

generating stations. Among recent notable hydro-electric developments have been three major generating stations on the Ottawa River—Des Joachims, Chenaux, and Otto Holden—Pine Portage serving Thunder Bay, and George W. Rayner Generating Station in Ontario's northeastern mining area. The construction of two major fuel-electric generating stations at Toronto and Windsor, named for Richard L. Hearn and J. Clark Keith, respectively, marks a departure from the Commission's virtually complete reliance on hydraulic resources. A summary of the Commission's power development program appears in Table 20.

At present the major capital undertaking, made possible by the Niagara Treaty of 1950, is the construction of the Sir Adam Beck-Niagara Generating Station No. 2 near Queenston on the Niagara River. Plans call for an ultimate installation of 900,000 kw. in 12 units. The first stage, seven units, is expected to be completed in 1955. The best answer to the need for power beyond that year is the St. Lawrence power project.

In 1949 the Commission embarked on a complex program of standardizing at 60 cycles the frequency of the Southern Ontario System. Approximately 33 p.c. of the area comprising the so-called "25-cycle island" had been standardized by 1951. A comprehensive article on this subject appears in the Year Book 1951, pp. 540-548.

The basic principle governing the financial operations of the Commission is that electrical service is provided to the municipalities, and by the municipalities to the customers, at cost. Cost includes not only all operating and maintenance charges interest on capital investment, and reserves for depreciation, for contingencies and obsolescence, and for stabilization of rates, but also a reserve for a sinking fund to retire the Commission's capital debt.

From its inception, the undertaking has been entirely self-supporting with the exception that the Provincial Government, through grants-in-aid, provides for 50 p.c. of the capital cost of the rural distribution lines. This is done in pursuance of the Province's long-established policy of assisting agriculture. The Province also guarantees the payment of principal and interest of all bonds issued by the Commission and held by the public.

With a few exceptions all townships and 150 of the smaller villages are now served as an amalgamated rural division of Hydro service with a uniform rate structure. Thus, no matter where rural service is supplied in Ontario by Hydro, all rural customers pay the same amount for the same class of service with the same consumption of electricity.

The undertaking as a whole involves two distinct phases of operations. The *first* phase of operations is the provision of the power supply—either by generation or purchase—and its transformation, transmission and delivery in *wholesale* quantities to individual municipal utilities, to large industrial customers and to rural power districts. This phase of the operations is performed by The Hydro-Electric Power Commission of Ontario. The *second* phase of operations is the *retail* distribution of electric energy to customers within the limits of the areas served by the various municipal utilities and throughout the rural areas of the