

Radisson (the northern terminal for Bipole I); a 900-MW inverter at Dorsey (the southern terminal for the HVDC system); and 900 MW rectifier equipment at Henday. A 230-kV interconnection with Saskatchewan (The Pas to Squaw Rapids) was to be completed in 1979. A 500-kV interconnection with Northern States Power (Dorsey-Forbes) was scheduled to be in service by 1980.

Saskatchewan

13.10.8

During 1977 a sixth unit (292.5 MW) was installed in the Boundary Dam coal-fired station, bringing plant capacity to 874.5 MW.

There was no generation expansion in 1978. Transmission line additions included a 230-kV transmission line from Assiniboia to a new thermal plant at Poplar River. To complete transmission for the new capacity at Poplar River, a 230-kV line to Regina will be constructed and the existing Regina-Wolverine line will be upgraded to 230 kV. A 230-kV tie with North Dakota was planned for 1981 and a HVDC asynchronous tie with Alberta was under study.

Future generation expansion is based on an annual growth forecast of about 5% in energy requirement and 4% in capacity but industrial sales are expected to grow at a faster rate than other categories.

The next planned addition to system capacity was the first 300-MW unit in the Coronach coal-fired station on the Poplar River, scheduled for service in 1980. Further generation expansion was to include a second unit at this site, and a hydroelectric development of three 84-MW units on the Saskatchewan River near Nipawin.

Energy consumption for Saskatchewan in 1978 was up 6.3% over 1977, as a result of substantial increases (10% to 13%) in the residential, farm, small commercial and oil fields sectors. Industrial sales in 1978 nearly maintained the high levels achieved in 1977 when they grew 15%. Saskatchewan Power does not expect industrial demand to grow at past rates. Forecasts are based on new development in heavy oil, Arctic oil and natural gas pipelines. A stable population, appliance saturation and conservation (partially offset by increased electric heating) will help limit future growth.

Alberta

13.10.9

About half of Alberta's electricity is supplied by investor-owned utilities, the remainder by municipal utilities. Calgary Power Ltd. supplies about two-thirds of the electricity and the other large utility is Alberta Power Ltd. Development of the electricity supply system is co-ordinated by an Alberta electric utility planning council (made up of utility personnel) and regulated by the Alberta Energy Resources Conservation Board (AERCB). The electric utility planning council forecast in 1977 that the load growth for the Alberta interconnected system would grow at the rate of 8.3% a year during the next decade, and at about 6.7% a year to the year 2006.

Production expansion on the Calgary Power system during 1977 consisted of a fourth unit at the Sundance coal-fired plant and in 1978 the fifth 375-MW unit was installed. Calgary Power received provincial government approval to construct and operate the Keephills thermal station about 10 km southeast of the Sundance plant on Lake Wabamun. The Keephills plant will consist of two 375-MW coal-fired units to be fuelled from the extended Highvale mine and is scheduled for service in 1983-84.

Mining at Highvale was scheduled to reach 8.6 million tonnes in 1981, when Sundance reaches full generation capacity of 2100 MW, and 12 million in 1985 when the Keephills station is fully operational. Highvale should then be Canada's largest operating coal mine.

New transmission line capacity in 1977 and 1978 on the Calgary Power system consisted of: a 138-kV line from Edson to Coal Valley; a 240-kV tie line to North Calgary; an additional interconnection with Edmonton Power, connecting with a Calgary Power line from Wabamun to Edmonton; and work under way on another interconnection with Alberta Power near Edgerton, via a 138-kV line from the Metiskow substation to Lloydminster. During 1978 Calgary Power put into operation a section of the 240-kV line between the Sundance plant and the Benalto substation, and a 240-kV line from Calgary to Lethbridge. Calgary Power and British Columbia Hydro