

2. RELIABILITY OF SUPPLY

There were 223 faults, 43 of which caused no interruption to supply. Lightning was responsible for 72, or approximately 32 per cent., of the total number of faults.

A detailed analysis of interruptions is shown in the following table. These do not include prearranged shutdowns due to load control:—

Description.	Year Ended 31st March, 1948.	Year Ended 31st March, 1949.		
		Number.	Duration.	Distributing Authorities Affected.
			h. m.	
1. 110 kV. lines : Defects	2	15	7 13	14
2. 110 kV. lines : External causes	6	17	3 40	18
3. 33kV., 50kV., or 66 kV. lines : Defects ..	2	17	29 19	8
4. 33kV., 50kV., or 66 kV. lines : External causes ..	2	5	1 33	6
5. 6-6 kV. or 11 kV. lines : Defects	10	5	12 19	1
6. 6-6 kV. or 11 kV. lines : External causes ..	1	1	6 12	4
7. Lightning	29	72	18 48	25
8. Storms : Nature of trouble not found ..	2	..	..	..
9. 110 kV. apparatus	7	2	0 48	1
10. 33 kV., 50 kV., or 66 kV. apparatus	6	6	5 39	7
11. 5kV., 6-6 kV., 11kV., or 22kV. apparatus ..	8	8	39 55	6
12. Generators or synchronous condensers ..	4	..	..	..
13. Relays	12	5	0 45	2
14. Control circuits and batteries	4	..	..	..
15. Operation : Mistakes	12	10	4 10	12
16. Operation : Accidents	4	9	0 39	9
17. Faults and overloads on consumers' system ..	..	..	..	..
18. Other causes	32	31	20 47	15
19. Cause unknown	24	20	1 46	10
Totals	167	223	153 33	..

B. OPERATION AND MAINTENANCE

1. POWER-STATIONS

King's Wharf.—In addition to normal survey and inspection, hydraulic tests were successfully carried out by the Marine Department. During the shutdown period extensive overhaul and extra maintenance were undertaken. The steam range for boilers 7-10 gave further trouble by developing leaks which necessitated welding. Investigation of severe vibration in No. 10 machine disclosed shed rotor blades, and the turbine is out of service pending the arrival of a new rotor. Holes were drilled in the covers of flumes to eliminate air pressure caused by sea-wave action at times of abnormally high winds and seas. The new coal-loader operated successfully. A crushing and screening plant for lump coal was constructed, installed, and is now in continuous service.

Contracts for grit-arresters and ash-handling equipment were let, and delivery is due in 1950. The Auckland Electric-power Board removed a considerable quantity of its equipment, and most of the obsolete equipment which was sold has been removed.

Coal consumed was 48,864 tons, deliveries amounting to 58,307 tons, and 90 tons were sold under orders from the Mining Controller. Of the coal received, 20,519 tons came from the South Island and 37,788 tons from the North Island. The stock in hand at 31st March, 1949, was 11,472 tons.