

the contractors for the power plant, intake, suction wells, etc. The New York Continental Jewell Company supplied the filters which were installed and equipped after the company's own design. The reservoir was constructed by Messrs. Hotson, Leader and Goode, of Medicine Hat. Messrs. Fraser and Chalmers supplied the turbo-generator units, Drysdale high-lift pumps, piping and auxiliaries. Babcock and Wilcox furnished the boilers, the Gwynne Gas Burner Company the gas burners, and the Green Fuel Economizer Company the fans.

The city has before it a report prepared by request in 1913 by the consulting engineers, covering a development with ultimate capacities as follows: Filters, 30,000,000 gallons; high-lift pumps, 33,000,000 gallons and low-lift pumps, 55,000,000 gallons per day, in the pumping system; 16,000 h.p. boilers and 24,750 kv.a. turbo-generators in the power system.

### THE INTERNATIONAL JOINT COMMISSION.\*

AT Washington, on January 11th, 1909, James (now Viscount) Bryce, on behalf of Great Britain, and Elihu Root, then Secretary of State of the United States, signed a Treaty that may fairly be said to mark the birth of a new epoch in the relations of the two great democracies of North America. In the preamble of the Treaty its objects are thus set forth: "To prevent disputes regarding the use of boundary waters and to settle all questions which are now pending between the United States and the Dominion of Canada involving the rights, obligations, or interests of either in relation to the other or to the inhabitants of the other, along their common frontier, and to make provision for the adjustment and settlement of all such questions as may hereafter arise."

Special clauses of this Treaty limit the diversion of water from the Niagara River above the Falls by either country to a specified quantity; and provide for the equal apportionment of the waters of the St. Mary and Milk Rivers, in the State of Montana and the Provinces of Alberta and Saskatchewan, between the two countries.

For the purpose of the Treaty boundary waters are defined as "the waters from main shore to main shore of the lakes and rivers and connecting waterways, or the portions thereof, along which the international boundary between the United States and the Dominion of Canada passes, including all bays, arms, and inlets thereof, but not including tributary waters which in their natural channels would flow into such lakes, rivers, and waterways, or waters flowing from such lakes, rivers and waterways, or the waters of rivers flowing across the boundary."

Boundary waters, as defined in the Treaty, therefore, include the St. Croix River and that portion of the St. John River between New Brunswick and Maine; the St. Lawrence from the point where the international boundary strikes the river to its outlet from Lake Ontario; Lake Ontario; the Niagara River; Lake Erie; the Detroit River, Lake St. Clair, and St. Clair River; Lake Huron; St. Mary River; Lake Superior; Rainy Lake, with the smaller lakes and rivers east of it through

\*Reprinted, in part, from an article in the University Magazine for October, 1915, prepared by Lawrence J. Burpee, Canadian Secretary of the Commission.

which the international boundary passes; Rainy River, and the Lake of the Woods. On the other hand, they do not include rivers flowing into these waters, such as the Seneca, Genesee, Sandusky, Grand, Thames, French, and Nipigon; or rivers flowing out of them, such as the Winnipeg, Lower St. Lawrence, and Lower St. John; or rivers flowing across the boundary, such as the Red, Souris, Columbia, and Kootenay.

It is agreed that the "navigation of all navigable boundary waters shall forever continue free and open for the purposes of commerce to the inhabitants and to the ships, vessels and boats of both countries equally." This right of navigation is also extended to the waters of Lake Michigan, and to all canals connecting boundary waters now existing, or which may hereafter be constructed. Tolls may be charged on such canals, but without discrimination against the subjects or citizens of either of the contracting parties. The equal right of navigation, therefore, extends both to the Canadian and the American canals at Sault Ste. Marie, the Welland canal, and the St. Lawrence canals above the boundary; but not to the Erie or Rideau canals.

It is further agreed that "the waters herein defined as boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other." As will be seen later, special action has since been taken to carry out the provisions of this clause, at least so far as boundary waters are concerned.

By the terms of the Treaty, the contracting parties agreed to "establish and maintain an International Joint Commission of the United States and Canada composed of six commissioners, three on the part of the United States, appointed by the President thereof, and three on the part of the United Kingdom, appointed by His Majesty on the recommendation of the Governor-in-Council of the Dominion of Canada."

Other clauses of the Treaty set forth the powers, provide the machinery, and the legal authority, by virtue of which the Commission is to carry out its important duties.

In passing upon the cases which come before it, the Commission is governed by certain rules or principles. It is first laid down that the contracting parties shall have, each on its own side of the boundary, equal and similar rights in the use of boundary waters. Then follows the order of precedence to be observed among the various uses of these waters. Uses for domestic and sanitary purposes are given the preference over all other uses; then uses for navigation, including canals for such purposes; finally, uses for power and for irrigation.

The importance of these principles adopted by the contracting parties for the guidance of their Commission can hardly be overestimated. It must be borne in mind that the boundary waters over which the Commission is given jurisdiction support a population of over 7,000,000 people, American and Canadian, and that this population is rapidly increasing. The governing principles recognize, so far as these people are concerned, the pre-eminence of domestic and sanitary uses, or, in other words, the supreme importance of safeguarding the public health. All other uses of boundary waters must be disregarded in so far as they conflict with or restrain uses for domestic and sanitary purposes.

Then comes navigation. The navigation interests of the Great Lakes are of enormous and rapidly in-