

# Electricity Supply Commission.

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Escom House,  
Rissik Street,  
Johannesburg,

26th June, 1941.

To the Honourable  
The Minister of Commerce and Industries,  
Pretoria.

SIR,

In conformity with the provisions of Section 14 of the Electricity Act, No. 42 of 1922, the Commission has the honour to present its Eighteenth Annual Report, covering its operations for the year ended 31st December, 1940, together with a brief review of its activities up to 31st March, 1941.

As in the case of the previous report, for reasons of policy during the war, only the salient features of the Commission's activities during the period under review are dealt with in this report, and photographs have again been omitted for the same reason.

In view of the difficulty and uncertainty of obtaining plant and material from overseas, the Commission had decided soon after the outbreak of war to safeguard the interests of its existing consumers by restricting load development as far as possible to essential supplies. The total output of electricity from the Commission's generating stations, nevertheless, reached the record of 4,176,074,675 units for the year 1940, exceeding the previous year's output by 11·01 per cent.

The year was marked by the fact that the total generating plant capacity of the Commission's power stations, in operation, under construction or on order, exceeded one million kilowatts. At 31st December, 1940, the plant in operation totalled 782,631 kilowatts, and plant under construction or on order at that date amounted to 238,900 kilowatts, making a total of 1,021,531 kilowatts.

Of the plant on order in Great Britain, the Commission agreed to release to the British Government for use in England one 40,000 kilowatt set and three 200,000 lbs./hr. boilers which were nearing completion. Great appreciation of the assistance thus rendered by the Commission was expressed by the British authorities, who have arranged for the manufacture of replacement plant to be put in hand and to be given a very high degree of priority.

Manufacture of the plant on order from overseas has been retarded as a result of the war and will consequently delay completion of certain power station extensions. Meanwhile, however, the Commission expects to be able in most cases, without serious difficulty, to meet all reasonable demands of existing consumers, as its policy has always been to plan well ahead of actual requirements as far as possible.

The London Office, which was established by the Commission in December, 1938, has proved of considerable value under the present difficult conditions in maintaining contact with manufacturers engaged on plant orders for the Commission.

## FINANCIAL.

At the date of the balance sheet the Commission's loan capital totalled £19,484,095, all of which has been publicly subscribed in South Africa.

A loan of £1,500,000, bearing interest at  $3\frac{3}{4}$  per cent. at an issue price of £99 and redeemable on 30th November, 1960/65, was oversubscribed within an hour of the opening of subscription lists on 17th December, 1940. The purpose of this loan was for further expenditure on extensions to the Commission's Klip Generating Station, Durban and other Undertakings, and in connection with the Vaal Generating Station. The favourable response to this issue, which was made shortly after the closing of the large loans raised by the Union Government, is an indication of the continued confidence of the South African investing public in the Commission's financial stability.

The amount in the Redemption Fund at 31st December, 1940, stood at £2,929,955, and the Reserve Fund at that date amounted to £1,515,523. The book value of securities, representing investments in Government, Municipal, Rand Water Board, Electricity Supply Commission stocks, and debentures guaranteed by the Union

Government, held by the Commission on behalf of the various funds at 31st December, 1940, was £4,602,427, the nominal value being £4,640,217. The market value of these investments at that date was £4,732,474.

Expenditure on Capital Account during the year amounted to £1,008,294, which brought the total capital expenditure at 31st December, 1940, to £19,330,832. Capital expenditure on major works under construction and on minor extensions will bring the total expenditure on Capital Account to approximately £24,250,000.

Revenue, production costs and other important figures relating to the operation of the Commission's Undertakings during the year 1940, with the comparative figures for 1939, are as follows:—

	1940.	1939.	Difference.
Total Revenue ... ..	<b>£2,861,220</b>	£2,630,473	+ 8·77%
Total Production Costs (including interest, redemption and reserve fund charges) ... ..	<b>£2,858,931</b>	£2,625,702	+ 8·88%
Excess of Revenue over Production Costs	<b>£2,289</b>	£4,771	— £2,482
Average price per unit sold ... ..	<b>0·164d.</b>	0·172d.	— 4·53%
Average revenue per unit sold (including Sundry Revenue) ... ..	<b>0·169d.</b>	0·176d.	— 4·46%
Average cost per unit sold ... ..	<b>0·169d.</b>	0·176d.	— 4·37%
Total cost of coal consumed, including railage ... ..	<b>£776,164</b>	£752,707	+ 3·12%
Railage on coal consumed* ... ..	<b>£219,164</b>	£257,002	— 14·72%
Coal consumed (in tons of 2,000 lbs.)	<b>3,308,793</b>	3,028,767	+ 9·25%

\* The decrease in the tonnage of coal consumed at the Salt River Power Station, with the coming into operation of the new Pooled Power Station at Table Bay, was mainly responsible for the decrease in railage charges.

During the past five years the average price per unit of electricity sold by the Commission has been reduced from 0·266d. in 1935 to 0·164d. in 1940.

The small surplus of £2,289 on all the Commission's operations during the year, which represents 0·08 per cent. of the total revenue, is a measure of the success achieved in carrying out the general principle laid down in the Electricity Act that the Commission shall, as far as practicable, operate its Undertakings neither at a profit nor at a loss.



## SALES OF ELECTRICITY.

Sales of electricity generated in the Commission's own power stations and purchased from outside sources amounted to 4,070,157,369 units in 1940, being 13·89 per cent. greater than in 1939, and for the first time exceeded the four-thousand million mark.

Increased sales were recorded at all the Undertakings as follows :—

Undertaking.	Units Sold.		Increase over 1939.	
	1940.		Units.	Percentage.
Natal Central ... ..	281,121,807		14,883,751	5·59
Witbank ... ..	853,317,743		85,576,016	11·15
Cape Town ... ..	119,770,941		13,319,093	12·51
Durban ... ..	242,741,129		9,063,638	3·88
Sabie ... ..	6,669,552		288,895	4·53
Klip ... ..	2,566,536,197		373,329,536	17·02
	<b>4,070,157,369</b>		<b>496,460,929</b>	<b>13·89</b>

Substantial increases in the consumption of electricity by all classes of consumers during 1940, as compared with the previous year, were shown as follows :—

						Percentage
Class of Supply.				1940.	1939.	Increase.
Bulk Supplies—						
*Mining, etc.	...	...	...	3,182,450,631	2,780,418,879	14·46
†Municipal	...	...	...	283,003,601	270,085,077	4·78
Direct Supplies for—						
Mining	...	...	...	46,505,491	44,106,028	5·44
Industrial	...	...	...	146,454,703	103,190,738	41·93
Domestic and Street Lighting				16,745,538	13,990,173	19·70
Traction	...	...	...	394,997,405	361,905,545	9·14
				<hr/> 4,070,157,369	<hr/> 3,573,696,440	<hr/> 13·89

\* The total consumption of electricity on the Reef by the gold mining and other industries and municipalities, etc., exceeded 5,341,000,000 units in 1940, and approximately 66 per cent. was supplied from the Commission's power stations at Klip and Witbank, the balance being supplied from power stations owned by The Victoria Falls and Transvaal Power Company, Limited, three mining companies and the Johannesburg Municipality.

† A large proportion of the electricity supplied in bulk to municipalities was used for domestic and lighting purposes.

A summary of the sales of electricity under the above headings since 1925, when the Commission first commenced to supply, is given in the next page.

**SALES OF ELECTRICITY TO VARIOUS CLASSES OF CONSUMERS.**  
**1925-1940.**  
**(Kilowatt-Hours)**

Year.	BULK SUPPLIES.			DIRECT SUPPLIES.				Annual Total.	Percentage Increase over Previous Year.
	Mining.	Municipal.		Mining.	Industrial.	Domestic and Lighting.	Traction.		
1925	...	Nil	Nil	75,943	Nil	Nil	Nil	75,943	--
1926	...	159,532,156	755,882	651,458	743,083	Nil	Nil	161,682,579	--
1927	...	425,672,389	4,063,846	2,629,266	16,923,084	106,022	101,624,126	551,018,733	240.8
1928	...	444,317,209	23,803,250	16,189,019	19,140,132	400,625	124,062,060	627,912,295	14.0
1929	...	513,360,023	93,270,744	16,654,619	33,154,615	656,220	139,902,130	796,998,351	26.9
1930	...	583,989,147	117,296,480	20,732,779	36,792,584	1,009,170	129,791,764	889,611,924	11.6
1931	...	565,546,259	124,547,716	23,532,863	38,244,526	1,346,979	113,867,926	867,086,269	-2.5
1932	...	572,600,047	143,487,503	23,020,446	37,526,127	1,643,400	112,457,639	890,735,162	2.7
1933	...	597,324,762	186,878,629	23,898,965	43,290,443	2,154,519	120,580,926	974,128,244	9.4
1934	...	590,829,908	159,042,270	27,201,215	58,699,962	3,002,691	146,385,448	985,161,494	1.1
1935	...	675,664,157	182,046,852	27,903,854	55,065,165	4,301,638	174,261,280	1,119,242,946	13.6
1936	...	1,190,801,515	206,757,057	31,932,815	64,350,389	6,120,142	188,085,190	1,688,047,108	50.8
1937	...	1,954,127,926	228,218,591	36,644,566	72,335,557	8,332,570	235,961,538	2,535,620,748	50.2
1938	...	2,290,455,578	251,165,717	40,519,021	83,907,972	10,520,028	308,884,273	2,985,452,589	17.7
1939	...	2,780,418,879	270,085,077	44,106,028	103,190,738	13,990,173	361,905,545	3,573,696,440	19.7
1940	...	3,182,450,631	283,003,601	46,505,491	146,454,703	16,745,538	394,997,405	4,070,157,369	13.9
Per cent. 1940	78.19	6.95		1.14	3.60	0.41	9.71		

## RAILWAY ELECTRIFICATION.

War conditions have further delayed delivery of the two double-unit mercury arc rectifier plants for sub-stations on the Rossburgh-Hillcrest section of the Natal old main railway line, which is being converted to electric traction. At the date of this report, advice had, however, been received that the equipment had been tested and was ready for shipment.

One of the five additional traction sub-stations to be provided by the Commission for the Reef railway electrification system to cope with the increasing traffic requirements has been erected at George Goch and is expected to be in commercial operation early in July, 1941. Manufacture of the equipment for the other four sub-stations is proceeding as rapidly as possible under prevailing conditions overseas.

## RURAL ELECTRIFICATION.

Development in rural areas has had to be retarded, due to the difficulty of obtaining the necessary transformer and line material under prevailing conditions and to the necessity for conserving present stocks for essential supplies. Certain extensions to the Commission's systems were, however, proceeded with in several cases where negotiations had practically been completed on the outbreak of war. These extensions are referred to later in this report under the headings of the respective Undertakings.

The total number of towns and villages supplied with electricity by the Commission in the Union at 31st December, 1940, was 108, being 13 more than in the previous year, and 29 additional farms were connected to the Commission's systems, bringing the total throughout the Union to 427 at that date.

## DOMESTIC DEVELOPMENT.

The consumption of electricity for domestic purposes by consumers supplied direct by the Commission totalled 16,132,354 units and reached the high average of 1,660 units per consumer in 1940, compared with 1,598 units in 1939. When it is borne in mind that comparatively few of such consumers in the Union are supplied direct by the Commission (at the end of 1940 the total number was only 9,718) and that for the most part they live in small rural communities, the figure is exceptionally good.

The Commission's tariffs to such consumers compare very favourably with those of the larger municipalities which purchase electricity in bulk from the Commission principally for resale for domestic consumption.

The number of local authorities supplied with electricity in bulk from the Commission's Undertakings remained unchanged at 16 at the end of 1940 and their purchases for the year totalled 283,003,601 units.

## PROMOTIONAL WORK.

The Commission's monthly publication, "Escom Magazine," maintained its circulation of approximately 23,000 copies per month in all Provinces of the Union, despite war conditions. In addition to this method of promoting the use of electrical appliances, public demonstrations of electric cooking and other domestic applications of electricity were continued throughout the year.

The Commission desires to take this opportunity of recording its appreciation of the co-operation received from the South African Press and the country newspapers.

## STANDARD WIRING REGULATIONS.

Standard regulations for the wiring of premises were adopted by the Commission in November, 1940. These regulations were drafted by a Committee on which the Commission was represented, together with the following other bodies :—

Association of Municipal Electricity Undertakings of the  
Union of South Africa and Rhodesia.

Institution of Certificated Engineers, South Africa.

National Federation of Building Trade Employers in South  
Africa.

South African Institute of Electrical Engineers.

The regulations set out the principal requirements for securing safety from fire and shock and were presented by the Committee to the South African Institute of Electrical Engineers, which body accepted them for publication under its name.



