

Electric power is generated, transmitted and distributed throughout areas of the province containing more than 90% of the population. Natural gas is purchased and distributed in Greater Vancouver and the Fraser Valley, and liquefied petroleum gas in Greater Victoria.

During 1973 completion of 69.1 MW of thermal generating capacity represented the only new capacity brought into service; however, work on hydro developments on the Peace, Columbia and Kootenay rivers over the next four years will add more than 2,500 MW while thermal completions will account for an additional 219.1 MW.

Thermal capacity added in 1973 consisted of one 40.5-MW unit at a new gas turbine plant at Port Hardy (Quatsino) and a 28.6-MW unit at a similar plant at Prince Rupert. A second 28.6-MW unit at the Prince Rupert plant, and a sixth 150-MW unit at the Burrard thermal station are scheduled for commissioning in 1974, and a 40.5-MW unit is expected to be added at Quatsino in 1975.

At the Peace River hydro station, a ninth unit, rated at 275 MW is scheduled for start-up in 1974, thus raising the installed capacity of this station to 2,091 MW. Provision has been made to add a tenth unit at a later date.

The province's major new sources of power over the short term are associated with development of the Columbia River. Mica Dam, largest and last of three dams constructed in British Columbia under the terms of the International Columbia River Treaty, began storing water in 1973. Excavation of the underground power house at Mica progressed satisfactorily in 1973 and plans are well advanced for installation of a total of six generating units. Four 435-MW units are on order, with two scheduled for operation in 1976 and two in 1977. Two 500-kV transmission lines, each 340 miles long, are under construction to connect the Mica hydro station to the Lower Mainland system.

Work on a second plant in the Columbia River basin, the Kootenay Canal development, proceeded on schedule during 1973. Located on the Kootenay River between Nelson and Castlegar, this project involves a three-mile long canal to divert water from the river, by-passing five small existing generating plants. The new plant will contain four 125-MW generating units, two of which are to be commissioned in 1975 and the remaining two in 1976. This plant will be connected to the Mica transmission lines via a 230-kV tie.

Yukon Territory and Northwest Territories. The Northern Canada Power Commission, a Crown corporation established in 1948, is empowered to survey utility requirements, construct and operate public utility plants in the Northwest Territories, the Yukon Territory and, subject to the approval of the Governor in Council, elsewhere in Canada. The Act requires that projects undertaken by the Commission be self-sustaining; consequently, rates charged for the utilities supplied must provide sufficient revenue to cover interest on investment, repayment of principal over a period of years, operating and maintenance expenses, and a contingency reserve.

A preliminary evaluation of hydro-electric potential has been made for most of the major rivers in the Yukon Territory and in the central portion of the Mackenzie District of the Northwest Territories. Results indicate that a very substantial water-power potential exists; the Yukon River and its tributaries alone represent some of the largest undeveloped hydro-electric resources in North America.

Except for the Yellowknife area the power needs of the Northwest Territories prior to 1965 were met from thermal sources. Commissioning of the Twin Gorges hydro station on the Taltson River in 1965 altered the balance in favour of hydro. However, with several new additions over the 1970-73 period, thermal facilities once again became the dominant source of power. During 1971 thermal generation also became the larger contributor in the Yukon Territory. Most of the thermal-electric energy in the territories has been generated by small diesel units. Diesel generation, employing larger capacity units, will continue to play a major role in meeting load growth in the Northwest Territories and the Yukon Territory, but additional hydro capacity is being developed in both territories and hydro will likely be the predominant source in the long term.

The Northern Canada Power Commission has hydro-electric power developments on the Yukon River near Whitehorse and on the Mayo River near Mayo in the Yukon Territory; in the Northwest Territories, it has developments on the Snare River northwest of Yellowknife and on the Taltson River northeast of Fort Smith.

During 1973 the Commission increased its generating capacity by a total of 11.6 MW, 1.6 MW in the Yukon Territory and 10.0 MW in the Northwest Territories. In addition, it acquired