

The Alberta Energy Resources Conservation Board regulates the construction and operation of electric utilities under the Hydro and Electric Energy Act of the province of Alberta, and the Public Utilities Board regulates the rates.

There were no additions to generating capacity in the province in 1974 but work proceeded on several projects. Calgary Power expected to commission one 375-MW unit in 1975 at its Sundance coal-fired thermal station in Lake Wabamun, west of Edmonton, and an additional 375-MW unit will be completed in 1976. Approval has been received to add a third 375-MW unit with an in-service date of 1978 which will raise the total capacity of the Sundance station to 1,725 MW. Environmental effects are being minimized through installation of a 1,200-acre cooling pond at Sundance and the provision of electrostatic precipitators on all Sundance units. Results from precipitators in use on the two 300-MW operating units show a 99.5% removal of exhaust ash. These devices are also being added to the older Wabamun station and were to be in service by mid-1975. Expenditures for all environmental protection devices at the two stations will likely exceed \$80 million.

Edmonton Power is continuing the construction of additions to its Clover Bar gas-fired thermal station which will add a 165-MW unit in 1976 and another in 1978, thus doubling the total station capacity to 660 MW. Environmental studies are continuing on the effect of warm water discharge on the biota of the North Saskatchewan River which is used for cooling and on the reduction of nitrogen oxides in the stack discharge.

Alberta Power expected to place in service a second 150-MW unit during 1975 at its Battle River coal-fired thermal station. The 5-MW diesel generating station at Jasper was completely destroyed by fire early in 1974. Replacement diesel units have been installed on a temporary basis and a new station with a total capacity of 8.4 MW became operational in 1975. Construction of a large-capacity coal-fired station near Dodds (40 miles southeast of Edmonton) is under consideration for commissioning in the early 1980s.

Transmission developments in Alberta include additions to 240 kV and 138 kV lines by Calgary Power and reinforcement of the interconnection at 240 kV between Edmonton Power and Calgary Power at the Lambton, Rosedale and Jasper substations. Alberta Power added 35 miles of 144/240 kV-line during the year.

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, Fraser, Peace and 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 in Canada by storage and regulation resulting from Columbia River Treaty projects is under way at Mica (on the Columbia River) and at Kootenay Canal on the Kootenay River.

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 and gas distribution. 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.

The ninth unit at the G.M. Shrum Station on the Peace River was completed during 1974 raising the total capacity of this station to nearly 2,100 MW. A 40.5-MW gas turbine unit was installed at the Keough Station near Port Hardy and two similar units were added in 1975. The sixth 150-MW unit at the Burrard station was also expected to be in service in 1975 as was a 28-MW gas turbine unit at Rupert.

Major additions to hydro generation are under construction and during the period 1975-80, 3,465 MW of new hydro capacity will be added to the system. Excavation is nearly complete at the Mica powerhouse and much of the first stage concrete has been placed. The first elements of No. 1 turbine were put in place early in 1975 and it is expected that two units with a nameplate rating of 435 MW each will be in service in 1976 and two more in 1977. The Kootenay Canal Project is well advanced with the No. 1 turbine practically complete and other units in various stages of installation. Two of the four units of 125 MW each were scheduled