## SECURITY MEASURES.

On the outbreak of war, arrangements were made with the military and police authorities for the guarding of the Commission's various power stations and sub-stations. In order, however, to afford a greater measure of protection and, if necessary, to augment the regular guards in an emergency, steps have been taken at certain centres for the Commission's employees to be enrolled and trained in separate military units with their own officers, who also have control of the regular guards.

## HOME OWNERSHIP SCHEME.

An important step towards the improvement of the social conditions of its employees was taken by the Commission during the year by its decision to grant facilities to enable them to acquire their own homes.

This necessitated an amendment to the Electricity Act, which now empowers the Commission :

- (a) to enter, upon the security of mortgage bonds or such other security as it may deem sufficient, into agreements for the loan of moneys to any person in its employ for the purpose

- (i) of acquiring land for the erection thereon of a dwelling-house intended for occupation by such person or of acquiring or erecting any such dwelling-house ; or

- (ii) of discharging any bond over any land owned by any such person upon which any such dwelling-house is to be erected, or over any dwelling-house owned and occupied by any such person ;

- (b) to acquire land by purchase, lease or otherwise for the purpose of erecting thereon dwelling-houses for persons in its employ, to erect such dwelling-houses and to enter into agreements with such persons for the letting or sale of such dwellings to such persons.

## STAFF.

The staff employed by the Commission at its Head Office and at its various Undertakings, excluding the Klip and Witbank

Power Stations—which are operated by The Victoria Falls and Transvaal Power Company, Limited, on behalf of the Commission—numbered 569 Europeans, of whom 41 are on active service, and 620 non-Europeans, including 3 coloured employees on active service, at 31st December, 1940, increases of 30 and 49 respectively as compared with the numbers at the end of 1939.

Having regard to the essential services rendered in the national interest by the Commission, the number of employees who could be released for service with the Forces was necessarily limited. In most cases employees who were permitted to enlist were those who could be replaced by older men or by females, and in other cases releases were made possible by the remaining staff voluntarily undertaking extra duties and working longer hours.

In addition to the members of the staff on active service, the Commission has agreed to second to the War Supplies Department a number of its officials for either full- or part-time service.

The Commission, therefore, justly takes pride in the contribution being made either directly or indirectly by its employees to the nation's war effort, and desires to place on record its sincere appreciation of their successful efforts under difficult conditions.

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## COMMISSION'S UNDERTAKINGS.

The operations and developments of the individual Undertakings are reviewed in detail in the following pages.

[General Note applicable to all Undertakings: The expression “ Working Costs ” includes Interest charges and Redemption Fund contributions on loan capital, and amounts set aside to Reserve Fund.]

## NATAL CENTRAL UNDERTAKING.

**General.**

During the early part of May, 1940, a blizzard of unusual severity caused extensive damage to the transmission system in the northern areas of the Natal Central Undertaking. In some cases the supply of electricity was interrupted for more than a week. Pending restoration of the power supply, railway traction over a section of the Natal main line had to be operated by steam for several days. The storm damage to transmission lines was most severe in the Volksrust-Amersfoort area, where high winds and heavy accumulations of ice completely broke down the 22 kV. line over a distance of 12 miles. Supply at Volksrust was restored by bringing into operation the Diesel standby plant.

**Water Rights on Tugela River.**

An application by the Commission to the Water Court for authority to increase the storage capacity of the pool created by the Tugela River Barrage of the Colenso Power Station from 121 million gallons to 141 million gallons by raising the height of the barrage gates by 12 inches was granted in July, 1940.

**Plant Extension.**

Manufacture of the additional 25,000 kW. generator, which was ordered in November, 1939, for the Colenso Power Station has been delayed on account of the war, and the set is not now expected to be in operation before the end of 1941.

**Capital Expenditure.**

The capital expenditure on the Undertaking as at 31st December, 1940, was £4,244,154, an increase of £71,148 as compared with the figure at the end of 1939.

**Output and Sales.**

The units sent out from the Colenso Power Station in 1940 totalled 297,522,895, an increase of 5·8 per cent. over the previous year.

The total sales from the Undertaking amounted to 281,121,807 units, of which railway traction took 81·33 per cent.

Sales for all purposes were as follows:—

	Units.	Percentage Increase.
Bulk (10 consumers—municipal) ... ..	39,392,680	10·67
Industrial and Mining (149 consumers) ... ..	10,465,491	17·13
Domestic and Lighting (1,632 consumers) ... ..	2,619,103	13·86
Railway Traction ... ..	228,644,533	4·21
	<hr/> 281,121,807 <hr/>	5·59

**Working  
Results.**

The total working costs for the year amounted to £542,762 and the revenue to £545,381. The average price per unit sold decreased from 0·469d. in 1939 to 0·462d. in 1940.

The load factor was 64·6 per cent. and the thermal efficiency of the power station on units sent out was 18 per cent.

**New  
Consumers.**

During the period under review the village of Kestell in the Orange Free State was connected to the system and the transmission line to Warden from Harrismith was completed. Agreements were also concluded for the supply of electricity to the Merthyr Colliery of the Dundee Coal Company and to consumers at Glencoe West, Pieters and Rosetta.

Industrial and mining consumers increased during the year by 16 to 149, and domestic and lighting consumers supplied direct by the Undertaking totalled 1,632, an increase of 113 during the year.

The total number of consumers supplied by the Undertaking at 31st December, 1940, was 1,792, including bulk supplies to 10 local authorities in Natal and direct distribution to towns and villages across the borders of the Orange Free State and Transvaal Provinces.

Thirteen additional farms were being supplied with electricity from the Undertaking at the end of 1940, making a total of 112 at that date.

**Hire-  
Purchase  
Scheme.**

Twenty electric ranges were sold during the year under the hire-purchase scheme, which is largely confined to consumers in the rural areas of the Undertaking, the total at the end of the year being 148.

**WITBANK UNDERTAKING.****Witbank  
Power  
Station;  
Output and  
Sales.**

Completion of the extensive programme of overhaul during the early part of the year resulted in the station output being increased by 9·8 per cent. from 678,805,550 units in 1939 to 745,224,993 units in 1940.

Sales of electricity increased by 85,576,016 units (11·15 per cent.) to 853,317,743 units. This includes 109,725,049 units purchased by the Commission from The Victoria Falls and Trans-

## WITBANK UNDERTAKING.

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vaal Power Company, Limited, and the Pretoria Municipality for sale to the Railway Administration for traction purposes over the Reef and Germiston-Pretoria electrification system.

Distribution of the total sales was as follows:—

				Units.		Percentage Increase.
Consumers.				1940.	1939.	
Bulk	...	...	2	617,102,884	588,271,818	4·90
Industrial and Mining	...	...	65	124,896,782	88,635,412	40·91
Domestic and Lighting	...	...	844	1,593,028	1,418,710	12·29
Traction	...	...	1	109,725,049	89,415,787	22·71
<hr/>				<hr/>	<hr/>	
912				853,317,743	767,741,727	11·15
<hr/>				<hr/>	<hr/>	

The Victoria Falls and Transvaal Power Company, Limited, which operates the Witbank Power Station on behalf of the Commission and is one of the bulk consumers shown above (the other being the Middelburg Municipality), took 82·6 per cent. of the total output of the station as compared with 86·5 per cent. in 1939. Increased sales to industrial consumers (40·91 per cent.) necessitated this reduction to the Falls Company, whose demands may, in terms of the agreement with the Commission, be regulated, within specified limits, according to the requirements of the other consumers supplied by the Witbank Undertaking.

The industrial consumers include two large electro-chemical works, one of which increased its consumption of electricity by over 74 per cent. during 1940. Sales for mining purposes shown above under the heading of “ Industrial and Mining ” include supplies to 16 collieries in the Witbank district, but exclude power supplied from the station to the gold mining industry, which consumes practically the whole of the “ bulk ” supplies to the Falls Company.

Bulk supplies, largely for domestic consumption, to the Middelburg Municipality increased by 128,850 units to 1,188,450 units in 1940.

Domestic and lighting consumers supplied direct by the Witbank Undertaking increased by 65 to 844 during the year, and the average consumption per consumer was 1,887 units.

New  
Consumers.

New “ Industrial and Mining ” consumers include the No. 3 Shaft of the Landau Colliery, the Wolverkrans Shaft of the Witbank Colliery, Limited, and a temporary supply to the Anglo-Transvaal Consolidated Investment Company, Limited, for a new colliery shaft on the farm Weltevreden.

**Capital  
Expenditure.**

Capital expenditure on this Undertaking was increased in 1940 by £22,091 to £2,566,726.

**Working  
Results.**

The total revenue for the year was £565,945, while working costs amounted to £565,608.

The average price per unit sold for all supplies decreased from 0·163d. in 1939 to 0·157d. in 1940, and for traction supplies the average price dropped from 0·397d. to 0·390d. per unit.

The maximum hourly demand sent out was 104,697 kW. and the load factor was 81·0 per cent. The thermal efficiency on units sent out was 16·98 per cent.

**Hire-  
Purchase  
Scheme.**

At 31st December, 1940, sales of domestic electrical appliances under the hire-purchase scheme of the Witbank Undertaking totalled :—

Ranges	...	...	24	Washing Machines	...	7
Refrigerators	...	...	18	Miscellaneous Appliances	..	85

## CAPE TOWN UNDERTAKING.

### Pooled Stations.

Under a pooling agreement, the electricity requirements of the Commission's Cape Town Undertaking and the Cape Town Corporation are now largely generated at the Corporation's Table Bay Power Station, which came into operation in 1939 and has since superseded the Commission's Salt River Power Station as the base-load station. The old Dock Road Power Station owned by the Council is being retained as an emergency station.

### Output.

The total units sent out from the pooled stations in 1940 was 413,937,772 units. Of this, Salt River Power Station sent out 57,580,150 units, compared with 129,224,222 units in 1939 and 333,587,582 units in 1938. In consequence of the reduced output, the thermal efficiency of Salt River Power Station fell from 20·3 per cent. in 1938 to 17·7 per cent. in 1939 and to 14·1 per cent. in 1940. The maximum half-hourly demand sent out was 46,200 kW., and the load factor was 14·3 per cent. calculated on 8,736 hours.

**Sales.**

Sales of electricity to consumers of the Cape Town Undertaking increased by 12·51 per cent. to 119,770,941 units in 1940 (including 301,295 units sold from the Commission's Caledon Power Station) and were distributed as follows:—

				Units.		Percentage Increase.
				1940.	1939.	
	Consumers.					
Bulk ... ..	4			15,006,894	14,623,082	2·62
Railway Traction ...	1			56,627,823	53,080,973	6·68
Industrial ... ..	304			37,415,120	30,007,890	24·68
Domestic and Lighting—						
Direct supplies ...	6,171			10,721,104	8,739,903	22·67
				<hr/>	<hr/>	
	6,480			119,770,941	106,451,848	12·51
				<hr/>	<hr/>	

The average price per unit sold to all consumers of this Undertaking was reduced from 0·789d. in 1939 to 0·752d. in 1940.

Sales for traction purposes averaged 0·682d. per unit, being 0·033d. per unit lower than the average for 1939.

**Working Results.**

Revenue for the year was £380,840 and working costs amounted to £384,369, which includes £200,833 in respect of the Commission's proportion of the pooled costs of the Salt River, Table Bay and Dock Road Power Stations. The total pooled costs in 1940 amounted to £617,917, including interest and redemption charges on the new circulating water works for the Salt River Power Station, which were placed in commercial service in May, 1940.

**Capital Expenditure.**

Capital expenditure on the Undertaking was increased during the year by £80,209 to a total of £2,729,675.

**New Consumers.**

An agreement was concluded during the year with the Worcester Municipality for a partial supply of electricity from the Cape Town Undertaking to supplement the output from the Council's own generating station. To provide this supply, a 33 kV. transmission line is being constructed from a point near Wellington as an extension of the present system. This line will cross the mountains via Du Toit's Kloof and will also make electricity available in the fertile Hex River Valley.

The village of Darling was electrically connected to the system of this Undertaking in November, 1940.

During 1940 additional connections to the mains of the Undertaking included 14 industrial and 676 domestic and lighting consumers, bringing the total number of consumers at the end of the year to 6,480. Farm connections increased by 16 to 311 during the year.

Supply to  
Stellenbosch  
Municipality.

Terms were agreed with the Stellenbosch Municipality for the continuation of the supply of electricity in bulk from the Cape Town Undertaking to the Municipality for a further period of ten years from 1st January, 1940.

Caledon  
Electricity  
Undertaking.

The Caledon Power Station, which, together with the local distribution system, was purchased by the Commission from the Municipality in 1939, generated 371,408 units of electricity in 1940 for supply to 449 local consumers, whose consumption shows an increase of 6.45 per cent. over 1939. Electricity to consumers at Caledon, and to potential consumers en route, will in due course be supplied from the Cape Town Undertaking by extending the Commission's 33 kV. transmission system from Somerset West via Bot River.

