

Transmission-lines: The erection of the second 110 kV. line between Arapuni and Ongarue is nearing completion. A 50 kV. line from Takapuna to Belmont and an 11 kV. line from Ohura to the Tatu Mine were completed and put into service. The 50 kV. line from Edgecumbe to Te Puke is under construction. A survey for a 110 kV. line from Hamilton to Waihou was completed. Aerial surveys were made of parts of the proposed Auckland-Bunnythorpe 220 kV. line. The survey work in connection with the Tuai-Bunnythorpe 110 kV. line is about half completed. The Khandallah - Central Park 110 kV. line was completed and is being used for temporary construction supply at Central Park.

5. *Operation and Maintenance.*—In spite of the many difficulties through shortage of staff, war, and other restrictions, the usual high standard of reliability of supply was maintained.

SOUTH ISLAND ELECTRIC-POWER SYSTEM

1. *Capital Outlay.*—Except for Highbank Station, comparatively little work of a capital nature was undertaken during the year owing to difficulties in obtaining labour and materials. Details will appear in paper B-1 [Pt. IV] when audited.

2. *Financial Results.*—Progress figures to hand reveal the usual steady increase in revenue. If it were not for the fact of the Depreciation Reserve reaching its statutory limit, there would again be nothing available for sinking fund after paying income-tax, &c. The Depreciation Reserve having reached its statutory limit, a considerable contribution towards reducing the sinking-fund arrears can be made.

3. *System Operation.*—The system maximum half-hourly load was 103,070 kW., as compared with 97,680 kW. last year, an increase of 5.5 per cent. This occurred at 17.30 hours on 29th June, 1943. The units sold were 454,207,472, as compared with 410,062,927 for the previous year, an increase of 10.7 per cent.

4. *Construction.*—Highbank: Good progress was made with the installation of plant at this station, and if the balance of the equipment arrives from overseas this plant should be in operation in the latter half of the year 1944-45.

Coleridge: Steelwork for the mounting of outgoing lines as rearranged and O.C.B.s are in course of erection.

Substations: At Hororata a new bank of 30,000 kVA. auto transformers was installed and a new bank of 20,000 kVA. transformers was put into service at Addington, bringing the total capacity at the latter substation to 60,000 kVA.

A new 5,000 kVA. 33/11 substation was completed at Belfast and put into service.

Transmission-lines: The 66 kV. line between Hororata and Highbank was put into service to give supply for construction purposes. The 66 kV. line from Timaru to Tekapo also has been operated at 11 kV. for construction purposes and, in addition, now supplies a few local residents.

5. *Operation and Maintenance.*—A severe snowstorm in Mid-Canterbury on 29th June, 1943, seriously dislocated supply, and rationing of supply was necessary for two days. It was three weeks, however, before all damage was repaired. With this exception the usual high standard of service was maintained. Considerable protective work and pile-driving was done on the line to the West Coast to counter flood damage and slips.

6. *Retail Supply.*—Southland: Electricity sold to consumers in Southland, including bulk supplies, totalled 34,974,315 units. This is 2,377,315 in excess of the previous highest number of units sold in a year. Twenty-six (26) per cent. of this increase was accounted for by the greater use of electricity by domestic consumers in their homes. The high rate of consumption recorded last year in respect of energy used for industries and milking-plants was maintained. When on 1st April, 1939, the Government reduced the retail prices of electricity in Southland the annual unit sales (at that date) were 23,694,000. They have since increased by 11,280,315, bringing the total to 34,974,315 as stated above.

The many elements which go to make up the service to the consumers received a good standard of attention. The connection of new consumers during the year was restricted to those adjacent to existing distribution lines and to those whose applications fell within the urgent and essential category under the Emergency Regulations. No major extensions were undertaken. The concrete-pole factory at Winton has been in regular production. Testing and workshop activities were on a larger scale than in the previous year. General engineering problems to ensure reliability of supply, &c., were studied and dealt with.

REGISTRATION OF ELECTRICAL WIREMEN

Examinations were held for electrical wiremen, electrical servicemen, radio servicemen, radio transmitters, cinematograph operators, and luminous-discharge-tube servicemen.

Special examinations were held in the Pacific Areas for members of the Armed Forces, and examination-papers were despatched to a candidate in a prisoner-of-war camp in Germany.

Arrangements were finalized with representatives of the United States Forces for the registration of United States electrical personnel whilst in New Zealand.

Representations were made through the Industrial Emergency Council's Apprenticeship Committee to bring into operation a Dominion Apprenticeship Order affecting electrical apprentices.

The record for the highest marks obtainable (100) was equalled during the year by a woman candidate in the electrical servicemen's written examination.