

NEW ZEALAND

ANNUAL STATISTICS IN RELATION TO
HYDRO-ELECTRIC DEVELOPMENT AND OPERATION

YEAR ENDING 31st MARCH, 1944

CHIEF ELECTRICAL ENGINEER'S REPORT

For full text of the above report, refer to Public Works Statement, 1944, Appendix D, pages 6 to 8 inclusive.

ELECTRICAL WIREMEN

The statistics for the year ended 31st March, 1944, are set out below (the figures in parentheses are for the previous year):—

(1) Number of meetings of Wiremen's Registration Board: 19 (17).

(2) Registrations:—

Inspectors.	Wiremen.				
	Full Registration.	Limited Registration.	Provisional Licenses.	Temporary Permits.	Reregistrations after Periodical Purging.
17 (17)	75 (80)	74 (142)	4 (19)	Nil (1)	5 (4)

(3) Examinations:—

	Wiremen.			Servicemen.		
	Candidates.	Passed (%)	Highest Marks.	Candidates.	Passed (%)	Highest Marks.
Written	363 (317)	45 (36)	89 (89)	132 (130)	45 (50)	100 (94)
Practical	268 (216)	51 (57)	94 (94)	174 (152)	67 (66)	98 (96)

(4) Defective work reports, 9 (6): endorsements made, Nil (3); endorsements removed, 2 (2).

(5) Breach of Act reports, 63 (50); prosecutions authorized, 39 (37).

Tables

For reasons of economy in paper, the usual number of tables is not being published for the year ended 31st March, 1944, Tables VI, VII, VIII, XII, XV, and XVI being omitted. Tables IV and V have been incorporated in Table XI.

This edition contains—

Table I.—P.W.D. System: Capital Outlay and Results of Operation.	Table X.—Results of Generation and Distribution.
Table II.—P.W.D. System: Analysis of Capital Outlay	Table XI.—Financial Results of Operation.
Table III.—P.W.D. System: Working-costs.	Table XIII.—Averages derived from Tables IX, X, and XI.
Table IX.—Populations, Consumers, Route-miles of Lines, &c.	Table XIV.—Ranges, Water-heaters, and Milking-machines.

The statistics and information usually compiled under the headings "Local Electrical Supply," "Broken Wires and Poles," "Growth of Load," "Electrical Accidents," and "Electrical Fires," condensed and summarized as follows:—

A. Condensed Statistics, 1943-44

		1944.	1943.	Inc
(a) Installed generating-capacity (main stations)	kW.	414,293	364,245	
(b) Installed generating-capacity (standby)	kW.	67,746	97,775	
(c) Total connected load (excluding bulk supply)	kW.	2,809,230	2,687,847 ¹	
(d) Consumers	No.	465,303	460,771	
(e) Units sold per capita	No.	1,096	1,038	
(f) Units sold per consumer	No.	3,405	3,254	
(g) Route-miles of main and distribution line	R.M.	29,595	29,449	
(h) Consumers per route-mile of line	No.	15.72	15.64	
(i) Sales per route-mile (retail sales)	Units	58,713	55,948	
(j) Miles of conductor in service (excludes service lines)	Miles	140,060 ²	140,310	
(k) Broken poles reported	No.	424	290	
(l) Broken wires reported	No.	5,744	3,062	
(m) Electrical fires reported	No.	26	22	
(n) Electrical accidents reported	No.	36	49	
(o) Electric ranges installed	No.	(16 fatal)	(20 fatal)	
(p) Electric water-heaters installed	No.	128,447	124,569	
(q) Electric milking-machines installed	No.	150,827	145,476	
	No.	31,088	30,826	

NOTES.—(1) Figure of 2,814,103 for year ended 31st March, 1943, given in error. (2) Mileage of conductor in service checked by several S during the year, and found that past returns were in excess of the actual mileage in service.

Installed Generating Capacity.—Main Stations—Increases—The following plants, previously included as standby, now included as main: 520 kW Diesel set at Hawke's Bay; one 680 kW Diesel set at Poverty Bay; one 1,500 kW steam set at Wanganui; one 2,000 kW Diesel set at North; one 25,000 kW steam set at Wellington; one 425 kW hydro set at Taumarunui; one 20,000 kW hydro set installed at Piripaua (Public Works) one hydro unit at Bay of Islands re-rated at 19 kW. (Increase): total increase, 50,144 kW. Decrease—One 96 kW hydro set at Kaponga previously included as standby, now included as main plant: total decrease, 96 kW. Net increase, 50,048 kW. † Standby stations—Decreases—The following: † set at Wanganui; one 2,000 kW Diesel set at Hawke's Bay; one 680 kW Diesel set at Poverty Bay; one 25,000 kW steam set at Wellington; one 425 kW hydro set at North; one 25,000 kW steam set at Wellington; one 425 kW hydro set at Kaponga previously included as main plant now included as standby plant: total decreases, 30,125 kW. Increases—One 96 kW hydro set at Kaponga previously included as main plant now included as standby plant: 96 kW. Net decrease, 30,029 kW.

B. Summarized Results of Operations for Year ended 31st March, 1944

		Water	Steam	Gas	Oil
1. Number of main stations	No.	(a)32	(c)3		(b)10
2. Installed capacity (main plant)	kW.	382,636	27,250		4,407
3. Number of standby plants	No.	(d)10	(f)7	(g)3	(e)22
4. Installed capacity (standby plant)	kW.	2,838	48,412	1,041	15,455
5. Units generated	No.	2,050,879,831	102,463,835	856	16,849,778
6. Units sold to consumers					
7. Percentage of non-productive units					
8. Number of consumers					
9. Connected load (excluding bulk supply)					
10. Total operative capital (including distribution systems and standby plant)					
11. Total capital per kilowatt installed (including distribution systems, &c.)					
12. Annual working-costs*					
13. Annual working-cost per unit under section 6					
14. Annual capital costs (interest, sinking fund, and depreciation)					
15. Annual capital cost per unit under section 6					
16. Annual capital cost as a percentage of operated capital					
17. Total annual costs (section 12 plus section 14)					
18. Total annual cost per unit under section 6					
19. Total annual revenue (from retail sale of electricity)					
20. Average revenue per unit (from sections 19 and 6)					
21. Gross revenue (excluding rates and bulk sales)					
22. Net profit (section 21 less section 17)					
23. Ratio of working-costs to gross revenue (section 12 and section 21)					

* After deducting cost of power purchased in bulk.

MAIN STATIONS

(a) Hydro-electric: Arapuni, Horahora, Waitakere, Mangahao, Lake Coleridge, Waitaki, Monowai, Arnold River, Bay of Islands, Marlborough; Opunake; Otage Central; South Taranaki; Taranaki; Teviot; Waimea; Waikare; Dunedin; New Plymouth; Picton; Raitihi; Taihape; Taumarunui; Tauranga Borough Council; Westport; Murchison; Kanieri Electric, Ltd.; Reefton Electric Light and Power Co., Ltd.; Poverty Bay; Waimea; Palmerston North; Picton; Kalkoura; Uawa; L. Keys, Kohukohu; Reefton Electric Light and Power Co., Ltd.; Rawene Motors, Ltd.; total, 10.

(b) Oil: Hawke's Bay; Poverty Bay; Waimea; Palmerston North; Picton; Kalkoura; Uawa; L. Keys, Kohukohu; Reefton Electric Light and Power Co., Ltd.; total, 32.

(c) Steam: Wanganui-Rangitikei; Nelson; Wellington; total, 3.

STANDBY STATIONS

(d) Hydro-electric: Banks Peninsula; Waikare; Waitaki; New Plymouth; Ohakune; Paten; Raitihi; Te Aroha; Thames; Kapiti; Wellington; Napier; Ohakune; Picton; Queenstown; Rangiora; Thames; Murchison; Kanieri Electric, Ltd.; L. Keys, Kohukohu; Reefton Electric Light and Power Co., Ltd.; total, 22.

(e) Oil: Huntly; Christchurch Tramway Board; King's Wharf, Bay of Islands; Dunedin; Invercargill; Nelson; total, 7.

