

over private right of way until it strikes the Grand Trunk track running from Haliburton to Lindsay, which it then follows to within half a mile of the Lindsay town limits, there leaving the track and running directly south on Main street to the sub-station. It consists of three No. 4 B. & S. copper wires, bare, except for the small part inside the corporation limits, which latter is weatherproof. The wire was supplied by

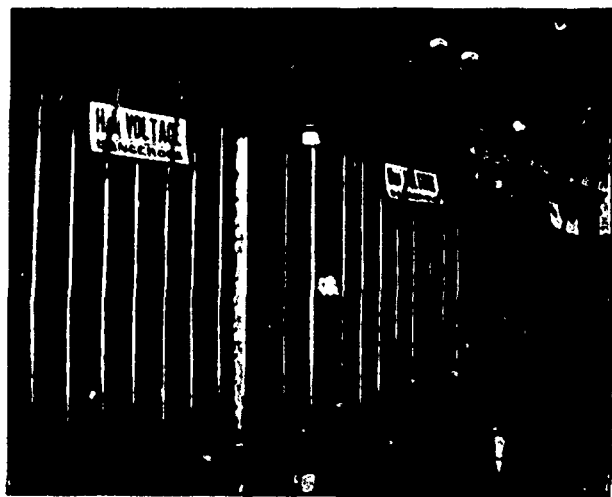


FIG. 6.—STEP-DOWN TRANSFORMERS IN SUB-STATION.

the Dominion Wire Company, of Montreal. The line is supported throughout by No. 1 Imperial porcelain insulators, triple-petticoated and tested to 20,000 volts. The pins are locust, the cross-arms being of 4x5 tamarack and double braced. The three wires are at present supported on one arm, though when the second line is strung they will be arranged so as to provide against any chance of voltage disturbance from mutual inductance of the two circuits; it was not considered necessary to transpose the three wires now in use.

Below the transmission line is a telephone line, run on a standard two-pin arm, with the usual glass insulators placed three feet below the main line and transposed every fifth pole. The wire is No. 12 I.W.G. galvanized iron. No difficulty whatever has been experienced from induction troubles, the service being perfect, independent of the load on the main line.

The poles are of cedar, set 56 to the mile, varying from 35 to 50 feet in height, so as to make the line as level as possible. For the greater part of the distance no difficulty was experienced in setting them, as the ground is clean, though a little blasting was necessary on account of rock found near the Falls, and when crossing swamp the poles are for some 4000 feet supported by piles, to which they are bolted, some special device of this character being rendered necessary by the water which at this point covers the ground for the greater part of the year.

In addition to the lightning protection provided in both stations, a barb wire line runs over the full length of the transmission, fastened securely to the top of each pole and grounded at every third. This, it is expected, will take the majority of the discharges occurring near the line.

THE SUB-STATION.

The Lindsay Light, Heat and Power Company, before the installation of the new plant, ran two steam

driven stations, and one of these has been changed to accommodate the new apparatus and is used as a sub-station. It contains a high tension panel similar to that of the power house controlling the primaries of the three oil-cooled 135 k. w. step-down transformers, giving a secondary voltage, which is varied, according to the load, from 1,050 to 1,150 volts, at which pressure the current is distributed to the lights and motors throughout the town.

Like the power house, all the sub-station low tension wiring is run in conduits under the floor, which is cement. The low tension switchboard consists of four polished marble panels, one similar to that in the power house, controlling the 1,040 volt side of the transformers, one containing the ammeters, voltmeters and ground detectors, and the remaining two containing switches controlling the various circuits throughout the town, these being arranged so that three phase or single phase distribution can be made as desired.

Power is now being supplied for lighting and power purposes in the town of Lindsay, and it is said that the current is steadier and more satisfactory than when the steam plant was in use. The company at present have the contract for lighting the streets of the town. They are also supplying a number of commercial lights and a quantity of power for grain elevators, refrigerating machines, printing presses, and other service. Their present lighting business consists of 7,000 incandescent lights of 16 c. p. and 60 arc lights of 60 c. p. It is said that in proportion to its population, the town of Lindsay uses more electric current than any other town in Canada.

All the electrical apparatus was furnished and installed by the Canadian General Electric Company, the expert work being done by Mr. Davies, of Toronto, and Mr. Smallpiece, of Peterborough. Mr. C. H. Mitchell, C.E., of Niagara Falls, Ont., had entire charge of the power development, which reflects great credit upon him. The power house and pole line construction was carried out by the Lindsay, Light, Heat and Power Company, under the superintendence of Mr. B. F. Reesor, assisted by his son, Mr. Walter Reesor. The suc-



FIG. 7.—SWITCHBOARD IN SUB-STATION.

cessful operation of the plant must be a source of gratification to all concerned.

THE BANQUET.

In the evening a banquet was served by the Lindsay Company in a large hall in the town, which was prettily decorated for the occasion with flags and bunting. Probably 200 persons were present. The menu card was enclosed in a neat khaki cover and contained a list of