De Doorns  
Electricity  
Undertaking.

On 1st March, 1941, the Commission purchased from the concessionaires the generating plant and distribution network at De Doorns. Consumers in this area, which is an important fruit-growing district, include a number of farms, and the 33 kV. transmission line which is now in course of construction to supply the Worcester Municipality will be extended to this area for the supply of electricity from the Cape Town Undertaking, when considerable development will be possible.

Hire-  
Purchase  
Scheme.

Sales of domestic electrical appliances under the hire-purchase scheme of the Cape Town Undertaking up to 31st December, 1940, totalled :—

Ranges	...	...	264	Washing Machines	...	124
Refrigerators	...	...	66	Hot Water Cylinders	...	60

The foregoing figures refer only to appliances sold by the Commission to consumers taking supplies of electricity from the Commission's reticulation system in the Cape areas. Facilities for the hire-purchase of appliances in the municipal area of supply are provided by the Cape Town Corporation.

## DURBAN UNDERTAKING.

Power  
Station  
Extensions.

The release to the British Government of the 40,000 kW. turbo-alternator set and the three 200,000 lbs./hr. boilers on order from Great Britain for the Congella Power Station has delayed the construction programme. Priority manufacture of replacement plant is, however, proceeding at a satisfactory rate having regard to prevailing conditions.

Storm  
Damage.

The storm which raged throughout the Natal Province early in May, 1940, also affected the Commission's transmission and distribution systems along the South Coast, causing interruptions to the supply of electricity at several points. The damage to the power lines in this area was, however, slight by comparison with the destruction wrought by the storm in the northern districts of the Province.

Output  
and Sales.

Units sent out from the Congella Power Station in 1940 amounted to 240,818,974, the increase over 1939 being 2·95 per cent.

Total sales of electricity generated and purchased by the Undertaking increased by 3·88 per cent. to 242,741,129 units for the year. In addition, the Durban Undertaking sold 929,100 units to the Natal Central Undertaking through the interconnector system.

Electricity in bulk is supplied at the station busbars to the Durban Corporation for distribution in the borough and an area within a radius of 16 miles from the borough boundary reserved to the Corporation under a licence granted by the Electricity Control Board. The only other consumer supplied direct from the Congella Power Station is the South African Railways and Harbours Administration, which takes a bulk supply for the Durban workshops, the Graving Dock and the Harbour.

Sales to these consumers in 1940 were:—

	Units.	Percentage Increase over 1939.
Durban Corporation ... ..	226,836,214	3·67
S.A. Railways and Harbours ... ..	13,073,760	0·90
	<hr/>	
	239,909,974	3·51
	<hr/>	

## SABIE UNDERTAKING.

### Sabie Power Station.

The Sabie Power Station is the only hydro-electric generating plant owned by the Commission. The whole of the output of the station is supplied to two gold mining companies operating in the district.

### Working Results.

Electricity sent out from the station in 1940 amounted to 6,978,700 units, an increase of 3·27 per cent. over 1939.

The maximum half-hourly demand was 1,200 kW., and the load factor was 66·2 per cent.

The total working costs decreased from £13,707 in 1939 to £13,658 in 1940. Revenue for the year amounted to £13,480.

The average price per unit sold decreased from 0·506d. in 1939 to 0·485d. in 1940.

### Capital Expenditure.

The capital expenditure on the Undertaking as at 31st December, 1940, remained unchanged at £96,145.

## KLIP GENERATING STATION UNDERTAKING.

### **Construction Progress**

The last two of the twelve 33,000 kW. generating sets installed in the Klip Power Station were placed in service on 4th January and 15th July, 1940, respectively. To complete the station two more 180,000 lbs./hr. boilers are under construction, and when these are installed the total boiler capacity will be 4,320,000 pounds of steam per hour.

### **Output.**

The station is operated on behalf of the Commission by The Victoria Falls and Transvaal Power Company, Limited, which takes the whole output for supply to the gold mining industry



and other consumers on the Witwatersrand. In 1940 the station sent out 2,566,536,197 units, an increase of 17·02 per cent. compared with the previous year.

**Coal  
Consump-  
tion.**

Klip Power Station consumed coal at an average rate of 247 tons per hour at an average price of 3s. 6d. per ton, the total consumption for the year being 2,166,318 tons at a cost of £379,932.

**Capital  
Expenditure.**

Capital expenditure on the station during 1940 amounted to £269,697, the total expenditure at 31st December, 1940, being £6,351,169.

**Working  
Results.**

The operating costs and capital charges (interest, redemption and reserve) are paid by the Falls Company and amounted to £948,184 in 1940.

Other working results for 1940, with corresponding figures for 1939, were as follows :—

	1940.	1939.
Average maximum hourly demand sent out	364,320 kW.	352,930 kW.
Average load factor ... ..	80·2 %	70·9 %
Station thermal efficiency (units sent out)	21·50%	21·17%
Average price per unit sold ... ..	0·088d.	0·090d.

## RAND EXTENSION UNDERTAKING.

The Rand Extension Undertaking comprises a transmission and distribution system and is operated as part of the Witwatersrand grid system by The Victoria Falls and Transvaal Power Company, Limited, under a licence granted to the Commission and ceded to the Falls Company.

All capital expenditure on this Undertaking is financed by the Commission, and the charges for interest, redemption, reserve and administration are recovered from the Company. These charges in respect of the year ended 31st December, 1940, amounted to £52,911. The Company also bears its own costs of operating and maintaining the system.

During the year 1940 capital expenditure on the Undertaking was increased by £34,242 to a total of £754,685.

The transmission lines and cables serving this Undertaking at 31st December, 1940, totalled approximately 373 route miles, and the installed transformer capacity at that date was 138,800 kVa.

## VAAL GENERATING STATION UNDERTAKING.

Reports from overseas indicate that the manufacture of the generating plant for this station is proceeding satisfactorily.

Construction of the circulating water system, including the two hyperbolic cooling towers, each 320 feet high, coaling appliances, railway sidings and staff quarters had been completed, and erection of the steel frame generator house was in progress at the date of this report.

Additional land, approximately 168 acres in extent adjacent to the existing power station site, was acquired during the year to provide for more ash dumps and incoming power line network.

The capital expenditure on the station increased during the year by £430,567 to a total of £549,662 as at 31st December, 1940.

## MUNICIPAL ELECTRICITY SUPPLY SCHEMES.

Reports submitted during the year by the Commission, in terms of Section 38 of the Electricity Act, to the Administrators of the various provinces on the proposals of urban local authorities to establish electricity undertakings or to enlarge existing undertakings were as follows :—

## TRANSVAAL.

<u>New Scheme.</u>	<u>Extensions.</u>	<u>Tenders.</u>
Bedfordview.	Bethal.	Bedfordview.
Rensburgdorp.	Piet Retief.	Kempton Park.
	Pretoria.	Piet Retief.

## NATAL.

Eshowe.

## ORANGE FREE STATE.

Theunissen.	Bothaville.
Wepener.	Heilbron.
	Wepener.

## CAPE.

Albertinia.	Carnarvon.	Albertinia.
	East London.	Alice.
	Fraserburg.	Engcobo.
	Graaff-Reinet.	Loxton.
	Robertson.	Pearston.
		Queenstown.
		Uniondale.
		Williston.

## SOUTH-WEST AFRICA.

Keetmanshoop.

Up to 31st December, 1940, 459 reports on municipal electricity supply schemes, of which 166 were in respect of new schemes, had been submitted by the Commission. In addition, the Commission had issued at that date 235 supplementary reports on tenders.

## ANNEXURES.

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The Commission submits for the year 1940, with this Report:--

### ANNEXURE "A."

The Report of the Auditors.

Balance Sheet.

Schedule of Expenditure on Capital Account.

Statement showing the Investments of the Redemption Fund.

Account No. 1.—Redemption Fund Account.

Account No. 2.—Reserve Fund Account.

Revenue and Expenditure Accounts in respect of:

Account No. 3.—Natal Central Undertaking.

Account No. 4.—Witbank Undertaking.

Account No. 5.—Cape Town Undertaking.

Statement of Pooled Costs—Cape Town.

Account No. 6.—Durban Undertaking.

Account No. 7.—Sabie Undertaking.

Account No. 8.—Klip Generating Station Undertaking.

Account No. 9.—Rand Extension Undertaking.

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### ANNEXURE "B."

Statement No. 1.—Summary of Principal Plant and Equipment installed at the Commission's several Undertakings as at 31st December, 1940.

Statement No. 2.—Summary of Principal Plant and Equipment in course of installation or on order as at 31st December, 1940.

Statement No. 3.—Showing the price or rent of land or rights or interests in or over land or other property acquired or hired by the Commission during the year 1940.

Statement No. 4.—Units sold to all consumers during the past sixteen years.

Statement No. 5.—Distribution of units sold during 1940 as between the various classes of consumers.

Statement No. 6.—Power Station Statistics, 1940.

Statement No. 7.—Particulars of coal used at the Commission's Steam-raising Power Stations during 1940.

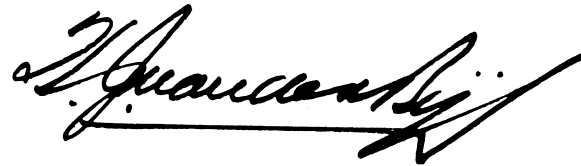
**ANNEXURE " C."**

Union Statistics relating to the production and distribution of electricity, extracted from the 1938-39 Industrial Census, are published in this Report by the courtesy of the Union Census and Statistics Office.

I have the honour to be

Sir,

Your obedient servant,

A handwritten signature in dark ink, appearing to read 'H. J. van der Bijl', with a horizontal line drawn underneath the signature.

H. J. VAN DER BIJL,

CHAIRMAN.

# **INDEX TO ANNEXURE "A" (ACCOUNTS).**

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Expenditure on Capital Account ... ..	32
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Reserve Fund Account ... ..	40
Revenue Accounts:	
Natal Central Undertaking ... ..	42
Witbank Undertaking ... ..	44
Cape Town Undertaking ... ..	46
Statement of Pooled Costs—Cape Town ... ..	48
Durban Undertaking ... ..	50
Sabie Undertaking ... ..	52
Klip Generating Station Undertaking ... ..	54
Rand Extension Undertaking ... ..	56

## ANNEXURE " A."

### THE REPORT OF THE AUDITORS.

Johannesburg.

27th May, 1941.

The Chairman and Members,  
Electricity Supply Commission,  
Johannesburg.

GENTLEMEN,

We have completed the audit of the books and accounts of the Commission for the year ended 31st December, 1940.

#### REDEMPTION FUND.

In the course of our audit we have investigated the position of the Redemption Fund established by the Commission in terms of the Schedule to the Electricity Act to provide for the redemption of the securities issued by the Commission.

We find that in the aggregate the amount in the Fund at 31st December, 1940, is materially in excess of the requirements as laid down in Clause 16 of the Schedule. This excess is due to various reasons, the chief one being that the Commission has in many cases caused provision for redemption to be made to redeem capital outlays over a shorter period than that required by the provision of the Schedule.

The various reasons which have caused the Commission to provide this excess appear to us to be sound and desirable in view of the position and locality of certain of the Undertakings and of the right the Commission has to pay off certain of the loans at an earlier date than the latest date laid down in the terms of issue.

In the case of Loan No. 10, which was issued during December, 1940, there is no statutory obligation up to the end of 1940 to provide for redemption, as the Minister had up to the end of the year not yet fixed the date on which redemption should commence in terms of Clause 16 (2) of the Schedule. An amount of £5,227 11s. 8d. for redemption has, however, been provided in respect of certain expenditure, subsequently financed out of Loan 10, which had been paid for in anticipation out of the General Fund and came into commercial operation prior to December 31st, 1940.

#### HEAD OFFICE ADMINISTRATION, ENGINEERING AND GENERAL EXPENSES, INCLUDING PUBLICITY.

The gross amount of this expenditure is more than the corresponding figure for the previous year. It includes, *inter alia* (1) Cost of the publicity department, including the publication of the Escom Magazine; (2) cost of operating Escom House, less rents received; and (3) certain expenditure in connection with the London Office.



Against the total amount has been set off or credited:—

- (1) Fees accruing to the Commission in connection with the establishment of the Klip, Rand Extension and Vaal Undertakings in terms of agreements with The Victoria Falls and Transvaal Power Company, Limited.
- (2) Other amounts transferred to cost of capital works at Undertakings for services of Head Office Staff.
- (3) Fees for Reporting on Power Schemes of Local Authorities.
- (4) Amounts chargeable to Revenue Accounts under other headings.

