was not daunted by this partial failure and took a prominent part in organizing the Victoria Electric Illuminating Company. This company had the distinction of being the first public incandescent lighting system in Canada. Electric current was generated by an Edison dynamo driven by a 50 hp steam engine. The plant was rated as having a capacity of 400 16-candle power lamps.

With this additional plant in operation, Victoria's electric lighting facilities were fairly complete – lights for streets, business establishments and homes being available.

### First Electric Street Cars

In November, 1888, an agreement was signed between the City of Victoria and certain Victoria citizens, among whom were **James Douglas Warren, Thomas Shotbolt, David W. Higgins, Andrew Gray** and **Joseph Hunter**, which authorized the latter to construct a street railway within the city limits, as well as to supply electric power for lighting purposes. This agreement was confirmed by by-law, October, 1889, and the promoters next proceeded to organize the National Electric Tramway and Lighting Company, Limited, with an initial authorized capital of \$250,000. The original power plant consisted of two Thomson and Houston generators driven by a steam engine of 110 hp.

Here I would ask the reader's indulgence for a purely personal digression. It is just over fifty

years ago that the writer, then a lad recently out from England, entered the service of the National Electric Tramway and Light Company, a predecessor of the B.C. Electric Company, his first assignment being to polish up the brass work on the steam engine in this early power plant.

The formal opening of the system took place on February 22<sup>nd</sup>, 1890, with four small cars and six miles of track. It may be mentioned, in passing, that it originally was planned to have horse-drawn cars, but a last-minute change in the plans was decided upon and the actual horse cars were equipped with electric motors.

New lines and additional equipment were added from time to time, and by 1891 the system had expended to about 12 miles of track and 11 street cars. It is interesting to note that Victoria was the third city in Canada to have an electric street railway system, being preceded only by Windsor and St. Catharines, Ontario.

It is impossible, with the space available, to go into the details of the difficulties and vicissitudes that beset this early company, or of those of its immediate successors, the Victoria Electric Railway and Lighting Company, Limited (1894), and the Consolidated Railway Company (1896). It was in 1896 that the business and undertakings of the Consolidated Railway Company were taken over by the British Columbia Electric Railway Company, Limited.

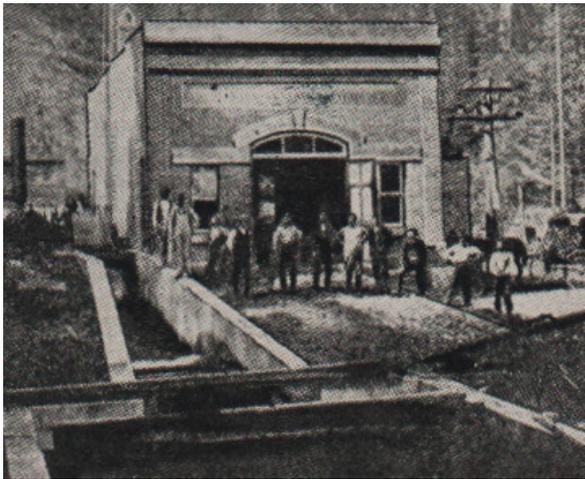
### First Hydro-Electric Plant

The first hydro-electric plan on Vancouver Island, and, in fact, one of the first to be built anywhere on the Pacific coast, was that built by the B.C. Electric Railway Company on the Goldstream River, Vancouver Island, in 1898, at a point some twelve miles from Victoria.

The original installation consisted of two Pelton water wheels of 600 hp each, directly connected to two General Electric stationary field generators. This plant was enlarged at various times and now consists of one 900 hp water wheel and one 2,000 hp water wheel. Up to the time of the building of this plant, all electric power was generated by a small steam plant in Victoria.

The greatest period of expansion on Vancouver Island may be said to date from 1902. There were, at that time, some 2,000 light and power customers and an industrial power load of about 500 hp.

The street railway also was expanding rapidly in response to constant demands for lines to be built out into districts as yet sparsely settled. Population followed the routes of the street car lines and in this way the adjacent municipalities of Oak Bay and Esquimalt were built up and linked with Victoria.



*The Goldstream hydro-electric power plant of the B.C. Electric Railway as it appeared while under construction in 1898. Photo courtesy of B.C. Electric Railway Company.*

The increasing demands for electric power made it necessary for the company, in 1908, to consider further power development. A number of possible power sites adjacent to Victoria were considered and the Jordan River, some 40 miles from Victoria, was finally selected.

Preliminary work was begun on this project in 1909. The first unit of 6,000 hp was completed in 1912, and in the same year electric power was first delivered from this source in Victoria.

The capacity of this plant has since been increased to approximately 37,000 hp. The development is entirely on the storage system, there being a wide variation in the seasonal flow of the river.

An auxiliary steam plant was built at Brentwood Bay, near Victoria, in 1912, with an initial installed capacity of 6,000 hp. Plans are now in hand to increase the capacity of this plant by 10,700 hp, the limit of economic development on the Jordan River watershed having been reached.

As in most cities of medium size, the street railway business has declined during recent years, while the sale of electric power for commercial and domestic purposes has shown a considerable increase. Today, the company's transmission and distribution lines cover not only Greater Victoria, but reach out into the more remote country districts up to a radius of 40 odd miles from Victoria.

At the present time the company is supplying 21,000 domestic consumers and has a connected industrial power load of 43,500 hp. It is also supplying power in bulk to the Nanaimo-Duncan Utilities Company.

While these figures may seem small by comparison with those of other places in British Columbia, it must be remembered that they apply only to a small portion of the southern end of Vancouver Island, and are, at least, an indication of the growth and general development that has taken place during the last fifty years. As I have had the privilege of watching this development almost from the very beginning, and have been intimately associated with it practically all my life, the reader will, I am sure, understand and appreciate the motives that impelled me to dwell somewhat at length on this particular aspect of the growth of electricity as a public utility.

