resulted in heavy maintenance of boiler and flue-draught fans. A fifth dry kiln, 66 ft. in length, was completed and put into service during the year, as well as a 200 kW. steam-driven alternator, the purchase of which was referred to in last year's report. Covered storage for dry timber was increased by an extension to No. 2 dry-storage shed.

Other plant improvements and additions included—a log-turning winch for the circular-sawmill, designed and built in the fitting-shop; an additional crosscut saw in the box-factory; a conveyor to eliminate handling and reduce congestion in the box-mill; an improved grinding-room for the box-factory; explosion doors in the boiler flue; extension of the sprinkler system to reduce fire risk; and power-factor correction of the electricity supply.

Power consumption increased 7·3 per cent. over that for 1944–45, principally on account of the operation of the fourth frame and of higher production in the box-mill, and it was again necessary to purchase power from the Department of Tourist and Health Resorts. As an offset against this it was possible to sell back to that Department power generated after the mill had closed down to the extent of half that purchased. All items of plant have been maintained in good condition, although a shortage of replacement parts from overseas for some items of mechanical plant caused anxiety until supplies were received.

59. *Transportation.*—To meet the extra demands of timber production and to replace unserviceable machines, 52 motor-vehicles were purchased from the War Assets Realization Board and added to the Forest Service fleet. Eleven of these vehicles went to the Auckland Conservancy, 24 to Rotorua, 6 to Wellington, 3 to Nelson, 5 to Canterbury, and 3 to Southland. One new tractor was purchased for exotic forest logging in the Rotorua Conservancy. Of four lease-lend machines hired from the War Assets Realization Board, three have been allocated to the Auckland Conservancy—two for logging in indigenous forests and one for general forest maintenance—and the fourth to the Wellington Conservancy for forest maintenance and road formation.

60. *Communications.*—Fourteen miles of new telephone-line were erected during the year and 2 miles renewed, and the usual maintenance was carried out to keep the systems in good condition. The aggregate length of all lines is 461 miles, of which 166 miles are of metallic circuit. A total of 254 instruments is now installed. Twelve portable telephones of a type used by the United States Army were obtained and distributed among the conservancies, and 2 radio stations, similar to those at Rotorua, were installed during the year in the Southland Conservancy to provide emergency communication between the district headquarters at Tapanui and the ranger station at Beaumont.

The value of the radio telephone as a means of rapid communication was effectively demonstrated during the February fire emergency, the Forest Service equipment in the Rotorua Conservancy giving efficient and satisfactory performance. The system, which in 1940 was installed in this conservancy on a restricted basis due to war conditions, has since been extended and at present comprises the following units: a control station at Kaingaroa Forest headquarters using a 100-watt transmitter, together with a 50-watt emergency unit; a station at the Conservator's office, Rotorua, 25 watts; and four at other forest headquarters and sub-headquarters, four in major lookout stations, and five spare sets suitably located for field use, all these last-mentioned being of 15 watts output. In addition, two lightweight portables and a number of portable receivers are located at Kaingaroa Forest. All these stations, together with those in the aircraft of the regular aerial fire patrol, operate on the frequency of 2,760 kc./s., but the control station can also use 4,750 kc./s. for communication with other military aircraft and 333 kc./s. for civil aircraft. The 15-watt sets can also be operated on 4,750 kc./s. The receivers of all units, where desirable, are fitted with an automatic tuning device for 2,760 kc./s., ensuring immediate and correct tuning of incoming signals on this frequency, and the frequencies of all the transmitters are crystal-controlled. The system is tested daily in the fire season and weekly at other times. Patrol aircraft are in constant communication with the control station from the time of leaving the airfield at Rotorua