

Total generating capability has grown at a rapid rate since 1950. The annual rate of increase was 8.0 p.c. in the twelve-year period 1951-63 and 6.0 p.c. in the period 1959-63. In comparison, the forecast rate of growth for the years 1964-68 is only 6.4 p.c.; thermal generating capability is expected to grow at the average rate of 7.3 p.c. a year in the forecast period compared with 15.8 p.c. in the period 1951-63 but hydro-electric capability is expected to increase at only 3.0 p.c. a year compared with 6.7 p.c. in the 1951-63 period.

Among the provinces, Quebec has the largest generating capability, followed by Ontario, British Columbia and Alberta. Quebec also has the largest hydro-electric generating capability, followed by Ontario and British Columbia, but Ontario has the largest thermal capability, followed by Alberta and British Columbia. The first nuclear capability is scheduled for 1967.

The largest absolute growth in generating capability for the forecast years is indicated for Quebec amounting to 2,323,000 kw., followed by Ontario 2,199,000 kw., Alberta 790,000 kw., and British Columbia 769,000 kw. Quebec will meet most of its increased generating capability by adding over 2,014,000 kw. in hydro capability and 309,000 kw. in thermal capability. Ontario will add 1,915,000 kw. thermal, including 218,000 kw. nuclear, and 284,000 kw. hydro, and Alberta will add 300,000 kw. hydro and 490,000 kw. thermal. Thus, it is apparent that thermal capability is becoming of greater importance, partly because of decreasing availability of hydro resources in provinces such as Ontario and partly because technological advances have made possible much more efficient use of thermal fuels in the operation of thermal base load plants.

Firm power peak load is the measure of the maximum average net kilowatt demand of one-hour duration from all loads, including commercial, residential, farm and industrial consumers as well as the line losses. Such load demand increased at the rate of 6.8 p.c. a year from 1951 to 1963 but only 6.4 p.c. a year from 1959 to 1963; peak load demand is forecast to increase at the average rate of 6.0 p.c. a year in the period 1964-68. 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 generating capability increased each year from 1951 to 1963, with the exception of 1961 and 1963. The forecast is for decreases from 1964 to 1967 and an increase for 1968. The reserve ratio as a percentage of firm power peak load, which reached a high of 28.2 p.c. in 1960, is expected to decrease to 16.8 p.c. in 1968.

4.—Net Generating Capability, by Province, 1963

(Thousand kilowatts)

Type of Generating Facility	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.
Hydro-electric.....	444	—	143	224	9,271	5,601
Thermal-electric—						
Steam.....	45	51	387	304	59	2,376
Internal combustion.....	7	7	2	7	10	12
Gas turbine.....	—	—	—	—	36	—
Totals.....	496	58	532	535	9,376	7,989
	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
Hydro-electric.....	735	208	326	2,670	44	19,666
Thermal-electric—						
Steam.....	291	492	713	475	1	5,194
Internal combustion.....	7	36	31	106	11	236
Gas turbine.....	—	39	130	177	—	382
Totals.....	1,033	775	1,200	3,428	56	25,478