(f) Steam: Palmerston North; Taihape; Westport; total, 3.

TABLE I.—SUMMARY OF FINANCIAL AND OPERATING STATISTICS FOR NORTH ISLAND AND SOUTH ISLAND ELECTRIC-POWER SYSTEMS FOR THE YEAR ENDING 31ST MARCH, 1944 (10TH YEAR)

NOTE.—“North Island system” includes Arapuni—Horahora—Mangahao—Waikaremoana all interconnected. “South Island system” includes Lake Coleridge—Waitaki—Southland—Arnold River (Westland) all interconnected.

A. Financial

	North Island	South Island	Total		North Island	South Island	Total
Capital outlay—				Net profit for year	£ 342,767	£ 271,839	£ 614,606
Assets in operation	13,019,243	7,388,647	20,407,890	Transfer from Reserve	202,483	86,766	289,249
Assets not in operation	1,839,939	540,784	2,380,723	Allocation of profits—			
Total capital outlay	14,859,182	7,929,431	22,788,613	Loans Redemption Account	208,068	254,866	462,934
Revenue for year	1,774,907	809,080	2,583,987	Income-tax, &c.	337,182	103,739	440,921
Working-costs	745,463	238,955	984,418	Reserve Fund	..	..	..
Capital charges—				Totals	545,250	358,605	903,855
Interest	449,156	268,489	717,645	Depreciation Reserve to date	1,761,024	991,178	2,752,202
Depreciation	237,521	29,797	267,318	Loans Redemption Account	1,892,720	1,010,981	2,903,701
Totals	686,677	298,286	984,963	Reserve Fund to date	98,532	..	98,532
Total costs for year	1,432,140	537,241	1,969,381	Arrears: Loans Redemp- tion Account not yet appropriated	..	52,907	52,907

B. Operating Results

	1943-44 (Tenth Year)	1943-44 (Tenth Year)		
Maximum load (kilowatts)—				
North Island system	272,200	£		
South Island system	103,070	6 520		
Average load (kilowatts)—				
North Island system	168,265	7 849		
South Island system	59,900	d.		
Average load factor—	Per Cent.			
North Island system	61.81	0 289		
South Island system	58.12	0 370		
Units output (generated and purchased)—				
North Island system	1,474,001,483	Per unit distributed—		
South Island system	524,726,615	North Island system	0 320	
Combined	1,998,728,098	South Island system	0 422	
Units distributed—				
Units sold—				
North Island system	1,323,779,890	Per unit sold—		
South Island system	454,207,472	North Island system	0 321	
Combined	1,777,987,362	South Island system	0 427	
Units unsold (used free of charge)—				
North Island system	6,109,720	Working costs—		
South Island system	5,496,515	Per kilowatt (system maximum)—		
Combined	11,606,235	North Island system	£ 2 738	
Total units distributed, North Island system	1,329,889,610	South Island system	2 318	
Total units distributed, South Island system	459,703,987	Per unit output—		
Combined	1,789,593,597	North Island system	d. 0 121	
Line losses—				
Transmission and distribution—				
Units.	Per Cent.	Per unit distributed—		
North Island system	144,111,873	9 78	North Island system	0 134
South Island system	65,022,628	12 39	South Island system	0 124
Combined	209,134,501	10 46	Per unit sold—	
			North Island system	0 135
			South Island system	0 126
			Capital charges—	
			Per kilowatt (system maximum)—	
			North Island system	£ 2 522
			South Island system	2 894
			Per unit output—	
			North Island system	d. 0 111
			South Island system	0 136
			Per unit distributed—	
			North Island system	0 123
			South Island system	0 155
			Per unit sold—	
			North Island system	0 124
			South Island system	0 157
			Total costs—	
			Per kilowatt (system maximum)—	
			North Island system	£ 5 2613
			South Island system	5 2123
			Per unit output (generated and purchased)—	
			North Island system	d. 0 2331
			South Island system	0 2457
			Per unit distributed—	
			North Island system	0 2584
			South Island system	0 2804
			Per unit sold—	
			North Island system	0 2596
			South Island system	0 2838

TABLE II.—ANALYSIS OF CAPITAL OUTLAY AS AT 31ST MARCH, 1944

North Island System		South Island System.	
Headworks and power-stations—		Headworks and power-stations—	
Land, fencing, and roading—	£	Land, fencing, and roading—	
Arapuni	109,581	Coleridge	25
Horahora	3,208	Waitaki	48
Mangahao	74,707	Monowai	12
Waikaremoana	17,200	Arnold River (Kaimata)	1
" Lower development	39,364	Highbank	3
Taupo	108,812		
Karapiro	33,612		
Headworks—		Headworks—	
Arapuni	1,231,491	Coleridge	550
Horahora	151,468	Waitaki	1,095
Mangahao	947,051	Monowai	86
Waikaremoana	200,765	Arnold River (Kaimata)	108
" Lower development	659,806	Highbank	54
" Upper development	216,684	Tekapo	172
Karapiro	281,200		
Generating-station, buildings, and village—		Generating-station, buildings, and village—	
Arapuni	449,593	Coleridge	104
Horahora	61,131	Waitaki	468
Mangahao	132,350	Monowai	47
Waikaremoana	289,980	Arnold River (Kaimata)	8
" Lower development	88,050	Highbank	58
Karapiro	39,358		
Generating plant and machinery—		Generating plant and machinery—	
Arapuni	823,285	Coleridge	210
Horahora	95,126	Waitaki	364
Mangahao	219,502	Monowai	61
Waikaremoana	374,909	Arnold River (Kaimata)	26
" Lower development	190,289	Highbank	132
Karapiro	283,215		
Fuel stations (three)—Penrose, Huntly, and King's Wharf	473,846	Fuel station (one)—Dobson	136
Transmission and distribution—		Transmission and distribution—	
Primary distribution—		Primary distribution—	
11 kV. lines	72,915	11 kV. lines	556
33 kV. lines		33 kV. lines	59
50 kV. lines	474,088	50 kV. lines	599
66 kV. lines		66 kV. lines	430
110 kV. lines	2,083,280	110 kV. lines	330
Secondary distribution		Secondary distribution	
Substations—		Substations—	
11 kV. substations	18,440	11 kV. substations	44
33 kV. substations		33 kV. substations	633
50 kV. substations	543,725	50 kV. substations	32
66 kV. substations		66 kV. substations	301
110 kV. substations	1,890,710	110 kV. substations	54
General—		General—	
General offices, garages, stores, and other accommodation	79,557	General offices, garages, stores, and other accommodation	37
Telephone services	214,121	Telephone services	88
Explorations and preliminary surveys; engineering, office, and general expenses; charges and expenses of raising loans	693,224	Explorations and preliminary surveys; engineering, office, and general expenses; charges and expenses of raising loans	540
Interest during construction	1,193,539	Interest during construction	528
Grand totals	14,859,182	Grand totals	7,929,431

TABLE III.—OPERATING OR WORKING COSTS FOR YEAR ENDED 31ST MARCH, 1944

	North Island System.				South Island System.			
	Cost.	Cost per Unit.			Cost.	Cost per Unit.		
		Generated.	Distributed.	Sold.		Generated.	Distributed.	Sold.
(a) Hydro stations	£	£	£	£	£	£	£	
(b) Fuel stations	88,301	0 0157			43,724	0 0202		
(c) Auxiliary stations, power purchased, and standby provision	153,480	0 8603			32,568	1 4543		
	299,426	0 7993			2,901	0 3951		
Generated and purchased	541,207	0 0881	0 0976	0 0981	79,193	0 0362	0 0	
(d) Transmission	44,624	0 0072	0 0080	0 0080	21,091	0 0096	0 0	
(e) Communication system	4,599	0 0007	0 0008	0 0008	3,301	0 0015	0 0	
(f) Substations	63,854	0 0103	0 0115	0 0115	31,010	0 0141	0 0	
(g) Distribution	1,984	0 0003	0 0003	0 0003	28,189	0 0128	0 0	
(h) System operations	19,313	0 0031	0 0034	0 0035	11,378	0 0052	0 0	
(i) Management and general expenses	69,882	0 0114	0 0126	0 0126	64,793	0 0296	0 0	
	745,463	0 1213	0 1339	0 1351	238,955	0 1092	0 1	

