

and systems supplying electric energy as public utilities for lighting, power, heating, etc., are comprised, including certain large establishments, such as pulp and paper mills and mines, where the energy produced is not exclusively used for their own industrial operations. The questions suggesting the various items desired were grouped under six different schedules, covering (1) hydraulic plants, (2) steam plants, (3) internal combustion engine plants, (4) transmission lines, (5) substations, (6) distribution systems, the appropriate form, of course, accompanying each request for information. The principal items suggested under each schedule were:

Hydraulic Plants—Dams and hydraulic works, head utilized, flow of river, utilization of storage, hydraulic troubles, power houses, turbines, generators, station transformers, demand, output, service, interruptions, costs and date of installation.

Steam and Internal Combustion Plants—Power houses, boilers, gas producers, engines and turbines, generators, fuel, service, costs and date of installation.

Transmission Lines—Situation, length, voltage, construction, losses, protection, cost.

Substations—Purchased energy, transformers, output.

Distribution—Mileage of streets covered, voltage, line transformers, consumers, connected load, costs, rates, street lighting.

The answers received were most satisfactory, but, in certain cases, delay was occasioned by subsequent correspondence to obtain additional data or to clarify apparently conflicting statements. In this connection, deep appreciation and thanks are expressed to the officials of the various organizations for their courtesy and co-operation, upon which depended the completeness of the report. Publications giving some of the data are available, but the information in these is very limited, and none of them cover Canada in a thorough manner, thus giving a wrong impression, much to the detriment of this country as to its development along electrical lines. It is felt that the present report represents the situation in a complete and thorough manner.

The information shows that there is a total of 565 electric generating plants in Canada, with an aggregate capacity of 2,107,743 h.p., and supplying not less than 752 distributing systems of varying importance, which cover some 973 places. If we group the plants according to the kinds of prime-movers, we find:

270	Hydro-electric plants, aggregating.....	1,806,618 h.p.
201	Steam plants, aggregating.....	288,202 h.p.
49	Gas* plants, aggregating.....	8,157 h.p.
45	Oil or gasoline engine plants, aggregating.....	4,766 h.p.
		2,107,743 h.p.

These figures give a very fair idea of the power situation, and show the unquestionable predominance of water-power over all other sources. The *Electrical World*, in its issue of June 16, 1917, stated editorially that:

* Practically all producer-gas engine plants.

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