

APPENDIX

Healey Falls Development.—This development is situated at dam No. 13 of the Trent Valley Canal, and about six miles above Campbellford. The drainage area of the river above the plant is 3,515 square miles. In common with the other powers of the Central Ontario System, this plant enjoys a very regular river flow owing to the great natural storage obtaining throughout the watershed, the levels of the larger lakes of which are controlled by the Department of Railways and Canals. The development includes a short headrace 250 feet long, leading from the Trent Canal to a concrete gatehouse from which three steel penstocks 12 feet diameter and 450 feet long lead to the power house. The substructure of the latter is of concrete and the superstructure of brick. The building houses three units, developing a total capacity of 16,800 h.p. under a head of 76 feet. The turbines are of the double-runner, centre discharge, horizontal type in cylindrical casings, each of 5,600 h.p. and direct connected to three 3,750 K.V.A., 3 phase, 60 cycle generators. Two 160 K.W., 125 volt exciter, one turbine and one motor driven, are provided. Regulation is provided by oil pressure governors. Energy is transmitted to the Central Ontario System at 44,000 volts, the transmission mileage of this system including 372 miles of 44,000 volt line, 15 miles of 11,000 volt line, 16.4 miles of 6,600 volt line and 52 miles of 4,000 volt line.

Auburn Development.—Just north of Peterborough, this development is situated on the Otonabee River at Dam No. 18 of the Trent Valley Canal System. It includes an easterly extension of the dam forming a four sluiceway intake, admitting water to a headrace 1,200 feet long and 150 feet wide, a series of open flumes, power house, tailrace and separate transformer house. A retaining wall, partly of concrete and partly of earth fill, divides the headrace from the Otonabee River. At the end of the headrace a spillway and icerun is provided to