

The following table gives an analysis of both the accidental and pre-arranged shut-downs:—

Faults on Department's System

Description.	Y.E., 31/3/45 Number.	Y.E., 31/3/46.		
		Number.	Duration.	Distributing Authorities affected.
1. 66 kV. lines : Defects	..	..	h. m.	..
2. 66 kV. lines : External causes	3	1	{ 0 19 5 8	2 2
3. 11 kV. lines : Defects	..	..	..	..
4. 11 kV. lines : External causes	..	..	..	..
5. Lightning	4	1	0 2	2
6. Storms : Nature of trouble not discovered	..	..	..	..
7. 6.6 kV. apparatus	..	..	..	..
8. 11 kV. or 33 kV. apparatus	..	..	..	..
9. 66 kV. apparatus	..	1	0 12	1
10. Generators	2	..	..	..
11. Relays	..	..	..	..
12. Control circuits and batteries	..	..	..	..
13. Operation : Mistakes	1	..	..	..
14. Operation : Accidents	..	1	0 0½	1
15. Faults and overloads on consumers system	2	1	0 44	1
16. Other causes	..	3	7 45	10
17. Cause unknown	..	..	..	..
Totals	12	8	14 1½	19

2. MAINTENANCE AND OPERATION

(a) *Power-stations*

Cobb.—The normal operation of the station was interrupted on 14th July, when heavy rain, following a long period of frosty weather, caused a sudden fresh which partially blocked the intake screens with weeds and debris. The loss of head due to reduced flow made it necessary to shut down the machines, causing a total interruption to the supply of power. All auxiliary stations were operating within one and a half hours, but a partial restoration of power to the Marlborough and Waimea Electric-power Boards was made within twenty minutes. The Cobb machines were back on the lines after three hours ten minutes. The increased flow in the tunnel due to the restricted intake caused a scour which brought some debris down the pipe-line to the nozzles. Most of the small pieces of wood and stones passed through, doing only slight damage to the turbine buckets. Some larger pieces of rock lodged in the nozzle of No. 1 machine and necessitated the withdrawal of the spear for their removal.

Owing to low river flows it was necessary to run auxiliary stations in June last year and in January, February, and March of this year. The rainfall for the year was probably much less than average, a total of only 67.79 in. being recorded at the power-house, and of this, 16.78 in. fell in August.

Throughout the year the generators, turbines, and all other equipment have operated very satisfactorily, and very few adjustments have been required. In co-operation with the manufacturers' agents, governor-oil pressures were adjusted. The solenoid and valve controlling No. 2 machine governor received attention, and some corrective measures were taken to check the tendency of the governor-pump belts to run to one side. The remainder of the plant required only normal maintenance.