The amount remaining has been charged against the Revenue Accounts of all the Undertakings in commercial operation. In the case of the Klip, Rand Extension and Witbank (Power Station) Undertakings, the amount is determined by agreement with The Victoria Falls and Transvaal Power Company, Limited. The expenditure charged to the other Undertakings has been apportioned by the Commission. We have no reason to disagree with the allocation so made.

#### CAPE TOWN UNDERTAKING.

Certain doubts which existed as to the application of the agreement with the Council of the City of Cape Town in regard to interest charges on loans raised by the Council for the Table Bay Station have now been settled. This has resulted in a credit to the Undertaking of £368 14s. 8d. in respect of the period prior to 1940.

In the Cape Town Undertaking Revenue Account for the year ended December 31st, 1938, there was shown as a deduction from the amount brought forward from the previous year an amount of £12,615 15s. 6d., representing provision for the Commission's contribution towards redemption charges for the period July to December, 1937, in respect of loans raised by the Council of the City of Cape Town under the pooling agreement. The Commission previously understood that the annual contribution covered the twelve months ended June 30th in each year, but the Council have now stated that the Redemption Fund contributions on these Loans charged to Pooled Costs during 1938 and 1939 were in respect of these calendar years. Accordingly the amount has now been re-credited to the Undertaking Revenue Account.

Both the above adjustments are shown separately in the lower sections of the Revenue Account for the year 1940.

#### KLIP UNDERTAKING.

Following previous practice, we have accepted the accounts rendered by The Victoria Falls and Transvaal Power Company, Limited, which Company, in terms of agreement with the Commission, operates the station and is the sole consumer on a cost basis. The Capital charges made by the Commission have been verified by us. The resulting figures have been summarised in the Klip Revenue Account.

## RAND EXTENSION UNDERTAKING.

In terms of agreement between The Victoria Falls and Transvaal Power Company, Limited, and the Commission, the Company is the sole user of the Undertaking under cession of the licence and operates and maintains the same at its own cost. The expenditure of the Commission in connection with the Undertaking (including Capital Charges) is recovered from the Company, and the figures relating thereto are shown in the Revenue Account of the Undertaking.

## GENERAL.

As the result of our audit of the books and accounts of the Commission for the year 1940, and, subject to the foregoing remarks, in terms of Clause 13 (4) of the Electricity Act, 1922, we certify as follows:—

- (a) We have found the Accounts of the Commission to be in order.
- (b) The Accounts issued present a true and correct view of the financial position of the Commission and of its transactions and of the result of trading.
- (c) Due provision has been made for the redemption and repayment of moneys borrowed.
- (d) As formerly, the Land and Rights, Buildings and Civil Works and Machinery and Plant are set out in the Balance Sheet as on a cost basis. This expenditure will be amortised over a period not exceeding the currency of the loans by the operation of the Redemption Fund.

The value of the other assets of the Commission is correctly stated.

- (e) Sums fixed by the Commission have been set aside to the Reserve Fund under Section 9 as prescribed.
- (f) All our requirements and recommendations as Auditors have been complied with and carried out.

Yours faithfully,

B. HALSEY.

ALEX. AIKEN & CARTER.

Electricity Supply  
Incorporated under the  
BALANCE SHEET at

Loan Capital	...	...	...	...	...	£19,484,095	0	0
Loan No. 1: Government of the Union of South Africa	£3,000,000	0	0					
Loan No. 2: Government of the Union of South Africa	5,000,000	0	0					
	8,000,000	0	0					
Less—Repaid during 1933 and 1934	8,000,000	0	0					
Local Registered Stocks—								
Loan No. 3: £500,000 4¼ per cent., 1953/63	500,000	0	0					
Loan No. 4: £2,500,000 4½ per cent., 1953	2,500,000	0	0					
Loan No. 5: £6,750,000 3¾ per cent., 1954/64	6,750,000	0	0					
Loan No. 6: £2,500,000 3½ per cent., 1959/64	2,500,000	0	0					
Loan No. 7: £2,000,000 3¼ per cent., 1956/66	2,000,000	0	0					
Loan No. 8: £2,000,000 3½ per cent., 1957/67	2,000,000	0	0					
Loan No. 9: £2,000,000 3¾ per cent., 1959/64	2,000,000	0	0					
Loan No. 10: £1,500,000 3¾ per cent., 1960/65	1,234,095	0	0					
(payable in full not later than 31st March, 1941, in terms of Prospectus)								
Partly Paid:								
Instalments due and payments in advance	£113,455	0	0					
Less—Amounts outstanding since paid	5,210	0	0					
	108,245	0	0					
Fully paid ..	1,125,850	0	0					
	£19,750,000							
Interest Accrued on Loan Capital						89,108	18	6
Sundry Loans and Amounts Outstanding for Rights Acquired						150,576	2	3
Umkomaas Town Board	8,380	0	0					
Volkstrust Municipality	23,291	13	11					
Rand Water Board	109,712	17	9					
Caledon Municipality	9,191	10	7					
Sundry Creditors and Credit Balances						314,424	15	9
Pension Fund						131,456	12	4
Redemption Fund (as per Account No. 1)						2,929,954	10	3
Sinking Fund (Umkomaas Town Board Loans)						1,981	16	9
Sundry Loans Repaid						23,228	5	10
Reserve Fund (as per Account No. 2)						1,515,523	1	11
Balance on Revenue Accounts						99,494	4	11
(As per Accounts Nos. 3 to 7)								
Natal Central Undertaking	33,441	12	11					
Witbank Undertaking	32,977	11	11					
Cape Town Undertaking	14,252	9	10					
Durban Undertaking	18,188	13	3					
Sabie Undertaking	633	17	0					

NOTE.—In addition to the liabilities shown above, the Commission is committed to the extent of approximately £4,567,500 for expenditure on Capital Account and £86,600 chargeable against Reserve Fund.

£24,739,843 8 6

Johannesburg,  
23rd April, 1941.

H. J. VAN DER BIJL, Chairman.  
J. VAN NIEKERK, Chief Accountant.

Commission.

Electricity Act, 1922.

31st DECEMBER, 1940.

Expenditure on Capital Account	...	...	...	£19,330,832	3	0
(As per Schedule attached)						
Land and Rights	...	...	...	£293,180	19	9
Buildings and Civil Works	...	...	...	5,189,207	7	3
Machinery and Plant	...	...	...	13,848,443	16	0
Movable Plant and Equipment (less depreciation)	...			76,994	19	9
Workshop Equipment, Instruments, Tools and Loose Plant	...	...	...	33,993	3	9
Transportation Equipment	...	...	...	5,623	17	1
Furniture, Fixtures and Fittings	...	...	...	37,377	18	11
Stores and Materials	...	...	...	226,518	16	6
Sundry Debtors and Debit Balances	...	...	...	273,759	11	8
Cash on Current Account	...	...	...	229,310	14	2
Investment of Pension Fund	...	...	...	131,748	11	4
Amount invested in Municipal, Rand Water Board and Electricity Supply Commission Stocks	...	...	...	131,029	6	0
Interest Accrued	...	...	...	719	5	4
Investment of Redemption Fund	...	...	...	2,933,609	17	5
(As per Statement attached)						
Investment of Sinking Fund	...	...	...	2,416	15	1
Amount invested in Municipal and Electricity Supply Commission Stocks	...	...	...	2,404	0	0
Interest Accrued	...	...	...	12	15	1
Investment of Reserve Fund	...	...	...	1,534,651	19	7
Amount invested in Stocks and Securities of the Government of the Union of South Africa, Municipalities and Electricity Supply Commission and Debentures guaranteed by the Government of the Union of South Africa	...	...	...	1,525,589	14	2
Interest Accrued	...	...	...	9,062	5	5

£24,739,843 8 6

Referred to in our Report of 27th May, 1941.

ALEX. AIKEN & CARTER, }  
B. HALSEY, } Auditors.

Electricity Supply

SCHEDULE OF EXPENDITURE ON CAPITAL

Expenditure in connection with Electricity Undertakings.	Total to 31st December, 1939.	Year ended 31st December, 1940.	Total to 31st December, 1940.
<b>NATAL CENTRAL UNDERTAKING:</b>			
Land and Rights ... ..	£21,827 2 8	£2,369 2 2	£24,196 4 10
Buildings and Civil Works ... ..	763,077 11 7	12,995 1 4	776,072 12 11
Machinery and Plant ... ..	3,388,101 0 8	55,783 17 8	3,443,884 18 4
	<b>£4,173,005 14 11</b>	<b>£71,148 1 2</b>	<b>£4,244,153 16 1</b>
<b>WITBANK UNDERTAKING:</b>			
Land and Rights ... ..	£9,791 11 3	£445 17 9	£10,237 9 0
Buildings and Civil Works ... ..	603,683 4 9	2,221 14 2	605,904 18 11
Machinery and Plant ... ..	1,931,160 7 9	19,423 9 5	1,950,583 17 2
	<b>£2,544,635 3 9</b>	<b>£22,091 1 4</b>	<b>£2,566,726 5 1</b>
<b>CAPE TOWN UNDERTAKING:</b>			
Land and Rights ... ..	£25,224 14 5	£555 19 3	£25,780 13 8
Buildings and Civil Works ... ..	930,116 15 5	21,256 10 9	951,373 6 2
Machinery and Plant ... ..	1,694,124 10 0	58,396 10 6	1,752,521 0 6
	<b>£2,649,465 19 10</b>	<b>£80,209 0 6</b>	<b>£2,729,675 0 4</b>
<b>DURBAN UNDERTAKING:</b>			
Land and Rights ... ..	£31,175 18 4	£85 4 10	£31,261 3 2
Buildings and Civil Works ... ..	392,611 4 3	39,417 14 9	432,028 19 0
Machinery and Plant ... ..	1,125,043 5 11	58,818 4 8	1,183,861 10 7
	<b>£1,548,830 8 6</b>	<b>£98,321 4 3</b>	<b>£1,647,151 12 9</b>
<b>SABIE UNDERTAKING:</b>			
Land and Rights ... ..	£510 0 0	—	£510 0 0
Buildings and Civil Works ... ..	60,464 18 5	—	60,464 18 5
Machinery and Plant ... ..	35,169 14 10	—	35,169 14 10
	<b>£96,144 13 3</b>	<b>—</b>	<b>£96,144 13 3</b>

Johannesburg,  
23rd April, 1941.

Commission.

ACCOUNT TO 31st DECEMBER, 1940.

Expenditure in connection with Electricity Undertakings.	Total to 31st December, 1939.	Year ended 31st December, 1940.	Total to 31st December, 1940.
<b>KLIP GENERATING STATION UNDERTAKING:</b>			
Land and Rights ... ..	£127,993 12 9	—	£127,993 12 9
Buildings and Civil Works ... ..	1,599,809 4 7	£17,249 4 4	1,617,058 8 11
Machinery and Plant ... ..	4,353,669 2 11	252,448 0 0	4,606,117 2 11
	<b>£6,081,472 0 3</b>	<b>£269,697 4 4</b>	<b>£6,351,169 4 7</b>
<b>RAND EXTENSION UNDERTAKING:</b>			
Land and Rights ... ..	£9,496 18 7	£438 6 1	£9,935 4 8
Buildings and Civil Works ... ..	9,488 4 4	283 10 3	9,771 14 7
Machinery and Plant ... ..	701,458 9 10	33,519 8 3	734,977 18 1
	<b>£720,443 12 9</b>	<b>£34,241 4 7</b>	<b>£754,684 17 4</b>
<b>VAAI GENERATING STATION UNDERTAKING:</b>			
Land and Rights ... ..	—	£3,681 8 8	£3,681 8 8
Buildings and Civil Works ... ..	£118,621 15 8	286,031 10 8	404,653 6 4
Machinery and Plant ... ..	473 0 10	140,854 12 9	141,327 13 7
	<b>£119,094 16 6</b>	<b>£430,567 12 1</b>	<b>£549,662 8 7</b>
<b>ESCOM HOUSE:</b>			
Land ... ..	£59,585 3 0	—	£59,585 3 0
Building and Equipment ... ..	329,860 9 1	£2,018 12 11	331,879 2 0
	<b>£389,445 12 1</b>	<b>£2,018 12 11</b>	<b>£391,464 5 0</b>
<b>SUMMARY:</b>			
Land and Rights ... ..	<b>£285,605 1 0</b>	<b>£7,575 18 9</b>	<b>£293,180 19 9</b>
Buildings and Civil Works ... ..	<b>4,807,733 8 1</b>	<b>381,473 19 2</b>	<b>5,189,207 7 3</b>
Machinery and Plant ... ..	<b>13,229,199 12 9</b>	<b>619,244 3 3</b>	<b>13,848,443 16 0</b>
	<b>£18,322,538 1 10</b>	<b>£1,008,294 1 2</b>	<b>£19,330,832 3 0</b>

