

in the Cobb catchment area showed that relief could be obtained from various lakes, and with some effort water equivalent to 750,000 units was obtained from these sources. As this represents 10 per cent. of the total units generated during the dry spell, it was of very material assistance and had the effect of considerably shortening the period of rationing. During low-river-flow periods it has been found expedient to raise the weir-level with the sandbags to provide some storage to meet peaks and emergencies and to conserve water at low-load periods. The rainfall as recorded at the Cobb Power-house was 73.005 in. as compared with 67.79 in. in 1945-46.

Although the turbines again received severe punishment, due to the passing of gravel down the pipe-line, all power-house plant is now in good order, the spears, nozzles, and servomotors of all machines having been overhauled and governor gear checked. The No. 2 turbine C.B. valve body developed cracks which were welded, and the unit was put back into service pending the arrival of a new part now on order. Apart from these works only normal maintenance has been required at the station.

The following table shows the running-time for the various machines and their availability for service :—

Generator No.	Time on Load.		Time Idle.		Time under Repair. Hours.	Percentage Availability for Service.
	Hours.	Percentage.	Hours.	Percentage.		
1	5,214	59.3	3,545	40.6	01	99.9
2	4,401	50.2	4,346	49.7	13	99.8
3	5,357	61.2	3,346	38.2	57	99.4
4	5,117	58.4	3,540	40.4	103	98.8

Stoke Diesel Station.—During the year, 664,360 units were generated at this station, the machines being run as required for standby generation. The non-arrival of the full complement of spares on order has delayed the overhaul of the engines and as a result some troubles have developed during running. It is hoped that sufficient parts will be available to enable an extensive overhaul during the coming year, as it is anticipated that the demand on the plant will increase. Machine-running times are : No. 1 machine, 915 hours 39 minutes ; No. 2 machine, 1,206 hours 59 minutes.

2. SUBSTATIONS

At all substations only routine maintenance was required, all apparatus functioning normally, except for a fault which occurred to an 11 kV. A.B.S. at Motupipi, and for the shattering of an insulator on the 33 kV. O.C.B. isolator at Blenheim which was due to birds carrying straw. At the Tarakohe 11 kV. substation several dirty insulators were cleaned or changed.

3. TRANSMISSION AND DISTRIBUTION

66 kV.—There were no breakdowns on these lines. A damaged dropper on the Upper Takaka-Moutere section was replaced, line-weighting adjustments were made, and considerable access work done.

11 kV.—Interruptions were confined to the power-house-dam line and were due to snow conditions. Steps are being taken to counteract a repetition of this trouble. A general check over of the Motupipi-Tarakohe section was made during a shutdown.

General.—Pole stubs were set up as a means of testing belts, strops, crossarms, and fittings, &c., and a live-line test bus was established at Stoke. Testing-sticks and drying-ovens were built in preparation for work next summer. There were no pole replacements.

4. COMMUNICATIONS

A number of faults were experienced during the year, mostly due to external causes where our lines pass through heavily timbered country. Inspection surveys of the lines have been made and data is being collected for the preparation of a communication route plan. An oscillator and amplifier was installed for use in conjunction with the water-level indicator at Cobb. The replacement of fuse-switches with gas-arresters is proceeding.