	North Island System	South Island System
Units generated—		
Hydro	1,341,285,991	517,590,150
Fuel	42,815,360	5,374,440
Purchased	89,900,132	

Authorities.	Population included in Area of Supply.	Number of Consumers.	Source of Supply.	Year when supply commenced.	Capacity of Generating Plant.				Static Head in Feet.	Generation.	Transmission.	Primary Distribution.	Secondary Distribution (and System of Supply).	Distribution Transformer Number.	Total KVA.	Route-miles of Lines.	Street Lighting System.	No.
					Main Plant.		Standby Plant.											
					kW.	kVA.	kW.	kVA.										
ES DEPARTMENT																		
ind system			I.	1921	231,000*	299,460	3,750†	4,689	Pirpanau = 360 Arapau = 175 Mangahao = 866 Herakara = 27 Wakara.	110,000 50,000	11,000 3,300	400/230 A.C.	81	8,255	1,757	Parallel	1	
ind system	50,530	12,731	I.	1915	103,500**	117,954	5,750†	7,300	Coleridge = 876 Araroa River = 32.5 Waikaki = 70 Manowai = 154	110,000 66,000 33,000	11,000 6,000 3,300	400/230 A.C.	1,829	22,111	3,558	Parallel	2	
is	50,530	13,192			334,560	397,414	83,610	63,301					1,910	30,366	5,315			
RD BOARDS																		
	19,330	5,055	G.S.	1923								400/230 A.C.	1,013	12,861	1,030	Series	1	
	210,700	70,961	G.N.	1908						22,000	11,000 11,000 6,000 3,300	400/230 A.C. 400/230 D.C.	1,204	96,035	1,315	Series and Parallel	2	
insula	3,550	1,136	G.S.	1921			72*	90	310	33,000	11,000 6,000 3,300	400/230 A.C.	201	2,000	218	Parallel	3	
ands	32,100	2,653	I. & G.N.	1930	107*	118	187†	208	123		11,000 6,000 3,300 11,000 11,000	400/230 A.C. 400/230 A.C. 460/230 A.C. 400/230 A.C.	532	4,820	470	Parallel	4	
enty	17,370	2,477	G.N.	1928							11,000	400/230 A.C.	405	5,860	318	Series and parallel	5	
e	6,030	2,018	G.N.	1921							11,000 3,300	400/230 A.C.	162	2,483	208	Series	6	
awke's Bay	10,450	2,286	G.N.	1925							11,000 3,300	400/230 A.C.	379	5,527	384	Parallel	8	
alkato	29,036	8,063	G.N. & B.	1921							6,000 3,300	400/230 A.C.	536	13,554	946	Parallel	9	
co	12,550	3,322	G.N.	1925							3,300	400/230 A.C.	320	3,968	370	Series and parallel	10	
y	21,300	5,787	G.N.	1925	200*	250			330		11,000 6,000	400/230 A.C. 400/230 A.C.	530	10,448	798	Parallel	11	
y	3,500	580	I. & B.	1929							6,000	400/230 A.C.	70	968	84	Parallel	12	
ay	18,030	5,280	G.S.	1926							11,000	400/230 A.C.	186	12,607	305	Series	13	
ay	32,370	9,548	G.N.	1927	520†	650	365†	D.C.			3,300	460/230 D.C.	323	17,173	500	Parallel	14	
ua	18,550	6,548	G.N.	1924							11,000	400/230 A.C.	223	11,300	388	Series and parallel	15	
Y	54,890	18,137	G.N.	1924							11,000 6,000	400/230 A.C.	288	26,754	349	Series and parallel	16	
try	6,800	1,800	G.S.	1925							6,000	400/230 A.C.	214	1,060	194	Parallel	17	
-Orona	25,420	6,189	G.N.	1924							11,000	400/230 A.C.	564	13,783	703	Series and parallel	18	
en	15,400	3,608	I.	1927	1,000*	1,250	1,300†	1,663	100	33,000	11,000 3,300	400/230 A.C.	230	4,650	296	Series and parallel	19	
land	27,280	5,142	G.N.	1936							11,000	400/230 A.C.	939	14,126	899	Series and parallel	20	
terbury	15,900	4,033	G.S.	1928							11,000	400/230 A.C.	681	7,040	870	Parallel	21	
	6,090	1,885	G.N.	1923	315**	450	148†	185	47		3,300	400/230 A.C.	144	1,584	182	Series and parallel	22	
	34,590	5,298	G.S. & B.	1926							6,000	400/230 A.C.	413	4,238	700	Series and parallel	23	
ral	8,600	1,649	I. & B.	1923	1,950*	2,440			987/1015	33,000	11,000 6,000	400/230 A.C.	288	8,050	332	Parallel	24	
y	25,100	6,654	I. & G.N.	1912	650†	850	300†	D.C.			11,000	400/230 A.C.	447	12,621	444	Series and parallel	25	
erbury	26,360	5,524	G.S.	1925							11,000	400/230 A.C.	811	8,227	917	Series and parallel	26	
nahi	15,590	4,319	I. & G.N.	1929	550**	695	466†	607	57		11,000 6,000	400/230 A.C.	303	7,298	363	Series and parallel	27	
esmore	14,000	3,072	G.S. & B.	1922							11,000	400/230 A.C.	489	4,160	370	Series and parallel	29	
	16,580	3,215	I. & G.N.	1927	4,800**	5,400			300	33,000	6,000 3,300	400/230 A.C.	395	8,781	465	Series	30	
	9,240	2,216	G.N.	1925							11,000	400/230 A.C.	400	4,385	380	Series and parallel	31	
	11,000	2,557	G.N.	1926						33,000	11,000 6,350-1 mh.	400/230 A.C.						

1262
0342
0060
0148
0163
0017
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0418
Sold.
£
788,613
375,905
4,432,032
2,782,302
610,393
1,747,374
5,755,877
478,647
£
Combined Totals.

System of Generation, Control, and Distribution of Electricity, Voltage, Route-miles of Lines, Static Head in Feet, Capacity of Generating Plant, Standby Plant, Main Plant, Source of Supply, Year when supply commenced, Population included in Area of Supply, Number of Consumers, Street Lighting System, No.

Year	Population included in Area of Supply.	Number of Consumers.	Source of Supply.	Year when Supply commenced.	Capacity of Generating Plant.	Static Head in Feet.	Generation.	Transmission.	Voltage.	Primary Distribution.	Secondary Distribution (and System of Supply).	Distribution Transformers.	Route-miles of Lines.	Street Lighting System.	No.
1913	10,740	3,700	G.N.	1901								9	497	14	13
1914	3,800	1,320	G.S.	1898								32	3,600	24	14
1915	3,230	1,230	G.S.	1913								10	4,385	123	15
1916												10	4,705	22	16
1917												10	4,705	22	17
1918												10	4,705	22	18

TABLE IX.—STATISTICS OF POPULATION, CONSUMERS, GENERATING PLANTS, SYSTEM VOLTAGE, ROUTE-MILES OF LINES, &c., FOR THE YEAR ENDED 31st MARCH, 1944.—continued