J. VAN NIEKERK, Chief Accountant.

Electricity Supply

Statement showing details of Investments of the

	Nominal Amount.	Loan No. 3. £500,000 4¼% Local Registered Stock, 1953/63.	Loan No. 4. £2,500,000 4½% Local Registered Stock, 1953.	Loan No. 5. £6,750,000 3¼% Local Registered Stock, 1954/64.
Electricity Supply Commission 4¾% Local Registered Stock, 1953/63	£104,600 0 0	£40,492 11 4	—	£65,450 0 0
Electricity Supply Commission 4½% Local Registered Stock, 1953 ...	237,123 0 0	—	£232,623 0 0	—
Electricity Supply Commission 3¾% Local Registered Stock, 1954/64	625,913 0 0	10,000 0 0	—	540,223 9 0
Electricity Supply Commission 3½% Local Registered Stock, 1959/64	43,010 0 0	—	—	—
Electricity Supply Commission 3¼% Local Registered Stock, 1956/66	332,300 0 0	16,490 0 0	92,767 3 9	143,560 0 0
Electricity Supply Commission 3½% Local Registered Stock, 1957/67	305,900 0 0	24,287 10 0	85,565 5 0	77,628 10 0
Electricity Supply Commission 3¼% Local Registered Stock, 1959/64	455,800 0 0	19,482 19 9	90,028 0 2	152,162 2 5
Electricity Supply Commission 3¼% Local Registered Stock, 1960/65	439,000 0 0	17,640 0 0	60,270 0 0	140,630 0 0
Union of South Africa 4½% Local Registered Stock, 1953 ...	356,265 0 0	—	356,265 0 0	—
South African Iron and Steel Indus- trial Corporation, Limited, 5% Guaranteed First Mortgage Re- gistered Debentures, 1946/71 ...	61,200 0 0	—	51,200 0 0	9,975 0 0
	£2,961,111 0 0	£128,393 1 1	£968,718 8 11	£1,129,629 1 5
Interest Acerued ... ..	—	565 12 10	3,744 3 3	6,500 2 11
	£2,961,111 0 0	£128,958 13 11	£972,462 12 2	£1,136,129 4 4

Johannesburg,  
23rd April, 1941.

Commission.

Redemption Fund as at 31st December, 1940.

Loan No. 6. £2,500,000 3½% Local Registered Stock, 1959/64.	Loan No. 7. £2,000,000 3¼% Local Registered Stock, 1956/66.	Loan No. 8. £2,000,000 3½% Local Registered Stock, 1957/67.	Loan No. 9. £2,000,000 3¼% Local Registered Stock, 1959/64.	Loan No. 10. £1,500,000 3¼% Local Registered Stock, 1960/65.	Totals.
—	—	—	—	—	£105,942 11 4
£4,500 0 0	—	—	—	—	237,123 0 0
53,721 15 9	£17,000 0 0	£3,518 13 3	—	£193 14 10	624,657 12 10
42,228 5 8	—	—	—	—	42,228 5 8
19,400 0 0	48,940 5 1	—	—	—	321,157 8 10
60,043 0 0	21,922 0 0	26,432 5 0	£1,072 10 0	—	296,951 0 0
62,540 7 8	45,297 18 10	45,785 0 4	28,637 4 0	—	443,933 13 2
72,030 0 0	48,020 0 0	52,430 0 0	33,810 0 0	5,390 0 0	430,220 0 0
—	—	—	—	—	356,265 0 0
—	—	—	—	—	61,175 0 0
£314,463 9 1	£181,180 3 11	£128,165 18 7	£63,519 14 0	£5,583 14 10	£2,919,653 11 10
1,301 14 0	1,018 5 4	512 8 9	308 2 4	5 16 2	13,956 5 7
£315,765 3 1	£182,198 9 3	£128,678 7 4	£63,827 16 4	£5,589 11 0	£2,933,609 17 5

J. VAN NIEKERK, Chief Accountant.

## Electricity Supply Commission.

## Redemption Fund Account for the Year ended 31st December, 1940.

				Loan No. 3. £500,000 4½% Local Registered Stock, 1953/63.	Loan No. 4. £2,500,000 4½% Local Registered Stock, 1953.	Loan No. 5. £6,750,000 3½% Local Registered Stock, 1954/64.	Loan No. 6. £2,500,000 3½% Local Registered Stock, 1959/64.	Loan No. 7. £2,000,000 3½% Local Registered Stock, 1956/66.	Loan No. 8. £2,000,000 3½% Local Registered Stock, 1957/67.	Loan No. 9. £2,000,000 3½% Local Registered Stock, 1959/64.	Loan No. 10. £1,500,000 3½% Local Registered Stock, 1960/65.	Totals.
<b>Cr.</b>												
By Balance at 31st December, 1939, brought forward—												
Natal Central Undertaking	...	...	...	£357 3 10	£18,330 0 8	£134,305 13 1	—	£8,896 15 2	£1,879 0 1	£227 7 5	£18 18 7	£464,014 19 1
Witbank Undertaking	...	...	...	591 16 11	557,193 6 2	208,086 9 9	—	10,922 7 1	2,396 0 9	98 15 2	—	779,591 16 1
Cape Town Undertaking	...	...	...	75,112 11 11	35,938 15 9	220,697 11 11	—	2,570 18 6	1,103 5 8	2,172 9 11	21 1 1	337,916 18 0
Durban Undertaking	...	...	...	32,871 13 2	217,044 5 10	73,150 9 11	—	782 9 10	9,717 13 10	482 14 10	3 0 1	334,055 7 9
Sabie Undertaking	...	...	...	—	38,014 10 5	12,186 12 7	—	—	—	—	—	50,501 3 0
Klip Generating Station Undertaking	...	...	...	—	—	—	£221,171 3 5	88,260 7 8	51,883 14 7	13,706 8 2	—	375,021 13 10
Rand Extension Undertaking	...	...	...	—	—	—	22,219 2 0	3,956 11 3	8,487 5 1	3,436 12 0	103 15 5	38,203 5 9
Head Office	...	...	...	—	1,613 18 10	8,434 11 5	—	16,851 16 7	—	19 4 3	—	26,919 14 1
				£108,939 5 10	£868,134 17 8	£957,161 11 8	£243,390 5 5	£132,241 6 1	£76,067 0 3	£20,143 11 9	£146 18 8	£2,406,224 17 7
„ Amounts Contributed during the Year out of Revenue—												
Natal Central Undertaking	...	...	...	£75 13 2	£3,398 19 9	£75,108 0 0	—	£1,765 10 4	£1,490 17 10	£1,718 19 5	£704 5 9	£87,262 6 3
Witbank Undertaking	...	...	...	178 8 1	37,786 7 8	17,867 17 8	—	4,622 12 9	2,563 0 1	869 10 8	576 8 11	64,464 6 1
Cape Town Undertaking	...	...	...	11,196 6 2	6,172 2 9	37,123 6 6	—	1,159 6 2	1,450 16 5	6,251 7 11	502 9 6	64,155 15 5
Durban Undertaking	...	...	...	4,576 6 7	19,801 7 8	7,851 12 1	—	141 10 8	7,876 5 4	1,610 5 4	269 0 1	42,426 8 0
Sabie Undertaking	...	...	...	—	2,618 18 7	873 5 7	—	—	—	—	—	3,492 4 2
Klip Generating Station Undertaking	...	...	...	—	—	—	£57,501 13 5	25,518 13 3	27,590 19 6	28,454 6 1	3,037 6 3	142,105 18 6
Rand Extension Undertaking	...	...	...	—	—	—	5,517 7 3	1,649 18 10	8,373 6 8	3,290 15 1	Dr. 46 5 0	18,815 2 10
Head Office	...	...	...	—	186 0 8	2,761 14 5	—	5,923 19 4	—	101 9 9	27 0 3	9,000 13 5
				£16,026 11 3	£70,261 5 1	£111,585 16 3	£63,052 0 8	£44,081 11 4	£49,345 5 10	£42,296 14 3	£5,070 6 0	£431,722 14 8
„ Net Proceeds of Sales of Fixed Property—												
Natal Central Undertaking	...	...	...	—	—	£91 7 5	—	—	—	—	—	£91 7 5
Witbank Undertaking	...	...	...	—	£211 15 1	—	—	—	—	—	—	211 16 4
Cape Town Undertaking	...	...	...	—	27 17 0	994 11 5	—	—	—	—	—	1,022 8 5
				—	£239 13 1	£1,085 18 10	—	—	—	—	—	£1,325 12 2
„ Net Interest Earned on Investments, after Deducting Amounts Appropriated in Reduction of Premiums on Investments Purchased—												
Natal Central Undertaking	...	...	...	£12 10 0	£733 11 1	£16,335 17 11	—	£351 10 6	£74 7 7	£28 15 11	£2 8 1	£17,542 4 1
Witbank Undertaking	...	...	...	20 16 5	21,285 10 8	7,561 10 2	—	415 17 10	111 6 10	12 18 0	1 6 0	29,409 5 11
Cape Town Undertaking	...	...	...	2,628 18 10	1,135 9 8	8,285 15 10	—	99 2 11	59 16 2	121 15 11	1 2 8	12,632 2 0
Durban Undertaking	...	...	...	1,150 12 3	8,376 3 7	2,681 13 1	—	31 1 1	385 10 0	33 7 1	14 8	12,653 5 3
Sabie Undertaking	...	...	...	—	1,152 19 0	450 17 9	—	—	—	—	—	1,903 16 9
Klip Generating Station Undertaking	...	...	...	—	—	—	£8,185 7 1	3,490 1 5	1,676 11 0	687 11 4	4 12 1	11,044 9 5
Rand Extension Undertaking	...	...	...	—	—	—	819 0 2	150 0 5	412 10 11	87 15 5	1 9	1,469 8 6
Head Office	...	...	...	—	63 0 2	336 5 11	—	625 10 5	—	1 15 11	1 6	1,026 13 11
				£3,812 17 6	£33,316 17 2	£35,652 0 11	£9,004 7 6	£5,166 10 10	£2,720 5 6	£3 19 5	£10 7 0	£90,681 5 10
Grand Total				<b>£128,778 17 7</b>	<b>£971,979 14 3</b>	<b>£1,135,485 7 8</b>	<b>£315,446 13 7</b>	<b>£181,489 8 6</b>	<b>£128,132 11 7</b>	<b>£63,414 5 5</b>	<b>£5,227 11 8</b>	<b>£2,929,954 10 3</b>
<b>Dr.</b>												
To Balance as per Balance Sheet—												
Natal Central Undertaking	...	...	...	£445 7 0	£22,462 14 6	£525,840 18 5	—	£14,016 16 0	£3,144 5 9	£1,975 2 9	£725 12 5	£568,910 16 10
Witbank Undertaking	...	...	...	791 1 8	616,177 6 10	233,515 17 7	—	15,960 17 11	5,370 7 8	981 3 10	577 14 11	873,677 4 5
Cape Town Undertaking	...	...	...	88,937 16 11	43,874 5 2	267,101 5 8	—	3,829 7 7	2,913 18 3	8,545 13 9	524 16 6	415,727 3 10
Durban Undertaking	...	...	...	38,601 12 0	245,215 17 1	83,683 15 1	—	1,255 4 10	17,579 9 2	2,126 7 3	272 15 4	389,135 1 0
Sabie Undertaking	...	...	...	—	42,086 8 0	13,810 15 11	—	—	—	—	—	55,897 3 11
Klip Generating Station Undertaking	...	...	...	—	—	—	£286,861 1 2	117,269 5 4	81,151 8 1	42,848 5 7	3,041 18 7	531,172 1 9
Rand Extension Undertaking	...	...	...	—	—	—	28,585 9 5	5,756 10 6	17,273 2 8	6,815 2 4	57 12 2	58,487 17 1
Head Office	...	...	...	—	1,863 8 8	11,532 11 9	—	23,401 6 4	—	122 9 11	27 1 9	36,947 1 5
				<b>£128,778 17 7</b>	<b>£971,979 14 3</b>	<b>£1,135,485 7 8</b>	<b>£315,446 13 7</b>	<b>£181,489 8 6</b>	<b>£128,132 11 7</b>	<b>£63,414 5 5</b>	<b>£5,227 11 8</b>	<b>£2,929,954 10 3</b>

We hereby certify that we are satisfied, both as to the correctness of the Accounts and Books of the Redemption Fund and as to the Maintenance of the Fund at the amount required by the Schedule to the Electricity Act, 1922, subject to the remarks contained in our report dated 27th May, 1941.

J. VAN NIEKERK, Chief Accountant

Johannesburg,  
23rd April, 1941.

ALEX. AIKEN & CARTER,  
B. HALSEY, Auditors.

Electricity Supply

Dr.

