

**Equipment of Central Electric Stations.**—The primary power equipment of all central electric stations aggregated 5,401,108 h.p. in 1930. This included water wheels and turbines, steam reciprocating engines and turbines and internal combustion engines. The hydraulic power machines greatly predominated over the other prime movers, providing 95 p.c. of the total capacity, with steam turbines, steam reciprocating engines and internal combustion engines making up the remaining 5 p.c. Not included in the above were steam engines and internal combustion engines with a capacity of 171,453 h.p., or 3.1 p.c. of the total power capacity, installed as auxiliary or standby equipment.

Central electric stations that have no water power, but are operated by steam and internal combustion engines, are on the whole small stations. Of the 82 steam reciprocating engines installed in central electric stations in 1930, only 12 in number, or about 15 p.c., were over 500 h.p. The steam turbines averaged over 3,290 h.p. with 12 units averaging 9,690 h.p., but there were only 63 steam turbines in the industry and these were confined to 28 stations, whereas the 791 water wheels and turbines averaged 6,500 h.p.

The majority of the fuel-using stations are primarily for lighting purposes, using the cheapest fuel procurable, generally local coal. In the Prairie Provinces bituminous and lignite coals are used for the steam engines, and gasolene, oil distillates and producer gas for the internal combustion engines.

Of the 376 internal combustion engines in central electric stations in 1930, 204, or 54 p.c., were in Saskatchewan, 59 in Alberta and 37 in Manitoba.

During 1930 the fuel stations produced 311,672,000 kilowatt hours at a cost for fuel of \$2,170,014, an average of 0.70 ct. per kilowatt hour. This production was, however, only 1.7 p.c. of the total output, hydro-electric stations producing about 98.3 p.c. The auxiliary equipment in central stations consumed fuel valued at \$424,865 and produced 30,891,000 k.w. hours.

### 5.—Equipment of Central Electric Stations, 1930.

NOTE.—K.V.A. means Kilo-volt-amperes.

Province.	Number of Power Plants.	Water Wheels and Turbines.			Steam Engines, Steam Turbines and Internal Combustion Engines.			Dynamos.		
		No.	Capacity.	Average Capacity.	No.	Capacity.	Average Capacity.	No.	Capacity.	Average Capacity.
			h.p.	h.p.		h.p.	h.p.		K.V.A.	K.V.A.
Prince Edward Island.....	11	9	464	51	8	3,413	427	16	3,297	206
Nova Scotia.....	53	54	80,192	1,485	41	38,397	937	95	96,945	1,020
New Brunswick.....	19	15	85,485	5,699	22	21,275	967	38	89,977	2,368
Quebec.....	98	252	2,316,007	9,191	8	5,788	723	254	1,997,795	7,567
Ontario.....	129	340	1,729,731	5,087	9	1,013	112	337	1,401,043	4,157
Manitoba.....	29	35	352,925	10,084	51	9,491	186	83	286,487	3,451
Saskatchewan.....	135	-	-	-	232	118,444	510	234	102,242	436
Alberta.....	55	18	69,520	3,862	82	56,480	689	95	102,600	1,080
British Columbia.....	58	68	509,785	7,497	32	2,700	843	101	394,529	3,906
Yukon.....										
<b>Totals.....</b>	<b>587</b>	<b>791</b>	<b>5,144,109</b>	<b>6,503</b>	<b>483</b>	<b>256,999</b>	<b>539</b>	<b>1,243</b>	<b>4,474,865</b>	<b>3,543</b>
Auxiliary Plant Equipment....	57	-	-	-	122	171,453	1,405	111	145,678	1,312

**Provincial Distribution of Electrical Energy.**—The distribution by provinces of the electrical energy generated in central electric stations throughout Canada is shown in Table 6 for the calendar years 1926 to 1930. In the latter year about 88 p.c. of the total generated electrical energy was produced in the