

average rate of 7.3% a year in the period 1971-76. As a result of the rapid increase in generating capability and the somewhat slower but steady increase in the peak loads, together with the slight reduction in deliveries of firm power to the United States, the indicated reserve on net capability in the 1961-71 period increased each year except 1961, 1963, 1964 and 1966. Increases are forecast for each year from 1971 to 1976. The reserve ratio as a percentage of firm power peak load reached a high of 28.2% in 1960 and fell to 13.7% in 1968 but is expected to increase to 24.2% in 1976. Absolute figures are given in Table 13.14.

13.3.9 Electrical utilities

Federal government regulation of electrical utilities with respect to the export of electric power and the construction of lines over which such power is exported falls within the jurisdiction of the National Energy Board.

Power is generated in Canada by publicly and privately operated utilities and by industrial establishments. Over 75% of the total electric power generated in 1971 was produced by publicly operated utilities, 10% by privately operated utilities and 15% by industrial establishments. However, ownership varies greatly in different areas of the country. Although Quebec power installations were at one time privately owned, almost all were transferred to public ownership in 1963. In Ontario almost all electric power has been produced by a publicly owned utility for over 60 years.

Because the determination of market prices and regulation of services is limited to inter-fuel competition with oil, gas and coal, some regulation of electrical utilities has been attempted in all provinces. In most of them the generation and main transmission of power is the responsibility of a provincial Crown corporation. Investor-owned electrical utilities are predominant in Alberta and play a significant role in Newfoundland, Prince Edward Island, Ontario and British Columbia; they contribute about 10% of the total power generated in each province. Generating facilities in industrial establishments represented 11.4% of installed capacity at the end of 1971 and generated 15.0% of the electrical energy produced during the year. There is an annual decline in industrial generation as it becomes increasingly attractive to purchase power from utilities, which can take fuller advantage of larger unit sizes and operational flexibility. Even when process steam is required for an industrial operation, there are instances when it is advantageous to purchase both steam and power from the electrical utility.

Newfoundland. The Newfoundland and Labrador Power Commission was established in 1954 to supply power wherever needed throughout the province. The Commission began large-scale production of electrical energy in 1967 when the Bay d'Espoir plant began operating and the provincial transmission grid was established. Power is supplied from this grid to several industries direct and to investor-owned electric distribution companies for distribution. The Newfoundland Light and Power Company is the principal distributor. Bowater Power Company Limited supplies the Bowater Newfoundland Pulp and Paper Mills Limited and several large mining operations. Electricity is provided to isolated areas through Rural Electricity Authority and Power Distribution Districts, principally through diesel generator sets. In Labrador, the Churchill Falls (Labrador) Corporation, a subsidiary of Brinco, is engaged in the development of the massive Churchill Falls power project which commenced production in 1972. This company also controls the Twin Falls Power Corporation which serves iron ore mining centres in western Labrador.

The water-power resources of this province are very substantial. On the island, although the rivers are generally not long, topography and run-off favour hydro-electric power development; of the substantial capacity installed, a very large portion serves the pulp and paper industry.

In Labrador, the Churchill River and its tributaries, now under development, constitute one of the largest potential sources of water power in Canada. An important milestone was passed during 1971 at the massive Churchill Falls complex in Labrador with installation of the first two 475,000-kw hydro-electric units. First power was delivered to Hydro-Quebec over the first of three 735-kv transmission lines late in the year. Although the complex was originally scheduled for completion in 1976, the construction program is being accelerated and it is now expected that the project will be completed by the end of 1975. At that time, Churchill Falls will be by far the largest generating station in Canada and, indeed, one of the largest in the world.