### **The Mainland System**

In order to trace the growth of the electric utility business on the Mainland of British Columbia, it will be necessary to go back to 1884, at which time it was decided that the Canadian Pacific Railway should be extended from Port Moody to a new terminus, now Vancouver City. H.H. Abbott was the superintendent of this division; and it was he, together with Keefer and William H. Bullen, who applied for a charter to authorize the incorporation of the Vancouver Electric Company. The charter was granted by the Legislature by an

Act which received the Royal assent in 1886. It was, however, not put to immediate use. In the same year the then City of Vancouver was practically wiped out by a disastrous fire. Rebuilding of the city immediately was taken in hand and brought with it thoughts of street lighting. A number of business men accordingly formed the Vancouver Electric Light Company, Limited. A by-law was passed by the City Council in 1887, empowering the Company to enter upon the activities for which it had been formed.

Construction was started in the spring of 1888. The equipment consisted of two Edison-type dynamos driven by an 80 hp steam engine.

The following item is taken from the "News Advertiser" of about that date: "The electric light gives a much better light than formerly" (apparently the light had not been very satisfactory in the first place) "and it is a great comfort to the traveller after nightfall. Vancouver is the best-lighted city of its size (population about 5,000) in the world". This modest claim does not seem to have been disputed.

A little later we get from the same source: "Commencing with our issue of yesterday, the "News Advertiser" is now printed by electricity... this is the first paper in the Dominion to be printed in this manner". This statement does not appear to have been disputed, either, so we must take them as being correct.

Late in 1888, steps were taken to form a street railway company in Vancouver. In April 1889, the Vancouver Street railways was incorporated. The company was entitled to "carry passengers by force of animals, or such other motive power as it might deem expedient".

As in Victoria, it was originally intended to use horses, and the animals had even been purchased and stables built, but here again a last-minute change in plans resulted in the disposal of the horses and the equipping of the street cars with electric motors. Each car was equipped with two motors of 10 hp each and had a carrying capacity of 35 passengers. Regular service was inaugurated June, 1890. Vancouver was thus the fourth city in the Dominion to have electric street car service.

A few weeks after the first street cars went into operation the Vancouver Electric Railway and Light Company came into existence as a result of the Vancouver Electric Illumination Company and the Vancouver Street Railways having joined forces.

In the City of New Westminster, adjacent to Vancouver, the establishment of a municipal lighting plant was being discussed at this time. A power house was built that same year, the equipment consisting of two dynamos and a steam engine of 180 hp.

The Westminster Street Railway Company was incorporated by Act of Legislature 1890. A second Act of the same date incorporated the Westminster and Vancouver Tramway Company. These two companies were formally united the following year under the name of the Westminster and Vancouver Tramway Company.

Work also was started at this time on an interurban line between Vancouver and New Westminster, the first line of its kind in Canada. It was completed in September 1891 and service was commended during the time of the Annual Exhibition being held in New Westminster. As may be expected, this line encountered a number of technical operating difficulties of one kind or another.

In 1893 the rolling-stock included six Brill cars and three smaller St. Catherines cars. The Brill cars were described as "wide and roomy and nicely upholstered". During the heavy traffic of the Annual Fair week, the Brill cars were said to have carried as many as 110 passengers apiece.

The depression of the early 90's took its toll of these pioneer companies and it was not long before both of them were in serious financial difficulties. The Vancouver Electric Railway and Light Company apparently tried to get out from under by endeavouring to sell out to the city, but the ratepayers would have none of it, and the company defaulted in 1892.

The Westminster and Vancouver Tramway Company was still struggling along when unlooked for disaster, in the shape of a bolt of lightning, struck the power house and burned out the dynamos. The cost of the extensive repairs

appears to have been the last straw and this company defaulted in 1893.

Space will not permit going into detail beyond stating that both these companies were sold by the Sheriff in April, 1895, the purchaser, in both cases, being **Frank** (later **Sir Frank**) Barnard, acting on behalf of the Consolidated Railway Company.

Mr. Barnard succeeded in interesting English capital through **R.M. Horne-Payne**. The result of conferences between these two gentlemen was that Mr. Horne-Payne recommended to his principals in England the purchase of the power and tramway services on the coast.

In November 1895 an English syndicate, headed by Horne-Payne, purchased all the assets of the Consolidated Railway and Light Company which gave control of the New Westminster and Vancouver local tramways, the interurban line between Vancouver and New Westminster and the lighting system in Vancouver, and shortened its name to the Consolidated Railway Company. **It was this Company which finally linked the Mainland and Island systems under one control.**

It was in 1896 that the business and undertakings of the Consolidated Railway Company were taken over by the British Columbia Electric Railway Company, Limited, with Frank Barnard as managing director and Mr. Horne-Payne as chairman of the English Board of directors.

As stated at the beginning, I have purposely refrained from going beyond what may be termed the "historical: period with regard to the Mainland.

Not only does space prohibit even the merest outline of the tremendous development on the Mainland since the formation of the B.C. Electric Railway Company and other power companies in the province, but other pens, more capable than my own, can better tell the story of these later and equally interesting years.

Then...



... and Now...



*Two pictures of the Inner Harbour and downtown section of Victoria. Photo at right was taken in the early 90's. Note the bridge and mud flats to the right of the bridge. Below is the same section today. A substantial causeway has taken the place of the bridge, and the stately Empress Hotel now stands on what were once unsightly mud flats. Photo courtesy of B.C. Electric Railway Company.*