Supply Authorities.	Population included in Area of Supply.	Number of Consumers.	Source of Supply.	Year when Supply commenced.	Capacity of Generating Plant.		Static Head in Feet.	Generation.	Voltage.		Secondary Distribution (and System of Supply).	Distribution Transformers.		Route-miles of Lines.	Street Lighting System.	No.
					Main Plant.	Standby Plant.			Transmission.	Primary Distribution.		Number.	Total kVA.			
LOCAL AUTHORITIES—continued																
Marunui	2,210	700	I. & B.	1913	150* KVA. D.C.	75½ KW.	30	460/230		11,000	460/230 D.C. 400/230 A.C.	2	200	11	Parallel	19
Anga	4,330	1,273	I. & G.N.	1924	425* KVA. D.C.	500	25	3,300 (ε)		6,000	400/230 A.C.	38	1,907	33	Parallel	20
Roha	3,910	1,050	I. & G.N.	1915	3,450* KVA. D.C.	4,300	110/80	3,300		11,000	400/230 A.C.	16	1,800	64	Parallel	21
Uke	2,450	850	B.	1906	..	..	600	3,300 (ε)		3,300	400/230 A.C.	40	1,040	10	Parallel	22
Uke	1,020	404	B.	1921	..	..	..	3,300		3,300	400/230 A.C.	4	363	12	Series and Parallel	23
Nes	4,220	1,238	I. & B.	1914	..	..	130	3,300 (ε)		11,000	400/230 A.C.	20	1,425	25	Parallel	24
Iru	17,800	5,507	B.	1908	..	..	..	400 (ε)		3,300	400/230 A.C.	30	5,705	72	Series ..	25
Roa	2,030	920	B.	1913	..	..	..	3,300		3,300	400/230 A.C.	15	1,100	16	Parallel	26
Uke	2,000	704	B.	1917	..	..	430	3,300		11,000	400/230 A.C.	9	500	12	Parallel	27
Uke	4,240	1,515	I. & B.	1925	..	..	..	3,300		11,000	400/230 A.C.	26	622	37	Parallel	28
Uke	2,000	708	B.	1922	..	..	..	3,300		6,000	400/230 A.C.	12	1,625	18	Parallel	29
Uke	7,600	2,821	B.	1915	..	..	..	3,300		11,000	400/230 A.C.	49	3,965	49	Series and Parallel	30
Totals ..	156,050	51,916	..	..	8,496	9,975	..	..		1,030	..	1,030	61,375	1,191	..	..
Town Boards																
Uke	1,700	448	B.	1916	..	..	57	3,300		3,300	400/230 A.C.	41	542	55	Parallel	1
Uke	1,350	137	B.	1913	..	..	..	3,300		3,300	400/230 A.C.	12	141	11	Parallel	2
Uke	770	184	B.	1929	..	..	..	3,300		3,300	400/230 A.C.	3	85	9	Parallel	3
Totals ..	2,850	769	..	..	..	..	..	..		..	..	56	718	71	..	..
County Councils																
Uke	3,400	924	G.S.	1914	..	..	..	11,000		11,000	400/230 A.C.	10	1,150	17	Series and Parallel	1
Uke	700	272	I.	1922	148½ KVA. D.C.	185	..	3,300		3,300	400/230 A.C.	8	145	8	Series ..	2
Uke	800	200	I.	1922	80* KVA. D.C.	80½	105	3,300		3,300	400/230 A.C.	12	142	16	Parallel	3
Uke	500	112	I.	1925	..	..	..	250		6,000	230 D.C. 400/230 A.C.	..	6,186	155	Parallel	4
Uke	14,700	4,589	G.S. & B.	1917	..	..	..	..		3,300	400/230 A.C.	..	6,186	..	Series and Parallel	5
Totals ..	20,100	6,107	..	..	268	281	..	..		..	..	116	6,631	190	..	..
Totals, other Local Authorities	544,090	187,708	..	..	59,904	73,043	..	..		..	..	2,816	256,730	3,050	..	..
COMPANIES																
Uke	2,830	939	I.	1921	1,560* KVA. D.C.	150½ KW.	250/100	2,400		11,000	400/230 A.C. 400/230 A.C. 230 D.C.	6	1,580	30	Series ..	1
Uke	400	68	I.	1933	20½ KVA. D.C.	36	30	400		..	..	..	..	7	Parallel	2
Uke	1,500	387	I.	1887	80½ KVA. D.C.	60½	..	250		..	..	..	..	2	Parallel	3
Uke	300	56	I.	1936	..	..	130	250		2,500	230 D.C.	..	..	1	Parallel	4
Uke	500	213	I. & G.N.	1916	3,000* KVA. D.C.	191	..	5,500		2,500	400/230 A.C.	..	..	37	..	5
Uke	4,000	411	I. & G.S.	1928	845* KVA. D.C.	929	260/150	6,600		11,000	400/230 A.C.	47	1,560	74	Parallel	6
Totals ..	9,530	2,074	..	..	5,037	6,665	..	..		..	..	90	4,076	151	..	..
Grand totals	1,585,960	465,303	..	..	414,293	485,201	..	..		..	..	22,185	727,849	29,595	..	..

(1) Includes Arapuni, Hornora, Waitaremona, and Mangahao power-stations interconnected. (2) Petroses Diesel plant. (3) Huntly steam plant. (4) Dobson steam station. (5) Christchurch Tramway Board's standby steam station available for general supply when required. (6) Operation of plant available for generation for Public Works Department when required, by agreement. (7) Board constituted 15th May, 1940, not yet actively functioning. (8) License delegated to Westland Power, Ltd. (9) No return received. (10) Government Supply, North Island system; G.S. = Government Supply, North Island system; I = Independent supply (own generating-plant); B = Bulk supply from another authority. (11) License delegated to Westland Power, Ltd. (12) No return received. (13) Government Supply, North Island system; G.S. = Government Supply, North Island system; I = Independent supply (own generating-plant); B = Bulk supply from another authority. (14) Standby generating-plant capacity.

Total Population of Dominion as at 31st March, 1944, was—1,643,900.
Ratio of Total Population in Areas of Supply to total Population of Dominion = 96.48 per cent.

TABLE X.—RESULTS OF GENERATION, DISTRIBUTION, AND CONSUMPTION FOR THE YEAR ENDED 31ST MARCH, 1944—continued

Supply Authorities.	Connected Load.		Annual Demand Factor.	Generated.				Purchased.		Total generated and purchased.		Sold.		Units sold (Average).			Ratio of Consumers to Population in Area of Supply.	Average Maximum Demand per Retail Consumer.	No.		
	Incl. Bulk Supply.	Excit. Bulk Supply.		kW.	kWh.	kWh.	kWh.	kWh.	kWh.	kWh.	kWh.	kWh.	kWh.	kWh.	kWh.	kWh.				kWh.	kWh.
	Max. Load on System.	Annual Demand Factor.		Water.	Steam.	Oil.	Gas.	In Bulk for Resale.	Retail to Consumers.	Non-productive.	Percentage Non-productive.	Per Head of Population.	Per Consumer (excl. Bulk and Fractional Supplies).	Port of Distribution.	Per Route-mile of Line.	Consumers per Route-mile of Line.					
LOCAL AUTHORITIES—contd																					
Henticoke	7,073	1,014	14.34	46.71	175,000	4,148,860	4,148,860	4,148,860	3,506,715	643,135	15.50	3,506,715	3,704	200	206,218	54.35	1,007	1			
Kaikoura	282	60	21.27	33.31	19,300	383,100	383,100	383,100	130,446	252,654	65.50	130,446	186	43	16,305	38.85	0.291	2			
Murchison	81	22	26.11	17.32	33,355	15,150,315	15,150,315	33,285	1,205	32,080	7.79	1,205	52	30	22,079	25.00	0.375	3			
Waimairi	31,243	3,049	10.09	61.73	228,375	19,299,105	19,299,105	13,475,181	5,823,924	10.08	917	2,930	140	140	5,301	23.40	0.196	4			
Totals	39,269	461,376	10.20	67.1	2,283,755	61,288,635	61,288,635	47,710,485	13,578,150	22.03	870	2,863	146	146	89,273	31.16	0.727	5			
Totals, other Local Authorities	461,376	1,020,671	11.2	92.133	2,444,970	570,818,053	570,818,053	747,544,547	108,907,586	8.02	1,291	2,948	134	134	223,226	34.51	...	6			
COMPANIES																					
Kanieri Electric, Ltd.	3,797	1,108	20.18	50.43	4,892,500	4,892,500	4,892,500	4,892,500	4,152,893	740,177	15.13	4,152,893	1,467	214	138,430	31.20	N.A.	1			
Leo Keys, Kaitiaki, and Teitoti Electric Light and Power Co., Ltd.	471	120	...	...	209,885	209,885	209,885	209,885	174,870	33,015	15.70	174,870	35	15	7,035	34.00	N.A.	2	
Karewa Motors, Ltd.	125	18	14.40	15.90	25,072	181,401,500	181,401,500	58,072	123,329	58.60	123,329	117	40	24,978	55.29	0.310	3				
Wilson's (N.Z.) Portland Cement, Ltd.	23,424	7,027	13.75	73.80	20,355,860	20,355,860	20,355,860	20,355,860	20,843,633	514,227	2.58	20,843,633	16,907	217	10,150	50.00	0.321	4			
Vestland Power, Ltd.	2,131	324	15.20	30.47	1,637,200	1,637,200	1,637,200	1,710,485	8,453,800	6.73	1,710,485	365	48	19,713	9.55	0.788	5				
Totals	23,424	23,424	...	...	27,095,385	27,095,385	27,095,385	507,068	27,727,062	65.400	507,068	2,543	352	160,531	13.73	...	...	6
Grand totals	3,795,407	2,800,230	...	...	10,840,778	10,840,778	10,840,778	4,056,270	6,784,508	2.87	6,784,508	1,090	121	122,382	15.72	...	...		

