

### U. C. M. CONVENTION (Continued).

You may therefore see that it would be desirable that as regard such rivers a uniform policy should prevail and that similar conditions by the three authorities would be of great advantage to prospective users. Possibly, however, I had better not keep you on difficult cases and expose preferably what is done in other rivers where only one Government has charge.

I stated a minute ago that the rivers were divided into two classes: navigable and non-navigable. The beds of non-navigable rivers are either private property or form part of the public domain. Before 1884 the Provincial Government used to grant land lots bordering rivers without any special reserve in regard to the water rights adjoining these lots; it followed that when a settler had obtained his letters-patent, he became ipso facto proprietor of half the adjoining stream. In consequence a good many water falls have thus passed into private property and were developed at an early date. In 1884, owing to disputes for water rights, the Government became aware of the value of water-powers and a law was passed creating a reserve in favour of the Crown three chains in width (about 200 feet) along all non-navigable rivers.

The result was that, remaining since that date riparian owner, the Crown retained all rights in the bed streams, and its leases on such rivers do away with many former troubles.

May I now give you a short account of these Government leases:

Originally, i.e., about 1867 the sites were sold outright for practically a nominal sum as mill sites. Then some thirty years later or about 1897 somewhat more severe conditions were imposed and prices were raised a great deal. Such was the case of the great Shawinigan falls, sold for \$60,000, with the obligation of spending \$3,000,000 within a few years.

Then about 1909 the principle of the emphyteutic lease began to be applied and since that time has been generally adopted almost to the exclusion of sales.

I do not know whether emphyteusis is well known outside of the Province of Quebec and I beg to explain what it means in a few words: it is a contract by which the proprietor of an immoveable, conveys it for a time to another, which cannot be shorter than 9 years nor longer than 99 years, the lessee subjecting himself to make improvements, to pay the lessor an annual rental and to such other charges as may be agreed upon, etc. You will note that this sort of lease differs from other leases by the fact that the lessee (provided he fulfills his obligations) becomes the real proprietor of the object conveyed for all intents and purposes; he can sell or mortgage the property, and do all improvements he wishes.

At the end of the lease the lessor takes back the property, as well as the buildings thereon, and may then enjoy all the improvements made unless he wishes to renew his contract.

I shall not say more about emphyteusis as full details may be found in the Civil Code.

Such has been the policy adopted by the Quebec Government for the last ten years and the public seems to have taken to it. Rentals from those leases have been growing from year to year. In 1914 they amounted to \$10,000; they reached \$72,000 in the last fiscal year.

There is also another important source of revenue derived from rivers; it is the so called stored water. There are several regulating reservoirs in the Province. The first ones were built by the Public Works Department in the upper Ottawa, at the foot of Lake Temiscamingue; at the foot of Lake des Quinze; and at the two outlets of Lake Kipawa. The others were built by the Quebec Streams Commission at the headquarters of the St. Maurice; at the outlet of Lake St. Francois; and a smaller one on the Ste. Anne de Beaupre river.

The St. Maurice river reservoir—which has lately been named the Gouin Reservoir—is by far the largest of all. In fact it stores more water than is done by the Assuan dam built by the Imperial Government on the Nile. So far it has permitted the Commission to double the minimum flow of the St. Maurice, in accordance with its contract with the mill owners; and I have reasons to believe that it will be possible to substantially increase this proportion.

The project has cost about \$2,500,000 including various

accessory works such as a hydro-electric plant capable of developing 1,000 H.P., a railroad twenty miles in length, etc. This reservoir is at present yielding a revenue of \$191,000 per annum from the only three companies using it.

After subtracting interest on the capital and an annuity for a sinking fund to redeem our bonds in thirty years, we had this year a net profit of about \$25,000.

If you will bear in mind that there are still many rapids and falls available on the river, and that several of them will likely be developed in the course of the next ten to fifteen years, you may see that the proposition is a good one both to the Government and the water users.

The method adopted to collect the revenue, after mature consideration, was finally based on the horse-power-year. This expression needs a word of explanation. As you know, the minimum flow occurs in the fall and again in the winter months. The reservoir is consequently closed some months in the year and only opened in times of drought.

The water given out in those dry months is then calculated as though it was evenly distributed throughout the year; by a simple calculation it is then converted into horse-power according to the head at each power-house. Such is at present the policy of the Government as regard water-power and storage reservoirs.

I have not said much about the undeveloped water-powers of Quebec for the reason that I have treated the subject already in a little booklet entitled: "Water-powers of the Province of Quebec," which was printed in 1917 by the Department of Lands and Forests and which will be distributed free to anybody applying for it.

Permit me to sum up the situation by saying that the Province of Quebec is notoriously well provided with water-powers but that most falls are not of great height.

It should also be observed that the sites where considerable energy (over 50,000 H.P.) can be produced, and still in a natural state, are remarkably situated for supplying the wants of the principal cities. Thus, for the vicinity of the city of Ottawa, we find the Chats falls, in which a gentleman of this city is very much interested, and other rapids of the Ottawa river; for Montreal, besides the sources of energy now in use, the rapids of the St. Lawrence at Coteau, Les Cèdres, and also the Sault-Saint-Louis (commonly called Lachine Rapids); for Trois-Rivières and Quebec, the water-powers of the river St. Maurice, regulated by the largest reservoir in Canada, for the Saguenay and Chicoutimi region, the rapids of the Grand Décharge, outlet of Lake St. John; lastly, for the Lower St. Lawrence, the falls of the Manicouagan and of the river Aux Outardes.

The south shore of the St. Lawrence is not so well provided, but it may be said that for the more densely populated regions, that is to say, the Eastern Townships, the St. Francois river, which is regulated, will suffice for the demand, for a good many years.

The advantages of the lake Saint Jean region and, particularly those of the Grande Décharge should be especially emphasized. The natural conditions there are remarkable; the available undeveloped power is enormous; ocean navigation is possible almost as far as the spot where the works could be erected; there is no lack of labour and a railway connects the district with Quebec and Montreal as well as a steamer line.

Lastly, we would say that the Quebec Streams Commission, acting under the jurisdiction of the Provincial Government, has taken in hand the improving of the regiment of rivers on which industries are established. Great advantages are anticipated from this policy and everything tends to show that, within the next decade, the work of this body will produce all the good results expected from it.

The question of public ownership is very much to the fore these days. I do not think however it is within my jurisdiction to discuss this matter here although I may say that the Government has already made grants to a certain municipality on the general policy outlined above. So far as I know this has been found satisfactory to the towns' people concerned and no other special favour has been asked.

I thank you, Gentlemen, for the kind attention you have given to my remarks and would be pleased to furnish you privately any further detail that you might wish to obtain concerning the water-powers situation in the Province of Quebec.