

made: the intake channel has been cut to practically full depth for some 200 ft. in front of the tunnel, and excavation farther out is going on under-water. Behind and at the sides of the tunnel entrance the high batters have been protected from wave action by concrete and stone paving in 5 ft. steps. The concrete and stonework protection is now being extended further towards the lake. Excavation of rock and earth during the year amounted to 56,700 cubic yards; and concrete protective work for the year amounted to 3,148 square yards.

All tunnelling-work is complete, including the intake structure, placing of steel liners, and painting, except for the inverts, and concreting-in the liners.

The first 7-ft.-diameter pipe-line has been erected and painted inside, and the second pipe-line is almost completely erected.

In the power-house minor concreting jobs have been done and machine foundations have been concreted as required. The internal and external plastering is complete. There still remains all the inside painting and much inside finishing work to be done. Outside the power-house concrete slabs have been completed at front and rear of the building; and concrete paths, steps, and minor walls have been made. Access roads have been graded and are approaching completion, and lawn areas have been prepared.

The number of men employed fell to 150 in March. As buildings become surplus they are being dismantled and removed to other jobs.

*Bunynthorpe Substation.*—The site for the condenser and control buildings has been excavated ready for their erection. Two thousand two hundred square yards of batter on the transformer area have been top-soiled and sown.

The railway siding is now complete to the unloading-banks on the spur line to the existing substation. Thirty-eight chains of track have been laid during the year and 30 chains have been ballasted.

A storage yard, 132 ft. by 66 ft., near the existing substation has been metalled. Thirty-eight chains of 18 ft. road have been formed round the transformer area and metalled 6 in. deep. Kerbing and channelling for a length of 1,214 ft. have been constructed along the toe of the batter on the north-east side of the transformer area. All roads have been maintained with a grader.

An unloading-bank and two pairs of pads for the stators have been built near the existing substation.

During the year 3,500 cubic yards of clay have been excavated for the traverser-track formation, and some of the material has been used to widen the Redmayne Street fill for a footpath. A length of 279 ft. of traverser track has been built, but the work has been retarded by cement shortage.

Good progress has been made with the storm-water drainage. Temporary drains, 4 ft. 6 in. deep, have been excavated for a length of 5,000 ft. The following permanent drainage has been completed: 15 in. concrete pipe, 620 ft.; 12 in. concrete pipe, 1,620 ft.; 6 in. earthenware pipe, 2,063 ft.; 52 manholes; and 7 sumps.

Construction of the Imhoff tank is in progress, and 350 cubic yards have been excavated on the sewage-treatment-plant site.

Twelve foundations for the 110 kV. oil circuit-breakers have been made.

An average of 30 men has been employed throughout the year.

*Cobb River Development.*—Investigation work at the dam-site has continued: 270 ft. of 6 ft. by 4 ft. inspection tunnels were driven and 45 ft. of 12 ft. by 6 ft. shafts were sunk during the year. At the right abutment large-scale excavation disclosed the rock surface, much of which is considered unsuitable for supporting a concrete gravity-type dam. A decision has therefore been made to construct an earth dam.

A water-drive is being driven to drain water from the dam-site out to the gorge; and 1,210 ft. have been driven already. This drive will be useful during dam-construction and will be lined with concrete to serve as a permanent drain from the dam area.