TABLE A.—SUMMARY OF TOTALS RELEVANT TO TABLE X.

Supply Authority.	Units generated.		Population included in Area of Supply.	Number of Consumers.	Capital invested in Transmission and Distribution System.
	kWh.	Number.			
Public Works Department	1,907,065,931	13,192	50,530		5(N.Z.) 10,186,028
Electric-power Boards	59,240,981	282,269	981,810		14,500,371
Local Authorities—					
Forough Councils	137,690,871	138,976	305,090		3,776,761
Town Boards	38,538,048	51,916	156,050		1,163,921
County Councils	591,575	6,107	2,850		23,788
Totals, other Local Authorities	176,726,494	187,768	544,000		5,084,222

NOTES TO TABLE X

Based on Total Units sold to Ultimate Consumers less Units supplied for Large Industrial and Tractor Loads (1,584,545,273):
999
3,405

Units sold per head of population
Units sold per consumer

Notes.—¹ Includes Arapuni, Hororua, Waikaremoana, Mangahao, Penrose, and Hunnidy and stations enumerated under item 10 inter-connected.
² Not actively functioning.
³ Includes Lake Coleridge, Waitaki, Monowai, Arnold River, Dobson, and stations enumerated under item 11 inter-connected.
⁴ Board constituted 15th May, 1940; not yet actively functioning.
⁵ Commenced supplying power in March, 1933; first shown in returns for 1938.
⁶ General agreement for Public Works Department.
⁷ Includes 647,328 units generated under agreement for Public Works Department.
⁸ Includes 1,668,010 units generated under agreement for Public Works Department.
⁹ Includes 3,049,873 units generated under agreement for Public Works Department.
¹⁰ Includes 4,350,375 units generated for Public Works Department.
¹¹ Includes 3,659,329 units generated for Public Works Department.
¹² Includes 1,223,140 units generated for Public Works Department.
¹³ Includes 3,659,329 units generated for Public Works Department.
¹⁴ Includes 2,668,032 units generated for Public Works Department.
¹⁵ Includes 3,659,329 units generated for Public Works Department.
¹⁶ Includes 3,659,329 units generated for Public Works Department.
¹⁷ Includes 3,659,329 units generated for Public Works Department.
¹⁸ Includes 3,659,329 units generated for Public Works Department.
¹⁹ Includes 3,659,329 units generated for Public Works Department.

TABLE XI.—CAPITAL OUTLAY, FINANCIAL RESULTS OF GENERATION, DISTRIBUTION AND OPERATION FOR THE YEAR ENDED 31ST MARCH, 1944.

Table with columns: Supply Authorities, Capital Expenditure on Electric Supply System, Revenue, Working Expenses, Capital Charges, Total, Surplus, Deficit, Net Results, and No. of Defenses. It lists data for Public Works Departments and Local Authorities.

1. 494,281 units sold for gold-mining and 10,260,545 units sold for coal-mining. 2. Excludes 3,512,535 units sold for gold-dressing. 3. Based on total units sold to ultimate consumers (1,737,015,716).

(For notes see page 12.)

TABLE XIII.—AVERAGES DERIVED FROM PREVIOUS TABLES FOR THE YEAR ENDED 31ST MARCH, 1944—continued

Supply Authorities.	Capital Outlay.				Revenue from Sale of Electricity.						Working-costs.			Capital Charges.			Total Costs.		
	Per Head of Population.	Per £1 of Revenue.	Per Unit sold (Overall Bulk Supply).	Per Unit sold (excluding Bulk Supply).	Per Unit sold (Domestic Supply).	Per Head of Population.	Per Retail Consumer.	Per kW. of Maximum Demand.	Per Route-mile of Line.	Per Unit sold.	Per kW. of Maximum Demand.	Per Cent. of Total Revenue.	Per Unit sold.	Per kW. of Maximum Demand.	Per Cent. of Capital Outlay.	Per Unit sold.	Per kW. of Maximum Demand.	Per Cent. of Distribution Capital.	No.
County Councils	£(N.Z.)	£(N.Z.)	d.	d.	£(N.Z.)	£(N.Z.)	£(N.Z.)	£(N.Z.)	£(N.Z.)	d.	£(N.Z.)	%	d.	£(N.Z.)	%	d.	%		
1. Heathcote	3.83	14.08	0.768	0.768	3.33	12.13	650.41	0.772	0.772	11.12	90.70	19.08	0.942	13.57	10.78	0.942	105.70	1	
2. Kaitiaki	12.73	32.76	6.633	7.000	5.43	13.25	450.63	5.402	5.402	45.93	77.26	12.70	7.492	67.93	12.70	7.492	133.02	2	
3. Manukau	10.24	64.97	1.861	2.314	3.45	13.70	36.52	171.10	0.623	16.12	49.23	11.20	1.930	37.68	11.20	1.930	41.70	3	
4. Uawa	3.60	16.07	1.67	13.774	2.16	9.65	40.13	270.25	12.529	50.31	102.41	7.30	12.529	50.31	7.30	12.529	154.17	4	
5. Waimairi	6.54	20.92	0.733	0.641	2.80	8.94	265.85	0.483	0.483	9.81	79.47	7.30	0.768	11.91	7.30	0.768	41.38	5	
Totals	6.61(6)	21.70(4)	0.821(6)	0.821(6)	2.99(6)	9.63(6)	305.31(6)	0.678(7)	0.678(7)	..	82.10(4)	0.11(6)	0.845(6)	..	0.11(6)	0.845(6)	51.41(6)	..	
Totals, other Local Authorities	13.36(6)	38.55(4)	0.810(6)	0.865(6)	3.80(6)	10.62(6)	761.79(6)	0.548(7)	0.548(7)	..	65.28(4)	4.97(6)	0.675(6)	..	4.97(6)	0.675(6)	37.06(6)	..	
COMPANIES																			
1. Kamari Electric, Limited	26.54	79.90	0.787	2.136	4.84	14.51	454.07	0.552	0.552	8.00	69.61	4.77	0.297	3.23	4.77	0.297	11.83	1	
2. Leo Keys, Kōhukou	12.94	76.10	11.991	11.991	1.76	10.34	251.50	13.991	13.991	N.A.	100.00	..	..	N.A.	..	..	N.A.	2
3. Reddon Electric Light and Power Co., Ltd.	5.05	19.60	5.500	6.271	2.79	10.35	33.39	572.43	3.444	29.91	39.87	2.97	0.309	1.88	2.97	0.309	22.78	3	
4. Rawene Motors, Ltd.	2.30	12.32	9.424	10.861	2.51	13.43	742.00	14.836	69.77	197.44	107.22	10.72	0.327	4.11	10.72	0.327	69.89	4	
5. Wilson's (N.Z.) Portland Cement, Ltd.	147.83	345.85	3.13	1.366	16.98	18.10	636.11	0.099	0.099	2.36	31.82	2.88	0.028	0.66	2.88	0.028	3.02	5	
6. Westland Power, Ltd.	19.07	185.60	1.262	2.095	2.07	18.69	108.66	0.894	0.894	10.78	65.36	4.53	0.568	10.60	4.53	0.568	27.44	6	
Totals	25.02(6)	115.00(4)	0.498(6)	1.951(6)	3.79(6)	10.72(6)	333.05(6)	0.267(7)	0.267(7)	..	52.35(4)	3.97(6)	0.094(7)	..	3.97(6)	0.094(7)	52.80(6)	..	
Grand totals, 1944	28.95(6)	98.60(4)	0.846(6)	0.881(6)	3.96(6)	12.51(6)	298.67(6)	0.326(7)	0.326(7)	..	55.17(4)	5.71(6)	0.174(7)	..	5.71(6)	0.174(7)	25.36(6)	..	
" 1943	27.80	95.01	0.874	0.874	3.78	11.80	280.01	0.323	0.323	..	54.46	5.88	0.183	..	5.88	0.183	25.03	..	
" 1942	27.60	96.10	0.858	0.858	3.00	11.54	277.08	0.343	0.343	..	56.52	5.64	0.181	..	5.64	0.181	25.45	..	
" 1941	26.31	93.06	0.845	0.845	3.51	11.74	280.97	0.343	0.343	..	56.94	5.55	..	..	5.55	..	25.97	..
" 1940	25.60	92.11	0.937	0.937	3.35	11.19	256.00	..	..	..	..	..	..	..	..	..	22.25	..