Reserve Fund Account for the

To Expenditure during the Year on Replacements and Betterment ... ..					£124,007 19 0
Natal Central Undertaking	...	...	...	£87,796 11 8	
Witbank Undertaking	...	...	...	17,979 9 9	
Cape Town Undertaking	...	...	...	3,574 14 6	
Durban Undertaking	...	...	...	10,255 3 0	
Klip Generating Station Undertaking	...	...	...	4,294 7 5	
Rand Extension Undertaking	...	...	...	107 12 8	
,, Balance as per Balance Sheet ... ..					1,515,523 1 11
Natal Central Undertaking	...	...	...	527,630 17 2	
Witbank Undertaking	...	...	...	285,612 4 3	
Cape Town Undertaking	...	...	...	293,255 15 11	
Durban Undertaking	...	...	...	170,032 16 0	
Sabie Undertaking	...	...	...	11,882 12 6	
Klip Generating Station Undertaking	...	...	...	204,990 17 5	
Rand Extension Undertaking	...	...	...	22,117 18 8	
					£1,639,531 0 11

Johannesburg,  
23rd April, 1941.

Commission.

Year ended 31st December, 1940.

Cr.

By Balance at 31st December, 1939, brought forward ...					£1,389,351 8 4
Natal Central Undertaking	...	...	...	£543,028 9 0	
Witbank Undertaking	...	...	...	252,725 13 10	
Cape Town Undertaking	...	...	...	269,506 12 7	
Durban Undertaking	...	...	...	151,755 19 3	
Sabie Undertaking	...	...	...	10,846 13 8	
Klip Generating Station Undertaking	...	...	...	147,267 14 2	
Rand Extension Undertaking	...	...	...	14,220 5 10	
,, Amounts set aside during the Year as per Revenue Accounts ... ..					194,778 12 4
Natal Central Undertaking	...	...	...	52,000 0 0	
Witbank Undertaking	...	...	...	40,500 0 0	
Cape Town Undertaking	...	...	...	16,500 0 0	
Durban Undertaking	...	...	...	22,500 0 0	
Sabie Undertaking	...	...	...	600 0 0	
Klip Generating Station Undertaking	...	...	...	55,350 2 9	
Rand Extension Undertaking	...	...	...	7,328 9 7	
,, Interest Earned on Investments ... ..					55,401 0 3
Interest earned	...	...	...	58,561 4 6	
Less—Premium on Investments written off	...	...	...	3,160 4 3	
					£1,639,531 0 11

J. VAN NIEKERK, Chief Accountant.

## Electricity Supply

NATAL CENTRAL

## Dr. Revenue Account for the Year

<b>Generation of Electricity.</b>						
To Operation—	Fuel ... ..	£124,786	2	0		
	Water, Oil, Waste and Stores ... ..	1,505	10	11		
	Salaries and Wages ... ..	20,906	10	8		
	Other Expenses ... ..	39	0	8		
,, Maintenance—	Stores ... ..	6,748	3	2		
	Salaries and Wages ... ..	13,484	5	11		
	Other Expenses ... ..	1,341	17	4		
,, Electricity Purchased	... ..				£168,811	10 8
,, Electricity Interchanged	... ..				301	15 0
					677	9 7
<b>Distribution of Electricity.</b>						
,, Operation and Maintenance—						
	Stores ... ..	7,001	0	1		
	Salaries and Wages ... ..	20,750	15	0		
	Other Expenses ... ..	6,731	4	6		
					34,482	19 7
<b>General Expenses.</b>						
,, Local Administration and Technical Management ...		10,176	11	8		
,, General Expenses (including Maintenance of Quarters, Stores Expenses, Rates, Insurance, Pension Fund Contributions, Payment to Durban Undertaking under Agreement, etc.) ... ..		17,527	0	4		
,, Head Office Administration and General Expenses, in- cluding Publicity ... ..		9,710	16	2		
,, Engineering Expenses ... ..		4,668	0	5		
					42,082	8 7
,, Deferred Payment Scheme, including Propaganda and Showroom Expenses ... ..					415	14 11
					246,771	18 4
,, Interest ... ..					155,504	7 3
,, Redemption Fund ... ..					87,262	6 3
,, Instalments paid on Volksrust Municipality Loan ...					1,222	5 3
,, Amount set aside to Reserve Fund ... ..					52,000	0 0
,, Balance carried down ... ..					2,619	12 3
					£545,380	9 4
To Balance as per Balance Sheet	... ..				£33,441	12 11
					£33,441	12 11

J. VAN NIEKERK, Chief Accountant.

Johannesburg,  
23rd April, 1941.

Commission.

## UNDERTAKING.

ended 31st December, 1940. Cr.

[illegible]

Referred to in our Report of 27th May, 1941.

ALEX. AIKEN & CARTER, }  
B. HALSEY, } Auditors.





Electricity Supply

CAPE TOWN

Dr.

Revenue Account for the Year

Generation of Electricity.				
To Proportion of Pooled Costs ...	...	...	...	£200,832 12 8
(As per attached Statement)				
„ Other Operation and Maintenance Costs ...	...	...	...	2,365 19 3
				£203,198 11 11
Distribution of Electricity.				
„ Operation and Maintenance—				
Stores ...	...	...	...	2,440 2 7
Salaries and Wages ...	...	...	...	16,461 8 10
Other Expenses ...	...	...	...	4,108 18 2
				23,010 9 7
General Expenses.				
„ Local Administration and Technical Management ...	...	...	...	12,858 2 1
„ General Expenses (including Maintenance of Quarters, Stores Expenses, Rates, Insurance, Pension Fund Contributions, etc.) ...	...	...	...	12,041 15 2
„ Head Office Administration and General Expenses, including Publicity ...	...	...	...	6,936 5 9
„ Engineering Expenses ...	...	...	...	3,334 6 1
				35,170 9 1
Less—Charged to Pooled Costs ...	...	...	...	3,694 10 8
				31,475 18 5
„ Deferred Payment Scheme, including Propaganda and Showroom Expenses ...	...	...	...	3,639 1 2
				261,324 1 1
„ Interest ...	...	...	...	102,269 7 8
„ Redemption Fund ...	...	...	...	64,155 15 5
„ Instalments on Caledon Municipality Loan ...	...	...	...	559 0 9
„ Amount set aside to Reserve Fund ...	...	...	...	16,500 0 0
				183,484 3 10
Less—Charged to Pooled Costs ...	...	...	...	60,438 15 5
				123,045 8 5
				£384,369 9 6
To Balance brought down ...	...	...	...	£3,529 3 9
„ Balance as per Balance Sheet ...	...	...	...	14,252 9 10
				£17,781 13 7

J. VAN NIEKERK, Chief Accountant.

Johannesburg,  
23rd April, 1941.

Account No. 5.

Commission.

UNDERTAKING.

ended 31st December, 1940.

Cr.

By Sales of Electricity—				
Traction Supplies ...	...	...	...	£160,797 3 5
Bulk Supplies ...	...	...	...	38,522 13 7
Industrial Supplies ...	...	...	...	109,099 8 11
Domestic and Lighting Supplies ...	...	...	...	67,043 3 11
				£375,462 9 10
„ Deferred Payment Scheme ...	...	...	...	4,582 0 7
„ Other Revenue ...	...	...	...	2,168 5 6
Less—Credited to Pooled Costs ...	...	...	...	1,372 10 2
				795 15 4
„ Balance carried down ...	...	...	...	3,529 3 9
				£384,369 9 6
By Balance at 31st December, 1939, brought forward ...				£4,797 3 5
„ Adjustment of interest charged to Pooled Costs for the period prior to 31st December, 1939, on loans raised by City of Cape Town ...				368 14 8
„ Reversal of provision made in 1938 for redemption charges for the period July to December, 1937, in respect of loans raised by City of Cape Town ...				12,615 15 6
				£17,781 13 7

Referred to in our Report of 27th May, 1941.

ALEX. AIKEN & CARTER, } Auditors.  
B. HALSEY,

Electricity Supply Commission

Dr. Statement of Pooled Costs for the Year ended

Pooled Generation of Electricity.						
To Operation and Maintenance—						
Fuel	...	...	...	...	£310,474	3 5
Water, Oil, Waste and Stores	...	...	...	...	12,361	17 5
Salaries, Wages and Other Expenses	...	...	...	...	69,134	6 1
					£391,970	6 11
„ General Expenses (including Stores Expenses, Rates, Insurance, Pension Fund Contributions, etc.)	...	...	...	...	13,159	5 3
„ Interest	...	...	...	...	104,663	7 7
„ Redemption Fund	...	...	...	...	105,292	19 1
„ Reserve Fund	...	...	...	...	2,831	2 3
					£617,917	1 1

Cape Town,  
23rd April, 1941.

and City of Cape Town.

31st December, 1940, and Allocation thereof. Cr.

By Allocation of Pooled Costs in terms of Agreement—						
Electricity Supply Commission	...	...	...	...	£200,832	12 8
City of Cape Town	...	...	...	...	414,531	10 4
					£615,364	3 0
„ Sundry Revenue	...	...	...	...	2,552	18 1
					£617,917	1 1

D. P. HOWELLS,  
for GEO. H. SWINGLER,  
Manager of the Pooled Stations.



## Electricity Supply

**SABIE**

Dr.

### Revenue Account for the Year

<b>Generation of Electricity.</b>					
To Operation—					
Water, Oil, Waste and Stores ... ..	£118	15	8		
Salaries and Wages ... ..	2,002	5	8		
Other Expenses ... ..	26	7	0		
„ Maintenance—					
Stores ... ..	322	15	9		
Salaries and Wages ... ..	292	19	8		
Other Expenses ... ..	102	0	0		
				£2,865	3 9
<b>Distribution of Electricity.</b>					
„ Operation and Maintenance—					
Stores ... ..	145	15	0		
Salaries and Wages ... ..	402	8	0		
Other Expenses ... ..	204	4	1		
				752	7 1
<b>General Expenses.</b>					
„ Local Administration and Technical Management ...	331	13	1		
„ General Expenses (including Maintenance of Quarters, Insurance, Pension Fund Contributions, etc.) ...	250	14	1		
„ Head Office Administration and General Expenses, including Publicity ... ..	832	7	1		
„ Engineering Expenses ... ..	400	2	4		
				1,814	16 7
				5,432	7 5
„ Interest ... ..	4,133	6	2		
„ Redemption Fund ... ..	3,492	4	2		
„ Amount set aside to Reserve Fund ... ..	600	0	0		
				£13,657	17 9
To Balance brought down ... ..				£178	7 0
„ Balance as per Balance Sheet ... ..				633	17 0
				£812	4 0

J. VAN NIEKERK, Chief Accountant.

Johannesburg,  
23rd April, 1941.

**Account No. 7.**

Commission.

UNDERTAKING.

ended 31st December, 1940.

Cr.

[illegible]

Referred to in our Report of 27th May, 1941.

ALEX. AIKEN & CARTER, }  
B. HALSEY, } Auditors.

Electricity Supply

KLIP GENERATING

Dr. Revenue Account for the Year

Generation of Electricity.									
To Operation—									
Fuel	...	...	...	...	...	...	£379,932	5	11
Water, Oil, Waste and Stores	...	...	...	...	...	...	7,513	10	10
Salaries and Wages	...	...	...	...	...	...	46,920	18	11
Other Expenses	...	...	...	...	...	...	5,913	19	11
,, Maintenance—									
Stores	...	...	...	...	...	...	12,997	0	11
Salaries and Wages	...	...	...	...	...	...	23,574	11	3
Other Expenses	...	...	...	...	...	...	5,990	1	1
							<hr/>		
							£482,842	8	10
General Expenses.									
,, Local Administration and Technical Management							10,052	5	9
,, General Expenses (including Maintenance of Quarters, Stores Expenses, Rates, Insurance, Pension Fund Contributions, etc.)							15,258	9	5
,, Administration, Engineering and General Expenses of Operating Party (The Victoria Falls and Transvaal Power Company, Limited)							16,871	6	7
,, Head Office Administration and General Expenses, including Publicity							6,284	13	5
,, Engineering Expenses							3,021	1	3
							<hr/>		
							51,487	16	5
							<hr/>		
							534,330	5	3
,, Interest							210,162	11	4
,, Redemption Fund							142,105	18	6
,, Provision for Repayment of Amounts Outstanding (Rand Water Board)							6,235	2	4
,, Amount set aside to Reserve Fund							55,350	2	9
							<hr/>		
							£948,184	0	2
							<hr/>		

J. VAN NIEKERK, Chief Accountant.

Johannesburg,  
23rd April, 1941.

Account No. 8.

Commission.

STATION UNDERTAKING.

ended 31st December, 1940. Cr.

By Sales of Electricity—									
Bulk Supplies	...	...	...	...	...	...	£943,883	7	6
.. Other Revenue	...	...	...	...	...	...	4,300	12	8
							£948,184		
							0		
							2		

Referred to in our Report of 27th May, 1941.

