

50,000-kw Whatshan plant on the Whatshan River, and the installation of units 7 and 8 (227,000 kw each) at the Gordon M. Shrum station. The contract has been awarded for a ninth 227,000-kw unit at the same plant to be on line by the fall of 1974. The Kootenay Canal project on the Kootenay River and the Mica Dam project on the Columbia River will provide another 50,000 kw (1975-77) and 1,740,000 kw (1976-77), respectively. It is anticipated that two additional 435,000-kw units will be installed at Mica Dam at a later date, bringing the plant's ultimate capacity to 2,610,000 kw.

About two thirds of British Columbia's thermal generating capacity is installed in three plants located in the Vancouver area. The capacity of the largest of these plants, the Burrard generating station, will be increased to 900,000 kw in 1974 with the addition of a sixth 150,000-kw unit.

Thermal-electric additions during 1971 were fairly minor with approximately 3,000 kw of new diesel capacity being added at various locations. With a number of stations being removed from service completely and the capacity being reduced substantially in others, there was a net loss of 21,000 kw from the province's total internal combustion capacity over the year. The more noticeable decreases included a 7,000-kw reduction in capacity at the Dawson Creek station (resulting capacity 13,000 kw) and the retirement of the 5,000-kw Chetwynd and 9,000-kw Prince George stations, all owned by B C Hydro.

Two new gas turbine stations are being planned: a single-unit 40,000-kw plant at Port Hardy in 1973 and a two-unit plant of 28,600-kw each at Prince Rupert in 1973-74. Provision has been made for added capacity at the Port Hardy plant in future years.

Yukon and Northwest Territories. The Northern Canada Power Commission, a Crown corporation established in 1948, operates under authority of the Northern Canada Power Commission Act (RSC 1970, c.N-21) which empowers it to survey utility requirements, construct, and operate public utility plants in the Northwest Territories, 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.

Until 1965, most of the power needs of the Northwest Territories were met from thermal sources but in that year commissioning of the Twin Gorges hydro station on the Taltson River altered the balance in favour of hydro. However, with several new additions over the 1970-71 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. Future growth will probably continue to concentrate on diesel generation but the units installed will be substantially greater in size.

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.

The 5,100-kw Mayo River hydro-electric development has supplied power to mining properties in the Elsa and Keno areas and to the communities of Mayo and Keno City since 1952. The Whitehorse Rapids power development (hydro capacity 19,000 kw), in service since 1958, supplies power to the Yukon Electrical Company for distribution in the city of Whitehorse and to a copper-mining operation located within a few miles of Whitehorse. The Company, an Alberta Power subsidiary, planned minor expansion of its generating and transmission facilities in 1972. A 225-mile transmission line completed in 1969 supplies Anvil Mining Corporation Limited's lead and zinc mine-mill complex at Faro in the Vangorda Creek area. A 9,000-kw peaking standby diesel-electric generating plant, adjacent to the hydro-electric plant at Whitehorse, was commissioned in December 1968, and an additional