Average Revenue per Unit (kWh) sold for all Purposes for Year ended 31st March, 1944 : 0.846d.

Notes.—(a) Capital outlay divided by revenue from retail sales. (b) Derived from items 3 and 10, Table XIII. (c) Total revenue from retail sales (£6,126,830) divided by total units sold retail (1,737,615,716).
 from items 5 and 12, Table XIII. (d) Derived from items 1 and 14, Table XIII. (e) Gross revenue, excluding bulk sales and rates. (f) Derived from items 7 and 16, Table XIII. (g) Revenue from retail sales, less
 revenue from large industrial and traction loads. (h) Derived from items 2 and 12, Table XIII. (i) Derived from items 6 and 11, Table XIII. (j) Revenue from retail plus bulk sales, less
 Table XIII. (k) Derived from items 3 and 45, Table XIII. (l) Derived from items 8 and 17, Table XIII. (m) Revenue from items 3 and 16, Table XIII. (n) Derived from items 13 and 15,
 from items 1 and 7, Table XIII. (o) Derived from items 5 and 7, Table XIII. (p) Derived from items 3 and 10, Table XIII. (q) Derived from items 3 and 17, Table XIII. (r) Derived
 Lake Cotteridge, Waitaki, Monowai, and Arnold River power-stations. (s) Board constituted 15th May, 1940; not yet functioning. (t) Not actively functioning. (u) License delegated to Westland Power, Ltd.
 (v) Includes Arapuni, Horahora, Mangahao, and Waikaremoana power-stations. (w) Includes
 (x) No return received.

TABLE XIII
Large Industrial and Traction Loads.—Units sold and Revenue received for Year ended 31st March, 1944

Supply Authority.	Type of Load.	Units sold.	Revenue.
		KWh.	£(N.Z.)
PUBLIC WORKS DEPARTMENT North Island system	Gold-mining	15,295,260	14,352
	N.Z.E. Workshops, Pneum and traction	17,179,750	37,204
South Island system	Gold-mining	18,698,800	33,360
	N.Z.E. Workshops, Ardington and traction Christchurch Tram- ways	7,990,960	23,106
	Alloy Steel (N.Z.), Ltd.	1,645,480	3,085
Totals .. .. .	.. .. .	70,677,340	130,043
ELECTRIC-POWER BOARDS	Auckland	25,983,075	62,251
	Grey	11,491,381	23,130
	Otago Central	10,290,545	19,705
	Wanganui-Rangitikei	3,512,535	11,339
Totals .. .. .	.. .. .	1,250,570	2,736
CITIES AND BOROUGH	Dunedin	52,540,106	119,167
	Invercargill	4,586,461	9,251
	New Plymouth	727,510	2,195
	Wellington	971,685	1,800
Totals .. .. .	.. .. .	12,023,861	32,665
COMPANIES	Kanieri Electric, Ltd.	2,881,760	4,503
	Wilson's (N.Z.) Portland Cement, Ltd.	486,600	1,521
Totals .. .. .	.. .. .	8,169,720	6,626
Totals for all above Supply Authorities	.. .. .	11,538,080	12,650
Totals .. .. .	.. .. .	163,070,443	307,901

TABLE XIII B
Summary of Totals from Tables IX, X, and XI

Item.	Public Works Department.	Electric-Power Boards.	Other Local Authorities.				Companies.	Totals, all Supply Authorities.
			City Councils.	Borough Councils.	Town Boards.	County Councils.		
1. Population	No. 50,560	No. 951,810	No. 365,090	No. 159,050	No. 2,850	No. 9,530	No. 1,585,900	
2. Number of consumers	13,162	252,269	128,978	51,916	6,107	2,074	465,303	
3. Total units sold (bulk plus retail)	1,777,087,305	1,138,825,754	488,453,312	172,919,134	1,098,248	24,240,268	3,621,894,711	
4. Units sold retail, less units sold for large industrial and traction loads (see Table XIII A)	112,246,052	1,039,291,511	408,804,454	143,042,256	1,098,248	14,273,421	2,631,737,615,716	
5. Units sold retail, less units sold for large industrial and traction loads (see Table XIII A)	41,852,672	956,655,405	391,466,622	142,671,171	1,098,248	2,735,342	1,584,545,273	
6. Route-miles of lines	5,315	21,079	1,592	1,191	71	151	29,695	
7. Capital outlay	£(N.Z.) 22,976,871	£(N.Z.) 15,466,673	£(N.Z.) 5,377,051	£(N.Z.) 1,703,704	£(N.Z.) 25,104	£(N.Z.) 238,532	£(N.Z.) 45,919,929	
8. Revenue (retail plus bulk sales)	10,186,028	14,560,371	3,776,761	1,163,921	23,785	68,906	29,889,527	
9. Revenue (retail sales)	313,612	3,737,333	1,380,727	590,016	10,462	2,040,993	6,139,830	
10. Revenue from retail sales, less revenue from large industrial and traction loads (see Table XIII A)	2,236,439	177,909	236,924	45,475	54	15,398	2,712,289	
11. Gross revenue (excluding rates)	2,550,051	3,915,332	1,617,651	635,491	10,462	2,023,443	8,839,119	
12. Gross revenue (less revenue from bulk sales)	183,500	3,018,166	1,336,486	588,216	10,462	1,904,952	5,818,929	
13. Working-costs	2,570,886	3,977,290	1,601,895	649,829	10,840	51,505	8,991,459	
14. Capital charges	343,447	3,709,300	1,424,071	604,354	10,840	36,107	6,279,170	
15. Total costs	980,317	2,397,824	1,080,028	417,197	8,674	26,983	4,900,466	
16. Total costs	1,158,648	4,095,879	2,412,119	104,305	2,218	9,457	2,623,836	
17. Total costs	2,138,065	3,493,703	1,321,247	521,502	10,898	36,420	7,554,302	

TABLE XIV.—RETURN OF ELECTRIC RANGES, WATER-HEATERS, AND MILKING-MACHINES CONNECTED TO ELECTRIC-SUPPLY SYSTEMS AS AT 31ST MARCH, 1944