ALEX. AIKEN & CARTER. }  
B. HALSEY, } Auditors.

Electricity Supply

RAND EXTENSION

Dr. Revenue Account for the Year

To Insurance ... ..	£115 17 8	
„ Head Office Administration and General Expenses, including Publicity ... ..	649 15 9	
„ Engineering Expenses ... ..	312 7 1	
		£1,078 0 6
„ Interest ... ..		25,689 18 5
„ Redemption Fund ... ..		18,815 2 10
„ Amount set aside to Reserve Fund ... ..		7,328 9 7
		£52,911 11 4

J. VAN NIEKERK, Chief Accountant.

Johannesburg,  
23rd April, 1941.

Account No. 9.

Commission.

UNDERTAKING.

ended 31st December, 1940. Cr.

By Amount recovered from The Victoria Falls and Transvaal Power Company, Limited ... ..	£52,911 11 4
	£52,911 11 4

Referred to in our Report of 27th May, 1941.

ALEX. AIKEN & CARTER, }  
B. HALSEY, } Auditors.

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## ANNEXURE " B."

## Electricity Supply Commission.

## STATEMENT No. 1.

Summary of principal plant and equipment installed at the Commission's several Undertakings as at 31st December, 1940:—

## POWER STATIONS.

Caledon (Cape Town Undertaking)	...	...	Oil.
Colenso (Natal Central Undertaking)	...	...	Steam.
Congella (Durban Undertaking)	...	...	Steam.
Klip	...	...	Steam.
Margate (Durban Undertaking)	...	...	Oil.
Sabie	...	...	Hydro.
Salt River (Cape Town Undertaking)	...	...	Steam.
Scottburgh (Durban Undertaking)	...	...	Oil.
Umkomaas (Durban Undertaking)	...	...	Oil.
Volksrust (Natal Central Undertaking)	...	...	Oil.
Witbank	...	...	Steam.

## BOILER PLANT.

Power Station.	No. of Boilers.	Normal Rating of each Boiler. Lbs. of steam per hour.	Total Rating of all Boilers. Lbs. of steam per hour.	Pressure. Lbs. per square inch.
Colenso	... { 8 2	60,000 90,000	660,000	290
Congella	... { 6 4	60,000 100,000	760,000	{ 275 300
Klip	... 22	180,000	3,960,000	390
Salt River	... { 2 6	60,000 100,000	720,000	270 425
Witbank	... 20	70,000	1,400,000	225
<b>Totals</b>	... <b>70</b>		<b>7,500,000</b>	

## GENERATING PLANT.

Power Station.	No. of Generators.	Normal Rating of each Generator.		Rating of Generator House.		Voltage of Generation.	Rating of House Sets. Kilowatts.
		Kilo-watts.	Kilovolt Amperes.	Kilo-watts.	Kilovolt Amperes.		
Caledon	... { 1 2	135 50	— —	235	—	500/250 D.C.	
Colenso	... 5	12,000	13,350	60,000	66,750	6,600 A.C.	
Congella	... { 2 3	6,000 12,000	7,500 15,000	98,000	122,500	6,600 A.C.	300
	... { 1	20,000	25,000			6,600 A.C.	
	... { 1	30,000	37,500			6,600 A.C.	
	... { 1	30,000	37,500			33,000 A.C.	
Klip ...	... 12	33,000	41,250	396,000	495,000	10,500 A.C.	28,000
Margate	... { 1	93	110	166	196	380/220 A.C.	
	... { 1	73	86				
Sabie ...	... 3	450	600	1,350	1,800	3,300 A.C.	
Salt River	... { 3	10,000	11,000	90,000	108,000	12,000 A.C.	300
	... { 3	20,000	25,000			33,000 A.C.	
Scottburgh	... 1	16	20	16	20	380/220 A.C.	
Umkomaas	... 2	32	38	64	76	380/220 A.C.	
Volkstrust	... 2	250	300	500	600	3,300 A.C.	
Witbank	... 5	20,000	23,500	100,000	117,500	6,600 A.C.	8,000
<b>Totals</b> ...	<b>48</b>			<b>746,331</b>	<b>912,442</b>		<b>36,300</b>

Total Station Capacity: 782,631 kilowatts.

## TRANSMISSION LINES AND CABLES.

Undertaking.	88,000 volts. Route Miles.	80,000 volts. Route Miles.	40,000 volts. Route Miles.	33,000 volts. Route Miles.	22,000, 21,000, 20,000 volts. Route Miles.	12,000, 11,000 volts. Route Miles.	6,600, 3,300, 2,200, 2,000 volts. Route Miles.	380/220 volts. Route Miles.	Total Route Miles.
Cape Town ...	—	—	—	220	—	76	126	147	569
Durban (South Coast)	—	—	—	58	—	26	27	45	156
Natal Central ...	546	—	—	33	33	126	164	70	972
Rand Extension ...	—	255	68	—	12	—	24	14	373
Sabie ...	—	—	—	—	7	—	—	1	8
Witbank ...	—	—	22	—	116	—	25	30	193
<b>Totals</b> ...	<b>546</b>	<b>255</b>	<b>90</b>	<b>311</b>	<b>168</b>	<b>228</b>	<b>366</b>	<b>307</b>	<b>2,271</b>

**STATIC TRANSFORMERS AT POWER STATIONS AND SUB-STATIONS.**

(Step-up and Step-down, including Spares.)

Undertaking.						Capacity. Kilovolt Amperes.
Cape Town ...	...	...	...	...	...	133,823
Durban ...	...	...	...	...	...	70,630
Klip ...	...	...	...	...	...	548,333
Natal Central ...	...	...	...	...	...	210,565
Rand Extension ...	...	...	...	...	...	138,800
Reef ...	...	...	...	...	...	64,370
Sabie ...	...	...	...	...	...	3,640
Witbank ...	...	...	...	...	...	183,136
<b>Total</b> ...	...	...	...	...	...	<b>1,353,297</b>

**CONVERTING SUB-STATIONS.**

Type.			Number of Sub-stations.	Number of Units.	Total Rating.
Motor Generators ...	...	...	13	23	46,000 kW.
Rotary Converters ...	...	...	7	14	28,000 kW.
Rectifiers ...	...	...	26	†41	*63,337 kW.
<b>Totals</b> ...	...	...	<b>46</b>	<b>78</b>	—

† Of these 23 are equipped for rectifying and inverting—the total inverted rating is 10,500 kW.

\* Forward rating.

# Electricity Supply Commission.

## STATEMENT No. 2.

Summary of principal plant and equipment in course of installation or on order as at 31st December, 1940:—

### BOILER PLANT.

Capacity in lbs. of steam per hour  
(normal rating).

Power Station.	Number of Boilers.		Each.	Total.		Pressure. lbs. sq. inch.
Colenso ...	2	...	90,000	...	<b>180,000</b>	290
Congella ...	3	...	200,000	...	<b>600,000</b>	625
Klip ...	2	...	180,000	...	<b>360,000</b>	390
Vaal ...	6	...	190,000	...	<b>1,154,000</b>	360
					<b>2,294,000</b>	

### GENERATING PLANT.

Power Station.	Number of Sets.		Capacity. Each.	Total Kilowatts.
Colenso ...	1	...	25,000 kW.	<b>25,000</b>
Congella ...	1	...	40,000 kW.	<b>40,000</b>
Port Shepstone ...	2	...	700 kW.	<b>1,400</b>
Vaal ...	5	...	33,000 kW.	<b>172,500</b>
	1	...	7,500 kW. (House Set)	
				<b>238,900</b>

### TRANSMISSION LINE AND CABLES.

	88,000 Volts.	33,000 Volts.	6,600 Volts.	Totals.
	Route Miles.	Route Miles.	Route Miles.	
Overhead Lines ...	25	14	2	41

### TRANSFORMERS.

(Step-up and Step-down.)

	Kilovolt-Amperes.
Total capacity in course of installation or on order ...	406,073

### CONVERTING SUB-STATIONS.

Type.	Number of Sub-stations.	Number of Sets.	Total Rating.
Mercury Arc Rectifiers ...	*8	10	20,668 kW. Forward

\* One of these is equipped for rectifying and inverting—the inverted rating is 500 kW.

Electricity Supply Commission.

STATEMENT SHOWING THE PRICE OR RENT OF LAND OR RIGHTS OR INTERESTS IN OR OVER LAND OR OTHER PROPERTY ACQUIRED OR HIRED BY THE COMMISSION DURING THE YEAR 1940.

(See previous Annual Reports for Rights or Interests in or over Land Acquired prior to 1940.)

Area.			Farm or Lot.	District.	Title.	Purchase Price or Rental.	Acquired From.	Purpose for which Required.
Acres.	Roods.	Perches.						

NATAL CENTRAL UNDERTAKING.

				Water Rights (Tugela River)			Water Court No. 16, Pietermaritzburg	Colenso Power Station
			Rietpoort No. 34	Volksrust	Servitude of Right-of-way in Perpetuity	£28 15 0	W. Gillespie	Power Conductors
			Droefheid-op-Noten No. 50	do.	do.	£11 5 0	J. W. Uys	do.
			Welgedacht No. 43	do.	do.	£47 5 0	G. S. Haveman	do.
			Oppermanskraal No. 56, Volksrust	do.	do.	£7 10 0	J. S. Sassenberg	do.
			Kleinfontein No. 1262	Klip County	do.	£22 5 0	D. J. Wessels	do.
			Smalkloof No. 20	Volksrust	do.	£17 10 0	G. A. van Deventer	do.
			Dassiesklip No. 20	do.	do.	£14 10 0	P. J. Coetzee	do.
			Platberg No. 1241	Klip County	do.	£14 5 0	E. R. Blignaut	do.
			Townlands	Volksrust	do.	£16 0 0	Volksrust Municipality	do.
			Rietpoort No. 341	do.	do.	£28 15 0	H. W. H. Niebuhr	do.
			Smalkloof No. 20	do.	do.	£17 10 0	S. M. de Haas	do.
			Schaapkraal No. 363	Wakkerstroom	do.	£25 0 0	C. J. F. van der Merwe	do.
			Smalkloof No. 20	Volksrust	do.	£41 0 0	H. S. J. Martins	do.
			do.	do.	do.	£29 5 0	R. Groenink	do.
			Dassiesklip No. 26 and Tweefontein No. 44	do.	do.	£16 10 0	P. H. Uys	do.
			Welgedacht No. 43	do.	do.	£9 10 0	Estate of the late Elsie Ballot	do.
			Bergvliet No. 363	Wakkerstroom	do.	£14 5 0	Corbett Brothers	do.
			Dassiesklip No. 26	Volksrust	do.	£8 15 0	Government of the Union of South Africa and J. F. Jooste	do.
			Welgedacht No. 43	do.	do.	£23 15 0	G. T. R. Viljoen	do.
			Dassiesklip No. 26	do.	do.	£5 10 0	P. J. and E. J. L. Labuschagne	do.
			Tweefontein No. 44	do.	do.	£5 15 0	M. M. Leonard	do.
			Schulpspruit No. 149	Wakkerstroom	do.	£27 5 0	B. Reinhold & Company	do.
			Smalkloof No. 20	Volksrust	do.	£31 0 0	H. B. Smalberger	do.
			Tweefontein No. 44	do.	do.	£21 15 0	H. M. Wessels	do.
			Schulpspruit No. 149	Wakkerstroom	do.	£21 0 0	S. S. Groenewald	do.
			Tweefontein No. 44	Volksrust	do.	£6 15 0	M. Berman	do.
			Town and Townlands of Amersfoort No. 16	Wakkerstroom	do.	£8 0 0	Amersfoort Village Council	do.
			Schaapkraal No. 363	do.	do.	£10 10 0	Government of the Union of South Africa and J. A. J. Klopper	do.
			Schulpspruit No. 149	do.	do.	£12 10 0	Government of the Union of South Africa and J. A. Botha	do.
			Doone No. 5566	Klip River	do.	£7 10 0	H. B. Cawood	do.
			Tweefontein No. 44	Volksrust	do.	£8 5 0	J. N. Swart	do.
			do.	do.	do.	£8 5 0	J. van Rooyen	do.

DURBAN UNDERTAKING.

1	32	Sub Y of C of Lot R of Richmond No. 999	Durban	Purchase	£150 0 0	R. A. Groom	Sub-station Site
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CAPE TOWN UNDERTAKING.

