

The growth of Ontario Hydro's physical and financial resources reflects the remarkable industrial and social development of the Province. In 1914 the Commission purchased its first generating station, Big Chute on the Severn River. Later in the same year the first Commission-built generating station was placed in service at Wasdell Falls, also on the Severn River. This early program of purchase and construction of generating stations reached a climax in the great Queenston-Chippawa development, later renamed Sir Adam Beck-Niagara Generating Station No. 1 in honour of the first Chairman of the Commission. This station first delivered power in 1922 but four years later the Commission found it necessary to negotiate for the extensive purchase of power from large Quebec suppliers in order to satisfy Ontario's steadily growing power demands—demands that have continued to increase over the years.

In 1956 the primary and secondary load carried reached a total of 4,909,104 kw. and a total of 29,523,546,866 kwh. was supplied during that year from all the Commission's resources generated and purchased.

Primary power requirements in the Commission's systems have increased over the past 34 years at a rate of 6.6 p.c. per annum. Since 1950 the rate has been 8.3 p.c. per annum and the Commission has been able to keep abreast of requirements only through a most vigorous program of capital construction. Table 20 shows the power development program and indicates the magnitude of construction work completed to date and in progress at four new developments and at five stations already in service. The two major projects under construction are the St. Lawrence Power Project and Sir Adam Beck-Niagara Generating Station No. 2 on the Niagara River.

The 1955 Year Book, at pp. 549-553, contains a descriptive article on the St. Lawrence Power Project. It is a separate undertaking from the St. Lawrence Seaway but the planning, construction and operation of both must be carefully co-ordinated. Construction of the Seaway is the responsibility of authorities created by Canada and the United States. The Power Project is being built jointly by The Hydro-Electric Power Commission of Ontario and The Power Authority of the State of New York and is subject to the approval of a Joint Board of Engineers appointed by the Governments of Canada and the United States. The Commission and The Power Authority will share equally in the cost of constructing the Project, exclusive of the cost of powerhouse machinery and equipment which will be borne by the respective entities. The generating station on the Canadian side will be known as the Robert H. Saunders-St. Lawrence Generating Station.

The new station will have an installed capacity of 820,000 kw. in 16 units and will be of the modified outdoor type. It will form part of a common powerhouse structure extending 3,309 feet from the eastern end of Barnhart Island to the Canadian mainland. Other structures associated with the Project include the Long Sault dam at the upper end of Barnhart Island, the Iroquois dam about 25 miles farther up stream, and dykes as required to contain the headpond. The Project also involves the relocation of transportation and communication facilities, the re-establishment of whole communities beyond the area to be flooded by the headpond, and the improvement of channels in the St. Lawrence River.

First concrete for the powerhouse structure was placed in February 1956, just 18 months after the commencement of construction. By the middle of the summer, pours in excess of 2,000 cu. yards daily were being made and by the end of the year more than 40 p.c. of all concrete work for the Canadian powerhouse was finished. Concrete placing was begun on embedded parts for the first three turbines.

Almost all the residential work in two new townsites was complete and other work on providing essential services was proceeding in these townsites and in other communities where house-moving was under way. One section of relocated highway was open to traffic and track-laying for the relocated Canadian National Railway line was almost finished.

During 1957, the first of four additional units scheduled for installation in the main powerhouse at Sir Adam Beck-Niagara Generating Station No. 2 was placed in service. All four units will be in service in 1958. The six-unit pumping-generating scheme associated with this development was also initially placed in service in the summer of 1957 and all units were in service by the end of the year.