Supply Authorities.	Number of Consumers.				Ranges.				Water-heaters.			Milkling-machines.				
	Domestic.		Commercial.		Total.		Under 5 Kilowatts.	5 Kilowatts and over.	Total Number.	Total Kilowatts.	Percentage of Total Ranges to Domestic Consumers.	Number.	Total Kilowatts.	Percentage of Total Water-heaters to Total Consumers.	Number.	Horse-power.
	Number.	Number.	Number.	Number.	Number.	Number.	Number.	Number.	Number.	kW.	Per Cent.	Number.	kW.	Per Cent.	Number.	H.P.
PUBLIC WORKS DEPARTMENT																
1. North Island system ¹	448	13	461	337	317	20	2,169	478	1,784	4,539	40.65	1,401	2,615	27.71	123	150
2. South Island system ²	10,929	1,802	12,731	2,207	1,936	271 ¹¹	14,161	22,698	22,698	136,000 ⁷	39.01	28,162	21,122	39.69	750	1,000
Totals	11,377	1,815	13,192	2,544	2,253	291	16,330	25,406	25,406	146,539	22.36	30,644	23,757	12.05	1,505	2,476
POWER BOARDS																
1. Ashburton	4,389	666	5,055	1,784	478	1,306	4,539	22,698	22,698	136,000 ⁷	40.65	1,401	2,615	27.71	123	150
2. Auckland	58,183	12,778	70,961	22,698	22,698	208	2,335	22,698	22,698	136,000 ⁷	39.01	28,162	21,122	39.69	750	1,000
3. Banks Peninsula	1,073	63	1,136	490	382	208	2,335	22,698	22,698	136,000 ⁷	45.60	358	553	31.51	155	118
4. Bay of Islands	2,275	378	2,653	595	457	138	3,051	2,653	2,653	5,533	26.15	869	603	32.76	482	625
5. Bay of Plenty	2,110	367	2,477	946	792	154	5,533	2,477	2,477	5,533	55.17	1,594	1,225	64.35	756	973
6. Buller ³																
7. Cambridge	1,762	256	2,018	467	439	28	2,734	439	439	2,734	26.50	1,021	1,245	50.59	443	537
8. Central Hawke's Bay	1,898	388	2,286	900	665	235	5,034	665	665	5,034	47.42	788	977	34.47	175	230
9. Central Waikato	7,379	704	8,083	2,190	1,577	613 ⁹	12,027	2,190	2,190	12,027	29.08	3,923	3,003	48.51	2,101	3,148
10. Dannevirke	2,785	537	3,322	710	576	134	4,153	710	710	4,153	25.49	1,107	855	33.32	515	583
11. Franklin	5,117	640	5,757	2,640	1,988	642	12,964	2,640	2,640	12,964	51.59	4,216	2,820	73.23	2,393	2,723
12. Golden Bay	490	90	580	164	65	99	559	164	164	559	33.47	204	132	35.17	137	111
13. Grey	4,575	705	5,280	1,110	833	277	6,556	1,110	1,110	6,556	24.26	581	685	11.00	64	65
14. Hawke's Bay	8,558	990	9,548	3,663	3,528	135	30,458	3,663	3,663	30,458	42.80	3,680	3,300	38.54	396	420
15. Horowhenua	5,024	1,524	6,548	2,529	1,859	670	13,541	2,529	2,529	13,541	50.34	2,377	1,605	36.30	774	995
16. Hutt Valley	15,980	2,157	18,137	5,944	5,728	216	38,313	5,944	5,944	38,313	37.20	6,736	5,450	37.14	123	152
17. King-country ⁴																
18. Mairangi	719	81	800	212	136	76	1,028	212	212	1,028	29.49	91	171	11.38	8	7
19. Manawatu-Oroua	5,920	269	6,189	1,740	1,719	21	12,019	1,740	1,740	12,019	29.39	2,584	1,761	41.75	1,626	2,240
20. Marlborough	3,085	523	3,608	746	499	247	4,386	746	746	4,386	24.18	373	340	10.34	152	214
21. North Auckland	4,160	982	5,142	1,343	1,343	N.A.	7,592	1,343	1,343	7,592	32.28	2,837	1,930	55.17	1,720	2,301
22. North Canterbury	3,665	368	4,033	1,088	644	444	5,827	1,088	1,088	5,827	29.69	841	1,413	20.85	231	190
23. Opanake	1,202	183	1,385	402	314	88	2,384	402	402	2,384	33.44	666	556	48.09	431	526
24. Otago	4,235	1,063	5,298	618	546	72	3,821	618	618	3,821	14.59	570	837	10.56	167	241
25. Otago Central	1,320	329	1,649	484	394	90	2,730	484	484	2,730	36.67	499	496	30.26	132	93
26. Poverty Bay	5,269	1,385	6,654	2,301	2,301	94 ¹⁰	13,957	2,301	2,301	13,957	43.67	2,167	1,589	32.57	305	266
27. South Canterbury	4,824	700	5,524	944	850	126	6,108	944	944	6,108	19.57	790	1,033	14.30	207	196
28. South Taranaki	3,462	857	4,319	1,000	1,000	376	7,073	1,000	1,000	7,073	32.52	1,840	1,223	42.60	960	1,227
29. Springs-Ellesmere	2,788	284	3,072	339	339	376	4,374	339	339	4,374	32.82	886	1,294	28.84	292	268
30. Taranaki	2,914	301	3,215	705	688	17	5,009	705	705	5,009	55.18	1,440	1,053	44.79	1,353	2,205
31. Tauranga	1,901	315	2,216	427	622	208	8,235	427	427	8,235	56.27	2,027	1,429	44.49	492	579
32. Tauranga	2,369	188	2,557	1,333	1,125	208	8,235	1,333	1,333	8,235	56.27	2,027	1,429	44.49	492	579
33. Te Awamutu	2,359	511	2,870	1,064	723	341	5,191	1,064	1,064	5,191	56.54	1,581	1,409	55.09	905	1,346
34. Teviot	428	63	491	242	207	35	1,452	242	242	1,452	56.54	212	174	43.18	3	2
35. Thames Valley	9,768	978	10,746	3,587	3,498	89	26,275	3,587	3,587	26,275	36.72	6,428	5,236	59.82	3,500	5,888
36. Waimea	2,654	595	3,249	398	398	142	5,540	398	398	5,540	20.35	362	253	11.14	209	96
37. Wairarapa	5,283	1,112	6,395	2,155	1,707	448	13,001	2,155	2,155	13,001	40.79	2,455	2,395	38.39	718	1,022
38. Wairare	546	76	622	294	234	60	1,678	294	294	1,678	53.85	330	2,395	53.05	166	218

(For notes, see page 19.)

TABLE XIV.—RETURN OF ELECTRIC RANGES, WATER-HEATERS, AND MILKING-MACHINES CONNECTED TO ELECTRIC-SUPPLY SYSTEMS AS AT 31ST MARCH, 1944—continued.

