

Rapids and Coteau Creek on the Saskatchewan River is now being fed into the transmission network serving the more settled areas of the province. Before completion of this development in 1963, these areas had been served by electric power produced almost exclusively in thermal plants fuelled by coal, oil or natural gas; hydro-electric power had been used almost exclusively for mining purposes in northern areas. Thermal generation will provide the next stage of expansion with extensions under way at the Boundary Dam (Estevan) and Queen Elizabeth (Saskatoon) stations. In 1972, hydro accounted for only some 40% of the electrical energy produced.

No new additions were made to Saskatchewan's generating facilities during 1971. A 100,000-kw thermal unit scheduled to be brought into service at the Queen Elizabeth station during the year was delayed but was brought on line in 1972. The only other expansion currently under way is a 150,000-kw coal-fired unit addition to the Boundary Dam station near Estevan. When completed in midsummer 1973, this plant will boast an over-all capacity of 582,000 kw, by far the largest in the province. The forecast additional needs will be met by the purchase of 100,000 kw from Manitoba Hydro under a one-year contract commencing November 1, 1972.

Alberta. Electric power generation in Alberta is provided by two major investor-owned companies and three municipal utilities. In addition, several other municipal systems handle local distribution of power purchased from the investor-owned utilities. Companies previously known as Canadian Utilities, Limited and Northland Utilities Limited merged their resources in 1972 into a single company known as Alberta Power Limited.

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

The installed capacity in the province as at December 31, 1972 was 2,771,000 kw, an increase of 10% over the 2,679,000 kw recorded a year earlier; total energy generated increased by 13% from 11,098,000 kwh in 1971 to 11,700,000 kwh in 1972. While 27% of the total generating capability of the province was in hydro sources in 1971, all but 11.6% of the total power generated came from conventional thermal plants with steam units providing 85% of that total.

In Alberta, most of the principal hydro-electric developments are located on the Bow River and its tributaries and, from these developments, Calgary Power Ltd. serves most of the southern part of the province. The Big Bend hydro-electric development on the Brazeau River in the headwaters of the North Saskatchewan River, completed in 1967, augmented the energy from the Bow River plants and the Bighorn development on that same river added 108,000 kw in 1972. Substantial water power resources are located in the northern regions and, although these are somewhat remote from present centres of population, the advent of extra-high-voltage transmission has enhanced the prospect of their development.

The availability of vast fossil-fuel resources accounts for the emphasis on thermal power generation in Alberta; the province's largest thermal plants are the 405,000-kw gas turbine and steam station at Edmonton and the 582,000-kw Wabamun steam station. Although no significant additions were made to the province's generating capacity during 1971, extensive expansion, particularly in relation to thermal generation, was either nearing completion or in the planning stage.

Alberta Power completed its 140,000-kw H.R. Milner coal-fired generating station near Grande Cache during the fall of 1972 and plans to add a fourth 150,000-kw unit to its Battle River plant near Forestburg. With the addition of this new unit in 1975, the Battle River plant will have an over-all capacity in excess of 365,000 kw. A second 165,000-kw unit presently being installed at Edmonton Power's Clover Bar station should be on line by 1973. The addition of a second 286,000-kw unit to Calgary Power's Sundance station (near Wabamun) in 1974 will make it the largest generating plant in Alberta (572,000 kw). Calgary Power has filed application with the Energy Resources Conservation Board of Alberta to install third and fourth units at Sundance. It is hoped that these two additional 375,000-kw units can be placed in service in 1976 and 1977, respectively. Should all these plans be realized, Alberta's thermal generating capability in 1977 will be more than 70% greater than at the end of 1971.

Calgary Power is the only one of Alberta's utilities planning expansion to the province's hydro-electric system. The 108,000-kw Bighorn station on the North Saskatchewan River was