

Alberta will need upgrading to move coal by unit trains to Thunder Bay, and either the railways or the Ontario purchasers of coal will have to acquire trainsets of locomotives and hopper cars. Over the longer term, transportation of most of the coal by pipeline in the form of a slurry is a possibility.

Manitoba. Manitoba Hydro is the primary agency responsible for the generation and distribution of electric power in the province. The corporation was formed April 1, 1961, merging the Manitoba Power Commission, the provincial distributing agency created in 1919 to serve rural Manitoba, and the Manitoba Hydro-Electric Board, the power generating and development authority established in 1951.

With immense hydro-electric capabilities on the Winnipeg, Churchill, Nelson and Saskatchewan rivers, Manitoba has more water-power resources than the other Prairie provinces. Until recently, hydro-electric generating stations on the Winnipeg River supplied most of the power requirements of southern Manitoba. Manitoba Hydro's high-voltage, long-distance transmission lines, however, will bring increasing amounts of power south from hydro-electric stations on northern rivers.

Manitoba Hydro supplies over 250,000 consumers in 700 communities throughout rural Manitoba and suburban Winnipeg and operates nine hydro-electric stations, two thermal-electric stations and a number of isolated diesel plants with installed capacity totalling 2 966 MW at the end of 1975. These stations join the City of Winnipeg Hydro Electric System's Pointe du Bois and Slave Falls stations to form the Manitoba Integrated System.

Pine Falls, McArthur, Seven Sisters and Great Falls hydro stations are on the Winnipeg River approximately 70 miles (113 km) northeast of Winnipeg; Grand Rapids hydro station is on the Saskatchewan River 285 miles (459 km) northwest of Winnipeg; and Kelsey and Kettle Rapids hydro stations are 400 and 450 miles (644 and 724 km) northeast of Winnipeg on the Nelson River. Responsibility for operation of the Sherritt Gordon Mines, Limited's Laurie River hydro stations 1 and 2 was assumed by Manitoba Hydro in May 1970.

The development of the Nelson River hydro-electric potential is continuing. The final three of 12 units at the Kettle generating station were added in 1974 bringing the total to 1 224 MW. At Long Spruce, the first two units were planned for operation late in 1977 and completion to a total of 980 MW by 1979; by the end of 1974 the powerhouse and spillway were more than 50% completed. Installation of the second stage diversion was finished in 1975 and was followed by construction of the earth-fill section of the main dam. Tenders on the first stage of construction for a third site on the Nelson River at Limestone Rapids were opened in March 1976. Access roads and site clearing began in 1975.

Important regulation and channel improvement work progressed through 1976 on structures and channels forming the waterway from Lake Winnipeg into the Nelson River. As part of this project, the Jenpeg generating station located in the diversion channel was expected to begin operation in mid-1976, when three of six 28-MW low head bulb type units were scheduled to come into service. Other work on the diversion route through the Rat-Burntwood river systems between the Churchill and Nelson rivers was almost complete, notably at the Missi Falls and Notigi Lake sites. The Missi Falls structure would regulate flow from Southern Indian Lake to the Churchill River. The Notigi control structure at the outlet of Notigi Lake to the Rat River would initially regulate flow but provided for future generator installation.

Plans for expansion of the HVDC transmission system connecting the Nelson River generating sites to southern Manitoba involved the addition of converter capacity at the sending and receiving stations. Transmission developments in 1975 included the commitment of converter equipment for the second bipole of the Nelson River HVDC system. This will be a thyristor design with a voltage rating ± 500 kV and a capacity of 1 800 MW, adequate to handle the combined