

northwest of Montreal – “on a site so distant from centres of population, so inaccessible from tidewater, as to have been virtually isolated for centuries”, said Mr. Trudeau. When fully operative in 1975, it will have a generating capacity of 5,225 million kilowatts, or enough to light more than 65 million light bulbs for a year. Most of its full annual production of 34.5 billion kilowatt hours of energy has been contracted for well into the next century, with Hydro-Quebec the principal customer.

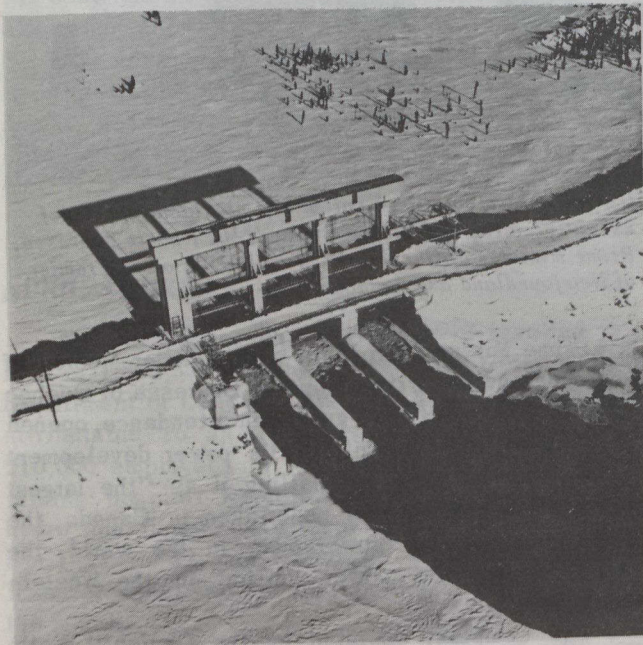
STORAGE FACILITY

To impound the Churchill Falls storage of 1,000 billion cubic feet of usable water and to form the forebays and other works in the Smallwood Reservoir, more than 40 miles of low dams or dykes and five control and spillway structures have been built. The main or Smallwood Reservoir alone covers 2,200 square miles of water surface. The existing Ossokmanuan storage will add 322 square miles of water surface and 100 billion cubic feet of usable storage. At present the Ossokmanuan storage supplies the Twin Falls power-plant.

The dykes reach a height of 120 feet in places, the average height being 30 feet. The total fill required for dyke construction was 26 million cubic yards.

HISTORY OF PROJECT

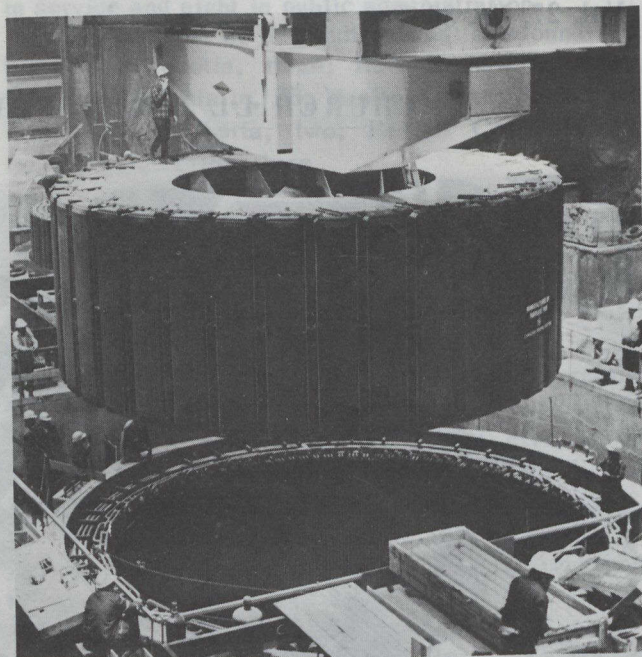
Labrador's Hamilton River, renamed after Sir Winston Churchill, was first explored in 1839. However, it was not until 1892 that a geological survey described its hydro-power potential. In 1942 the Aluminum Company



With a discharge capacity of 100,000 cubic feet a second, Whitefish Falls control structure (above), will regulate the flow of water between the eastern and western parts of the forebay.

of Canada commissioned a wartime study of the upper river's energy capabilities. This was the first engineering report to suggest consideration of the “channel scheme”. This is the basic idea that was finally adopted for the present power development and involved the diversion of the river above Churchill Falls to a point 16 miles downstream, where the present power head of over 1,000 feet is obtainable.

In 1953 a group of British investors set up the corporation, which is now Brinco Limited, and obtained the hydro-power lease on the Upper Churchill from the Newfoundland government.



Two powerhouse cranes, with a combined lifting capacity of 800 tons, have been responsible for the placement in the machine hall of such pieces of equipment as the rotor and alternator pictured here. With a diameter of 30 feet and a height of close to 10 feet, the rotor of each of the 11 generating units at Churchill Falls weighs 650 tons.

In 1962 a Brinco-controlled company, Twin Falls Power Corporation Limited, delivered hydro-electric energy to Labrador's fast growing mining industry from the Twin Falls power-plant on a branch of the Churchill River. With increasing power needs and the development of long-distance power transmission by Hydro-Quebec, the development of Churchill Falls was started in 1967.

When the project is complete, over 65,000 persons will have participated in the work force; site employment alone will have taken a total of 52 million man-hours in 200 categories of employment, excluding off-site work which, for example, will require some 600 employees over a six-year period. (See also *Canadian Weekly Bulletin* dated February 10, 1971. P. 3.)