

SOUTH ISLAND SYSTEM

A. SYSTEM OPERATION AND LOAD DESPATCH

1. LOAD

The maximum half-hourly demand on the Department's generating-stations was 133,590 kW. at 17-00 hours on 29th May, as compared with 128,745 kW. the previous year.

The combined system maximum demand, which includes the Dunedin City Corporation plants and other auxiliaries, was 160,700 kW. at 17-00 hours on 29th May, an increase of 4.4 per cent. on the previous year's peak.

The greatest weekly generation for the combined system was 16,177,871 units for week ending 1st June (previous year 15,807,533); and the highest daily generation was 2,591,713 on 29th May (previous year 2,496,615). Rationing was introduced on 30th May, 1947, when a reduction of 20 per cent. was called for, and this was increased to 30 per cent. on 5th June. The restriction was progressively lifted to 20 per cent. on 23rd June, 10 per cent. on 18th July, basic allocation on 8th August, 3 per cent. above basic on 22nd August, and 5 per cent. above on 15th December.

Difficulty was experienced in maintaining adequate coal-supplies for auxiliary stations.

An additional system interconnecting 15,000 kW. transformer-bank was commissioned at Halfway Bush in November to enable summer surplus water-power at Waitaki to be further converted into winter storage at Waipori. This conservation of Waipori power contributed to the reduction of approximately 41,000,000 units in Waipori generation as compared with the previous year. Storage in Lake Mahinerangi at 31st March, 1948, was approximately 19,000,000 units more than at 31st March, 1947.

Generation details of complete interconnected system (compared with 1946-47) are as follows:—

Station.	Year ended 31st March, 1948.			Year ended 31st March, 1947.		
	Maximum Kilowatts.	Units generated.	Annual Load Factor.	Maximum Kilowatts.	Units generated.	Annual Load Factor.
			Per Cent.			Per Cent.
Arnold	3,500	23,995,900	78.0	3,200	22,511,800	80.3
Dobson (oil) ..	..	3,083,550	..	..	3,268,240	..
Coleridge	39,840	109,909,170	31.4	38,980	142,279,330	41.8
Highbank	28,000	184,797,390	75.1	28,500	109,113,090	43.7
Monowai	6,700	28,323,700	48.2	6,600	28,689,050	49.6
Waitaki	68,580	326,523,430	54.2	67,980	342,237,950	57.5
Departmental totals	..	676,633,140	..	..	648,099,460	..
Dunedin City (all stations)	..	54,605,191	..	..	93,900,243	..
Invercargill City ..	..	1,576,590	..	..	1,576,090	..
Kanieri Electric Co. ..	..	7,858,128	..	..	5,398,140	..
Westland Power, Ltd. ..	..	2,518,080	..	..	2,023,200	..
Others	..	5,275,486	..	..	2,324,005	..
Grand total ..	..	748,466,615	..	..	753,321,138	..