Supply Authorities.	Number of Consumers.				Ranges.				Water-heaters.			Milk-machines.				
	Domestic.		Commercial.		Total.		5 Kilowatts and over.		Total Number.		Total Kilowatts.	Percentage of Total Ranges to Domestic Consumers.	Number.	Percentage of Total Water-heaters to Total Consumers.	Number.	Horse-power.
	Number.	Number.	Number.	Number.	Number.	Number.	Number.	Number.	kW.	Per Cent.	kW.	Per Cent.	Number.	Per Cent.	Number.	H.P.
POWER BOARDS—continued																
39. Waeroa ..	498	84	582	54	146	200	1,175	40.16	230	156	39.52	139	35.48	154		
40. Waitaki ..	4,475	656	5,131	243	1,565	1,808	11,565	40.40	1,860	1,995	36.25	68	23.38	68		
41. Waitemata ..	16,769	1,250	18,019	67	6,669	6,669	40,927	39.77	6,100	4,667	33.55	2,130	46.84	384	506	
42. Waitomo ..	1,852	439	2,291	90	854	944	5,842	50.97	1,073	865	46.84	384	26.10	1,234	1,352	
43. Wanganui-Rangitikei ..	10,114	2,257	12,371	N.A.	2,492	2,492	16,266	24.64	3,229	2,426	26.10	..	..	..	..
44. Westland ^e
Totals ..	224,177	38,092	262,269	8,710	73,121	81,831	493,780	36.50	99,472	81,819	37.93	27,764	35.458
OTHER LOCAL AUTHORITIES																
City Councils																
1. Christchurch ..	30,134	5,333	35,467	637	15,500	16,197	111,015	53.75	12,584	12,011	35.48	61	23.38	59		
2. Dunedin ..	25,080	7,481	32,561	1,137	3,372	4,509	24,411	17.98	7,612	8,965	23.38	211	4.76	306		
3. Invercargill ..	6,178	1,064	7,242	210	145	355	1,127	5.75	345	396	4.76	..	..	..	..
4. Nelson ..	2,813	960	3,773	..	..	..	..	..	..	..	..	..	..	..	..
5. Palmerston North ..	5,979	1,410	7,389	147	1,910	2,057	12,208	34.40	2,954	2,271	39.98	3	..	6		
6. Wellington ..	31,360	11,184	42,544	429	4,513	4,942	32,483	15.76	9,439	11,885	22.19	18	..	15		
Totals ..	101,544	27,432	128,976	2,560	25,500	28,060	181,244	27.63	32,934	35,528	25.53	293	..	386		
Borough Councils																
1. Bluff ..	506	108	614	10	7	17	60	3.36	10	13	1.63	..	..	..	..
2. Hamilton ..	4,686	1,458	6,144	196	766	962	5,501	20.53	1,582	1,005	25.75	..	..	..	..
3. Inglewood ..	352	118	470	2	90	92	647	26.14	91	75	19.36	..	..	..	..
4. Kaapoi ..	495	89	584	99	107	206	940	41.61	84	88	14.38	..	..	..	..
5. Lyttelton ..	907	150	1,057	8	213	221	1,439	24.37	N.A.	N.A.	N.A.	..	..	..	..
6. Napier ..	3,944	1,148	5,092	51	832	883	6,169	22.39	1,531	1,109	30.07	..	..	..	..
7. New Plymouth ..	6,673	1,129	7,802	352	2,857	3,209	17,727	48.09	3,564	3,029	45.68	816	..	1,260		
8. Ohakune ..	473	140	613	29	25	54	198	11.42	44	39	7.18	..	..	..	..
9. Patea ..	510	34	544	30	141	171	1,129	35.53	177	121	32.54	..	..	..	..
10. Picton ..	375	90	465	2	18	20	100	11.06	12	21	4.03	..	..	..	..
11. Queenstown ..	226	72	298	7	24	31	229	11.87	75	61	15.12	..	..	..	..
12. Raetihi ..	733	113	846	21	153	174	1,033	21.56	214	234	25.30	..	..	..	..
13. Rangiora ..	1,986	167	2,153	43	1,029	1,072	7,099	53.98	1,069	822	49.19	..	..	..	..
14. Riccarton ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15. Ross ^e ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16. Rotorua (Tourist Department) ..	2,946	853	3,799	185	622	807	4,386	27.39	938	866	24.69	..	..	..	..
17. Stratford ..	1,019	301	1,320	10	322	332	1,954	32.58	322	285	24.30	..	..	..	..
18. Sumner ..	1,228	2	1,230	N.A.	324	324	1,945	26.38	291	285	23.66	..	..	..	..
19. Taihape ..	514	186	700	18	83	101	642	19.65	74	73	10.57	..	..	..	..
20. Taurarunui ..	992	281	1,273	61	115	176	857	17.74	131	94	10.29	..	..	..	..
21. Tauranga ..	1,332	318	1,650	170	802	972	6,062	72.37	955	450	57.88	..	..	..	..
22. Te Aroha ..	608	242	850	16	198	214	1,500	35.20	248	189	29.18	..	..	..	..
23. Te Puke ..	273	131	404	34	102	136	758	49.82	132	77	32.67	..	..	..	..

TABLE XIV.—RETURN OF ELECTRIC RANGES, WATER-HEATERS, AND MILKING-MACHINES CONNECTED TO ELECTRIC-SUPPLY SYSTEMS AS AT 31ST MARCH, 1944—continued

Supply Authorities.	Number of Consumers.			Ranges.					Water-heaters.			Milk-machines.	
	Domestic.	Commercial.	Total.	Under 5 Kilowatts.	5 Kilowatts and over.	Total Number.	Total Kilowatts.	Percentage of Total Ranges to Domestic Consumers.	Number.	Total Kilowatts.	Percentage of Total Water-heaters to Total Consumers.	Number.	H.P.
OTHER LOCAL AUTHORITIES—continued													
<i>Borough Councils—continued</i>													
26. Waikanae	672	257	929	20	317	337	2,265	50.15	372	219	40.04	3	2
27. Waitara	565	139	704	72	140	212	1,104	37.52	174	136	24.72	10	10
28. Westport	1,189	326	1,515	5	8	13	66	1.09	40	33	2.64	13	9
29. Whakatane	621	177	798	33	290	323	2,086	52.01	297	200	37.22	14	7
30. Whangarei	2,069	752	2,821	35	631	666	3,256	32.19	593	375	21.02	15	24
Totals	41,651	10,265	51,916	1,583	11,536	13,119	77,683	31.50	14,372	11,734	27.68	1,335	1,859
<i>Town Boards</i>													
1. Kaponga	374	74	448	52	71	123	616	32.89	168	132	37.50	167	251
2. Mangaweka	105	137	242	4	37	41	231	39.05	43	26	31.39	6	9
3. Manunui	161	23	184	1	1	2	8	1.24	..	..	..	5	4
Totals	640	129	769	57	109	166	855	25.94	211	158	27.44	178	264
<i>County Councils</i>													
1. Heathcote	919	5	924	53	492	545	2,853	59.30	517	526	55.95	8	4
2. Kaikoura	201	71	272	5	10	15	10	2.49	..	..	..	2	1
3. Murchison	179	21	200	19	12	31	96	17.32	35	26	17.50	25	29
4. Uawa	92	20	112	..	..	..	..	..	..	..	..	..	..
5. Waipara	4,283	316	4,599	130	1,796	1,926	11,500	44.97	1,541	1,514	33.51	83	61
Totals	5,674	433	6,107	207	2,300	2,507	14,450	44.18	2,093	2,086	34.27	118	95
Totals, other Local Authorities	149,509	38,259	187,768	4,407	39,445	43,852	274,241	20.33	49,610	49,486	26.42	1,746	2,340
COMPANIES													
1. Kaniere Electric, Ltd. ^s	685	254	939	31	113	144	870	21.02	69	70	7.35	..	..
2. Leo Keys, Kohukohu	66	2	68	3	..	3	6	4.55	3	2	4.41	..	..
3. Reefton Electric Light and Power Co., Ltd.	308	79	387	..	..	..	..	..	1	2	0.26	..	..
4. Rawene Motors, Ltd.	35	21	56	..	..	..	..	..	..	..	..	..	..
5. Wilson's (N.Z.) Portland Cement, Ltd.	165	48	213	16	15	31	124	18.79	42	34	19.72	30	50
6. Westland Power, Ltd.	334	77	411	16	26	42	225	12.57	40	52	9.73	43	66
Totals	1,593	481	2,074	66	154	220	1,225	13.81	155	160	7.47	73	116
Grand totals	386,656	78,647	465,303	13,474	114,973	128,447	785,576	33.22	150,827	133,434	32.41	31,088	40,390

NOTES.—¹ Includes Arapuni, Horahora, Waikaremoana, Mangahao, and King's Wharf power-stations interconnected.
² Includes Lake Coleridge, Waitaki, Monowai, and Arnold River power-stations interconnected.
³ Board constituted 15th May, 1940; not yet actively functioning.
⁴ License delegated to Westland Power, Ltd.
⁵ License delegated to Westland Power, Ltd.
⁶ Includes 190 heat storage ranges.
⁷ Includes 81 heat storage ranges.
⁸ Heat storage ranges.
⁹ Not actively functioning.
¹⁰ Return for year ended 31st December, 1943.
¹¹ Estimated figure.
¹² Ratio of domestic consumers to total consumers = 83.09 per cent.

(For notes see page 16.)