

The Power Plant at Shawinigan.

The first electric installations were made in 1902 and consisted of two 5,000 horse-power water-wheels and generators. Gradually the plant was enlarged until, in 1910, the installation in No. 1 Station reached the amount of 58,500 electrical horse-power. The first wheels installed were of 5000 horse-power capacity, but as the plant increased the size of the units was gradually raised to 11,500 horse-power. In 1910 the Company found that the maximum output of No. 1 installation was required. It was decided not to attempt to increase the capacity of No. 1 power-house, but to carry out a fresh development and one of a more modern kind as regards both construction and operation. Accordingly, plans were made for a separate plant which would generate 60 cycle power. No. 1 power development including the canal, a bulkhead with six penstocks and No. 1 power-house. The No. 2 power development uses the canal, enlarged at the end to form a large forebay and a new bulk-head adjoining the old. The bulk-head is built entirely of reinforced concrete and steel, and provision was made for five main penstocks and one four-foot penstock for the turbine exciters. No. 2 power-house is built of reinforced concrete, brick and steel.

Turbines, Generators and Transformers.

The present installation consists of five direct-connected generating units, each complete with its double runner horizontal turbine, developing 20,000 horse-power at the normal operating head of 150 feet and a speed of 225 revolutions a minute. Each generator is mounted on a continuation of the main shaft of the double runner 20,000 horse-power turbine and operates at the same speed of 225 revolutions a minute. A parallel system of 6,600 volt

Transmission Lines 1,100 Miles.

The total mileage of all the Shawinigan Water and Power Company's transmission lines is over 1,100 miles. They serve a territory of 1,500,000 inhabitants in more than 150 municipalities. The Company itself summarizes the installed capacity in electric generating equipment which it owns or controls as follows:—

	H.P.
Shawinigan Plant No. 1	58,500
Shawinigan Plant No. 2	100,000
Laurentide (120,000 h.p. installed) ..	82,500
St. Narcisse	1,200
Stam Plant of Quebec City Public Service Corporation	4,000

TOTAL ELECTRIC CAPACITY 246,200

In addition, the Shawinigan Company supplies hydraulic power to the amount of 50,000 horse-power at Shawinigan Falls, thus giving a total power development, owned and controlled by the Company, of 296,200 horse-power.

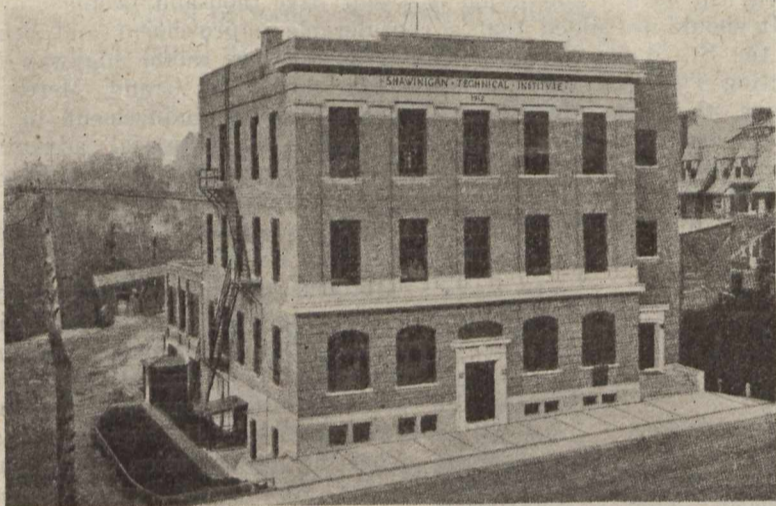
The total development, present and future, from power sites controlled by the Company can be summarized as follows:—

	H.P.
Electric equipment now installed	246,200
Hydraulic power supplied	50,000
Future provision at Laurentide Company	60,000
Future additional development at Shawinigan Falls	100,000
Future development at Gres Falls	150,000

