

completed by late fall 1972. The Bighorn power storage development is a multipurpose project undertaken jointly by Calgary Power Ltd. and the Alberta government. In addition to making more electric power available, the project will greatly assist the government's water management program by providing a better distribution of Alberta's water resources between the northern and southern sections of the province. It will also make diversion of part of the North Saskatchewan River into the Red Deer River system economically feasible. Extensive development of the area's recreational potential is being planned as well. A study of the potential of the Athabasca and Slave rivers by Calgary Power has revealed a possible 3,000,000-kw in undeveloped hydro-electric capacity. Financial considerations have, however, made these developments economically unattractive at the present time.

Alberta Power undertook a sizable expenditure during 1972 for high-voltage transmission lines in the Drumheller, Grande Prairie and Vegreville areas and existing transmission substations were upgraded to cope with the increased load.

**British Columbia.** In terms of installed hydro capacity, British Columbia is exceeded only by Ontario and Quebec. The province has many mountain rivers offering abundant opportunity for the development of hydro-electric power; notable for the magnitude of their power potential are such rivers as the Columbia, the Fraser, the Peace and the Stikine. Hydro developments on smaller rivers in the south once met the major load requirements of the province but in 1968 the immense power resources of the Peace River began to supplement the energy supply. Development of the hydro potential of the Canadian portion of the Columbia River is now under way, utilizing water from three huge storage dams, two of which have already been completed; the third, Mica Dam, which became operational in 1972 measures 800 ft from base to crest and is the largest earthfill dam in Canada.

The foremost producer and distributor of electric power in British Columbia is the British Columbia Hydro and Power Authority, a provincial Crown corporation. B C Hydro operates a diversified system of public utilities including transportation services by rail, sea and road. 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 in the Fraser Valley, and liquefied petroleum gas in Greater Victoria.

Of B C Hydro's electric power requirements totalling 17,977,000,000 kwh for the year ended March 31, 1972, 16,221,000,000 or 90%, were produced by hydro-electric stations and 721,000,000 kwh (4%) by thermal plants; the remaining 1,035,000,000 kwh were purchased primarily from Canadian sources. Kilowatt-hours of electricity sold during 1971-72 (16,174,600,000) were 10.9% higher than during the previous year, with gains recorded for all categories of customers. Residential consumption increased 9.6%, commercial 11.0%, and industrial 12.3%. As at March 31, 1972, 726,000 customers were served with electricity, 36,000 more than during the previous year. Gross revenues from electrical services were \$211,425,389, up 9.6%. The average annual rate for residential customers remained at 1.9 cents per kilowatt-hour, and the average annual residential consumption increased from 6,949 kwh to 7,342 kwh. Installed nameplate generating capacity as at March 31, 1972 totalled 3,852,364 kw (2,813,922 kw hydro and 1,038,442 kw thermal generating capacity). The integrated system peak one-hour demand was 2,970,000 kw, 7.3% higher than the recorded peak in the fiscal year ended March 31, 1971.

Considerable circuit mileage was added to the transmission system in British Columbia during 1971 including a 100-mile 230-kv line connecting the East Kootenay region to the integrated grid system, a 53-mile 230-kv line between Kelly Lake (near Clinton) and a new substation at 100 Mile House, conversion of the 60-kv line to 138 kv in the Thompson River valley, and a 62-mile line between Nicola substation and the Similkameen Mining Company's new operation south of Princeton.

Although expansion in the immediate future will continue to concentrate heavily on the development of additional hydro-electric capacity, long-term plans call for substantial increases in thermal-electric generation as well. A total of 377,000 kw of new hydro-electric capacity was brought into service in 1971 and added to B C Hydro's system. A sixth 227,000-kw unit was installed at the Gordon M. Shrum station on the Peace River while redevelopment of the Jordan River station accounted for the remaining 150,000 kw. With the commissioning of this new unit at Jordan River, the four old units with a combined capacity of 26,400 kw were retired from service. The year 1972 should see the completion of one hydro-electric station, the