APPENDIX

volts to Waubaushene, Penetanguishene, Barrie and Collingwood, the system being tied into the Eugenia System at Collingwood and also to the Wasdell's Falls System.

WASDELL'S FALLS SYSTEM.

Wasdell's Falls Development.-This development, situated on the Severn River three miles below Lake Couchiching, and completed in 1914, is notable for its low head and as being the first plant designed and constructed by the Hydro-Electric Power Commission. It includes a stop-log type concrete dam, power house and tail race, the power house forming a westerly extension of the dam. The drainage area of the river above the development is 2,080 square miles. Storage is obtained on Lakes Simcoe and Couchiching, the levels of which are regulated by the Department of Railways and Canals. The dam has a length of 110 feet, is 14 feet high, and is provided with six sluiceways, a spillway and a log chute. The power house is built entirely of concrete and contains two units developing a total capacity of 1,200 horse power. These are of the vertical shaft, double-runner, double-discharge type, set in open flumes, each direct connected to a 400 K.V.A., 3 phase, 60 cycle generator. Excitation is provided by one 20 K.W. turbine driven and one 30 K.W. motor driven exciter, and regulation by oil pressure governors. A transmission line 46 miles in length conveys energy at 22,000 volts from the power house to Beaverton, and Cannington, and the Severn System.

EUGENIA SYSTEM.

Eugenia Falls Development.—This development, designed and constructed by the staff of the Hydro-Electric Power Commission of Ontario, was completed for an initial installation of 4,800 horse power in 1915, and is of special interest as operating