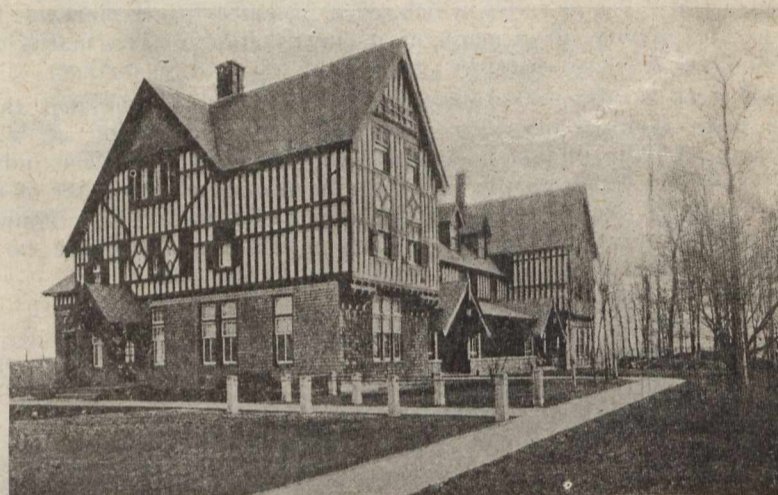
TOTAL 606,200

The Secret of Success.

The work of the Shawinigan Water and Power Company is, it is the merest truism to say, the prime and primary factor in the rise



Technical Institute, Shawinigan Falls.



Cascade Inn, Shawinigan Falls.

busbars is fed by all 60 cycle generators. This allows the connection of any generator to any transformer bank and thus effects a very flexible arrangement for the transmission of power.

As has been noted previously the development of power has brought about the growth of a large industrial section in the St. Maurice Valley district and Shawinigan itself has become a big industrial centre. But a great portion of the power developed at the last-named place is now distributed throughout the Province of Quebec. The power transmission system has been extended to reach the cities of Quebec and Sherbrooke. It is the policy of the Shawinigan Water and Power Company to sell power wholesale to distributing companies. These electric distributing companies are owned or controlled by the Company: North Shore Power Company, St. Maurice Light and Power Company, Laval Electric Company, Continental Heat and Light Company, Nicolet Electric Company, Public Service Corporation of Quebec.

To the following companies power is sold under power contracts:—Montreal Light, Heat and Power, Consolidated, Arthabaska Water and Power Company, Plessisville Electric Company, Thetford Mines Electric Company, Sorel Electric Company, Yamachiche Electric Company, Southern Canada Power Company, Terrebonne Corporation, East Broughton Commercial Company.

of the town of Shawinigan Falls. It would be a matter of great difficulty, if not absolute impossibility, to find elsewhere a water-power of such magnitude that is, at the same time, so capable of easy development. That, of course, is the secret of the industrial success. It is impossible for anyone to visit the town without being greatly impressed with the size, as well as with the scope, of the developments that are taking, and have taken, place there. Some idea of what these mean to the place may be gathered from the fact that, when the various plants in Shawinigan are in normal operation, the incoming daily freight on the railroads is between eighty and a hundred cars in volume.

The business of the Shawinigan Water and Power Company in Shawinigan itself has been very far from being confined to generating and distributing electric power. On the contrary, it has been extended along manufacturing lines by the acquisition of certain plants, and by the institution of other industries, in the town. In this way an outlet for power has been found which has proven very advantageous. For not only does such an outlet help the Company to maintain a high load factor on its system, but it also permits of the use of electric power which might not otherwise be profitably sold. With regard to such plants and industries some detailed information will be given in future articles.

The chief officers of the Company are as follows: J. E. Aldred, President; Julian C. Smith, Vice President and General Manager; Howard Murray, O.B.E., Vice-President; Thomas McDougall, Chairman of the Board; W. S. Hart, Treasurer; James Wilson, Secretary.