NELSON MARLBOROUGH SECTION

A. SYSTEM OPERATION AND LOAD DESPATCH

1. Load

The maximum half-hourly demand on the system was 13,907 kW. on 16th June, at 1730 hours. This was 10·5 per cent. higher than the previous year's peak of 12,586 kW. The increase in the units generated was 14·6 per cent. The maximum number of units generated in any one week was 1,600,241 for the week ended 19th June, 1949 (last year 1,394,769). The system annual load factor was 61 per cent.

Units generated (compared with those for the previous year) were as follows:—

Station.	Year Ended 31st March, 1950.			Year Ended 31st March, 1949.		
	Maximum Kilowatts.	Units Generated.	Annual Load Factor.	Maximum Kilowatts.	Units Generated.	Annual Load Factor.
			Per Cent.			Per Cent.
Cobb	12,900	68,191,800	60	11,920	60,238,600	58
Auxiliary and standby stations—						
Waihopai		1,883,417			2,749,936	
Other miscellaneous		4,380,829			2,002,296	
Total units generated and purchased		74,456,046			64,990,832	

The units generated by the auxiliary and standby stations represent 8·3 per cent. of the total, compared with 7·3 per cent. during the previous year.

2. Reliability of Supply

A complete blockage of all turbine spears by rocks and gravel occurred at Cobb Power-station during the peak period on 19th May. As stones were thought to be in the pipe-line load was limited to 11,000 kW. until Sunday, 12th June, when the station was taken out of service for 11 hours to enable a screen to be fitted in the stone-trap. On 17th December the station was shut down for 18 hours 28 minutes, commencing at 2302 hours to change over from the old intake to the new.

The following table gives a detailed analysis of faults. Pre-arranged shutdowns are not included.

Description.	Year Ended 31st March, 1949.	Year Ended 31st March, 1950.	
		Number.	Duration.
			h. m.
1. 66 kV. lines: Defects	..	1	0 03
2. 66 kV. lines: External causes	..	1	0 25
3. 11 kV. lines: Defects	..	2	4 03
4. 11 kV. lines: External causes	2	3	7 15
5. Lightning	4	..	..
6. Storms	..	..	..
7. 6·6 kV. apparatus	..	..	..
8. 11 kV. or 33 kV. apparatus	4	1	0 38
9. 66 kV. apparatus	1	1	0 07
10. Turbines	..	3	2 40
11. Relays	4	..	..
12. Control circuits and batteries	..	1	0 39
13. Operation: Mistakes	..	..	..
14. Operation: Accidents	..	..	..
15. Faults and overloads on consumers' systems ..	15	3	0 48
16. Other causes	..	1	0 02
17. Causes unknown	3	4	0 24
Totals	33	21	17 04