

PART III

HYDRO ELECTRIC POWER

25. Power benefits in Canada accruing from the provisions of the Great Lakes-St. Lawrence Basin Agreement of 1941 are realized, from the diversion of Ogoki River and Long Lake waters into the Great Lakes-St. Lawrence Basin, from the additional diversion of 5,000 c.f.s. at Niagara Falls upon completion of remedial works, and from the construction of the Controlled Single Stage Project in the International Rapids Section of the St. Lawrence River. The power benefits under these three heads are analysed briefly as follows:—

26. *Ogoki River and Long Lake Diversions.*—The Ogoki River diversion, which is under construction and is expected to take about two years to complete, is estimated to add 4,000 c.f.s. to the Nipigon River and throughout the Great Lakes-St. Lawrence System. The Long Lake diversion, which has been completed and is in operation, is estimated to add 1,000 c.f.s. to the Aguasabon or Black River and throughout the Great Lakes-St. Lawrence System.

In passing to Lake Superior the Ogoki diversion will add about 90,000 horse-power to the potential power of the Nipigon River, of which about 50,000 horse-power can be made readily available by extensions to existing plants of the Hydro Electric Power Commission of Ontario at Cameron Falls and Alexander Landing. The Long Lake diversion will permit development on the Aguasabon or Black River of about 20,000 horse-power. Passing through the outlet of Lake Superior at Sault Ste. Marie, the combined diversion of 5,000 c.f.s. will permit the development of 9,000 horse-power. On the Niagara River, by consent of the United States, benefit from the prospective addition of 5,000 c.f.s. has been permitted since November, 1940, and has resulted in increased production of power equivalent to approximately 70,000 horse-power in existing plants of the Hydro Electric Power Commission of Ontario at Niagara Falls. If this 5,000 c.f.s. should be utilized in a second full-head development at Queenston, it would provide 150,000 horse-power. Continuing down the St. Lawrence about 42,000 horse-power will be added to the power resources of Ontario in the International Rapids Section and about 54,000 horse-power to the resources of Quebec in the Beauharnois and Lachine Sections.

27. *Additional Diversion at Niagara following Remedial Works.*—The additional diversion of 5,000 c.f.s. for power purposes from the Niagara River above the Falls which will become available upon the completion of remedial works would provide 150,000 horse-power if used in a second full-head development at Queenston and pending the construction of such a new development will produce additional energy in existing stations at Niagara Falls.

28. *Development of International Rapids Section, St. Lawrence River.*—The development of the Controlled Single Stage Project in the International Section of the St. Lawrence River provides for the construction of two power-houses, one on the Canadian side and the other on the United States side of the International Boundary. Each station will have an installed capacity of about 1,100,000 horse-power.

The ultimate potential power benefits in Canada resulting from the Great Lakes-St. Lawrence Basin Development are summarized hereunder.