		Lots 4 and 6	Cape	Servitude of Right-of-way in Perpetuity	£17 14 9	R. A. Harris	Power Conductors
		Lot LL and Lot C of Weltevreden	do.	do.	£8 7 0	J. F. W. Dempers	do.
		Langefontein	do.	do.	£10 0 0	H. Dempers	do.
		Duinefontein Duinedal and Lot Oldeslow	do.	do.	£39 0 0	H. J. S. Durr	do.
		Bloemendaalsfontein	Malmesbury	do.	--	D. H. Blanckenberg	do.
		De Hoop	do.	do.	—	L. P. J. Basson	do.
		Lot LL	Cape	do.	£9 16 0	A. C. Dempers	do.

WITBANK UNDERTAKING.

		Oogiesfontein No. 65	Witbank	Servitude of Right-of-way	£100 0 0	B. J. Prinsloo	Power Conductors
		Blaauwkrans No. 62	do.	Servitude of Right-of-way in Perpetuity	£5 0 0	N. W. Scott	do.
		Weltevreden No. 63	do.	do.	—	J. N. Boshoff and J. M. E. Doyer	do.
		do.	do.	do.	—	J. C. Bekker and J. M. E. Doyer	do.
		Klipfontein No. 60	do.	do.	£2 14 9 per annum	H. J. de Wet	do.
45	120	Stand No. 13 Roodepoort Township	Roodepoort	Purchase	£300 0 0	Town Council of Roodepoort-Maraiburg	Sub-station Site

RAND EXTENSIONS UNDERTAKING.

		Blesbokfontein No. 60	Vereeniging	Servitude of Right-of-way in Perpetuity	£4 11 0 per annum	J. D. van Aswegen	Power Conductors
		Elandslaagte No. 67	Klerksdorp	do.	£4 15 6 per annum	H. J. Badenhorst	do.
		Orkney No. 115	do.	do.	—	Western Reefs Exploration and Development Co., Ltd.	do.
		Hartebeestpoort No. 97	Potchefstroom	do.	£1 5 0 per annum	A. B. K. Loubser	do.
		Nooitgedacht No. 53	Klerksdorp	do.	£10 0 0 per annum	J. F. Pieterse	do.
		Bronkhorstfontein No. 30	Potchefstroom	do.	£2 2 6 per annum	M. P. C. Malan	do.

Area.			Farm or Lot.	District.	Title.	Purchase Price or Rental.	Acquired From.	Purpose for which Required.
Morgen	Square Roods	Feet						
RAND EXTENSIONS UNDERTAKING—(continued).								
			Vriscgewaagd No. 92	Potchefstroom	Servitude of Right-of-way in Perpetuity	£4 11 0 per annum	F. J. Pretorius	Power Conductors
			Roopoortje No. 19	do.	do.	£0 15 0 per annum	Government of the Union of South Africa and S. J. Turner	do.
			Witkop No. 402	do.	do.	£6 18 0 per annum	J. A. le Roux	do.
			Vlakfontein No. 161 and Taaiboschdraal No. 141	Vredefort	do.	£5 13 0 per annum	A. J. van Wyk	do.
			Vlakfontein No. 161	do.	do.	£3 10 0 per annum	F. B. van K. Crots and M. V. van L. Pienaar	do.
			Roodepoort No. 18	Roodepoort	do.	—	Anglovaal Brick and Tile Co., Ltd.	do.
			Rietfontein No. 63 Poortje No. 6 and Wegevonden No. 9	Vereeniging	do.	£5 7 3 per annum	Estate of the late D. C. McLean	do.
			Zwartkoppies No. 43	do.	do.	—	Premier Paper Mills (Pty.), Ltd.	do.
			Libanon No. 28	Krugersdorp	do.	£5 0 0	Western Areas, Ltd.	do.
			Bergvale No. 1	Germiston	do.	£38 1 6	University of the Witwatersrand	do.
			Town and Townlands No. 135	Potchefstroom	do.	—	Government of the Union of South Africa	do.
			Wildebeestpan No. 40	Klerksdorp	do.	£5 0 0	A. Matsose	do.
			Driefontein No. 319 and Proceederfontein No. 100	Vredefort	do.	£8 16 6 per annum	W. Frost	do.
			Wonderboom No. 216	Potchefstroom	do.	£2 1 6 per annum	F. J. Potgieter	do.
			Roopoortje No. 19	do.	do.	£5 5 0	S. P. J. van Vuuren	do.
			Vlakfontein No. 161	Vredefort	do.	£8 15 0 per annum	N. J. G. and J. N. van der Westhuizen	do.
			Wildebeestpan No. 40	Klerksdorp	do.	£15 0 0	L. M. Makgole and others	do.
			Roopoortje No. 19	Potchefstroom	do.	£15 0 0	S. P. J. van Vuuren, M. P. Bezuidenhout, and J. P. L. van Deventer	do.
			Palmietfontein No. 29	Klerksdorp	do.	£7 6 0 per annum	Government of the Union of South Africa and L. J. P. J. Rautenbach	do.
			Wolverand No. 55	do.	do.	£10 8 0	G. S. J. van Rensburg	do.
			Syferfontein No. 154	Potchefstroom	do.	£126 3 0	M. A. E. Prinsloo and M. Adelaar	do.
			Vriscgewaagd No. 92	do.	do.	£2 0 0 per annum	T. F. J. Steyn	do.
			Driefontein No. 3 and Zandfontein No. 1	Johannesburg	do.	£100 0 0	P. Arnold	do.
			Klipfontein No. 19	Germiston	do.	—	African Explosives and Industries, Ltd.	do.
			Zandfontein No. 1	Johannesburg	do.	£1 0 0 per annum	M. J. Esterhuysen	do.
			Roodepoort No. 18	Roodepoort	do.	£5 0 0	M. Geddes	do.
			Rietfontein No. 54	Potchefstroom	do.	£7 1 0 per annum	Estate of the late P. J. Grobler and others	do.
			Wildebeestpan No. 40	Klerksdorp.	do.	£15 18 0	P. Seboko, T. A. T. Motseumyane and L. M. K. Thebes	do.
			Lauterwater No. 77 and Spes Bona No. 860	Vredefort	do.	£3 19 0 per annum	H. M. du Plessis	do.
			Roopoortje No. 19	Potchefstroom	do.	£13 1 0 per annum	G. J. du Toit	do.
			Welgelegen No. 181	Vredefort	do.	£9 8 0 per annum	A. B. McFarlane	do.
			Lauterwater No. 77	do.	do.	£3 1 0 per annum	C. C. Dannhauser	do.
			Witkop No. 51	Potchefstroom	do.	£13 6 3	H. W. G. le Roux	do.
			do.	do.	do.	£8 6 0 per annum	P. C. Ackermann	do.
			do.	do.	do.	£2 13 0 per annum	P. M. du Plessis	do.
			Rietfontein No. 123	Vredefort	do.	£1 15 0 per annum	D. J. van Niekerk	do.
			Jachtfontein No. 99	Vereeniging	do.	£30 0 0	J. J. F. Bloem and others	do.
			do.	do.	do.	£1 6 0 per annum	G. J. van Eeden	do.
			do.	do.	do.	£4 8 0 per annum	C. J. Geldenhuys and others	do.
			Roodepoort No. 18	Roodepoort	do.	£7 4 0 per annum	A. M. Ferguson	do.
			do.	do.	do.	£6 0 0 per annum	Government of the Union of South Africa and L. A. Read	do.
			do.	do.	do.	£4 6 0 per annum	S.A. Clay Industries (Pty.) Ltd.	do.
			Tulipvale No. 13 and Poortje No. 123	Heidelberg	do.	—	East Rand Consolidated, Ltd.	do.
			Maraisdrift No. 4	do.	do.	—	Rhodesian Corporation, Ltd.	do.
			Driefontein No. 105	Potchefstroom	do.	—	West Witwatersrand Areas, Ltd.	do.
			<del>Driefontein No. 18 and Blyvooruitzicht No. 71</del>	do.	do.	—	do.	do.
			Blyvooruitzicht No. 71	do.	do.	£8 12 0 per annum	H. E. Dommissie	do.
			Town and Townlands	Klerksdorp	do.	£40 11 0 per annum	Klerksdorp Town Council	do.
			Modderfontein No. 52	Potchefstroom	do.	£2 16 0 per annum	A. F. Visser	do.
			Waterval No. 47	Vereeniging	do.	£1 13 0 per annum	Premier Paper Mills (Pty.), Ltd.	do.
			Kookfontein No. 57	do.	do.	£500 0 0 per annum	Estate of the late Donald McKay	Power Conductors and Railways
			Maraisdrift No. 4 and Klippoortje No. 228	Heidelberg	do.	—	Rhodesian Corporation, Ltd.	Power Conductors
			Panvlakte No. 4 and Gembokfontein No. 1	Krugersdorp	do.	£9 16 10 per annum	The Randfontein Estates Gold Mining Co., Witwatersrand, Ltd.	do.
			Flint No. 100	Potchefstroom	do.	£4 7 0	I. Gardner	do.
			Scalene No. 86	do.	do.	—	N. J. Hurter	do.
			Hofffontein No. 55	Vereeniging	Servitude of Right-of-way for 99 years	£5 15 3 per annum	J. N. Brits	do.
			Patriotsfontein No. 20 and Hofffontein No. 55	do.	do.	£5 10 6 per annum	J. N. du Toit	do.
			Blyvooruitzicht No. 71	Potchefstroom	Surface Right Permit	—	Government of the Union of South Africa	do.
			Vlakfontein No. 21	Nigel	do.	—	Government of the Union of South Africa	do.
			Gemspost No. 134 and Gembokfontein No. 1	Krugersdorp	do.	—	Government of the Union of South Africa	do.

**STATEMENT No. 4.**

Units sold to all consumers during the past sixteen years.

Year.	Cape Town Under- taking.	Durban Under- taking.	Klip Under- taking.	Natal Cent. Under- taking.	Sabie Under- taking.	Witbank Under- taking.	Total.
1925 ... ..	—	—	—	—	75,943	—	<b>75,943</b>
1926 ... ..	280,242	—	—	719,666	651,458	160,031,213	<b>161,682,579</b>
1927 ... ..	5,811,836	—	—	104,206,235	1,938,940	439,061,722	<b>551,018,733</b>
1928 ... ..	31,038,697	15,563,460	—	114,213,037	2,829,888	464,267,213	<b>627,912,295</b>
1929 ... ..	47,945,690	78,873,576	—	123,911,774	3,176,173	543,091,138	<b>796,998,351</b>
1930 ... ..	49,772,016	99,228,000	—	117,075,484	4,585,060	618,951,364	<b>889,611,924</b>
1931 ... ..	52,109,958	103,899,765	—	101,131,880	6,585,553	603,359,113	<b>867,086,269</b>
1932 ... ..	64,268,873	109,808,223	—	100,292,933	6,080,010	610,285,123	<b>890,735,162</b>
1933 ... ..	100,685,629	118,538,312	—	109,186,538	6,349,651	639,368,114	<b>974,128,244</b>
1934 ... ..	73,583,974	131,104,182	—	124,898,129	7,329,679	648,245,530	<b>985,161,494</b>
1935 ... ..	80,020,511	149,874,024	—	154,278,600	7,181,282	727,888,529	<b>1,119,242,946</b>
1936 ... ..	85,840,383	170,493,987	556,997,155	171,476,131	6,863,253	696,376,199	<b>1,688,047,108</b>
1937 ... ..	94,038,449	189,412,691	1,349,853,464	210,632,827	7,166,684	684,516,633	<b>2,535,620,748</b>
1938 ... ..	98,801,619	209,495,780	1,666,852,594	234,948,157	7,240,167	768,114,272	<b>2,985,452,589</b>
1939 ... ..	106,451,848	233,677,491	2,193,206,661	266,238,056	6,380,657	767,741,727	<b>3,573,696,440</b>
1940 ... ..	119,770,941	242,741,129	2,566,536,197	281,121,807	6,669,552	853,317,743	<b>4,070,157,369</b>

NOTE.—The units sold at Cape Town do not include the units supplied to Cape Town Corporation under the Pooling Agreement.

**STATEMENT No. 5.**

Distribution of the units sold during 1940 as between the various classes of consumers:—

**UNITS SOLD, 1940.**

Undertaking.		Traction.	Bulk.	Industrial and Mining.	Domestic and Lighting.	Total.
Cape Town	...	56,627,823	15,006,894	37,415,120	10,721,104	119,770,941
Durban	... ..	—	227,415,577	13,513,249	1,812,303	242,741,129
Klip	... ..	—	2,566,536,197	—	—	2,566,536,197
Natal Central	...	228,644,533	39,392,680	10,465,491	2,619,103	281,121,807
Sabie	... ..	—	—	6,669,552	—	6,669,552
Witbank	... ..	109,725,049	617,102,884	124,896,782	1,593,028	853,317,743
Totals	...	394,997,405	3,465,454,232	192,960,194	16,745,538	4,070,157,369



**STATEMENT No. 6.**  
**Power Station Statistics—1940.**

Power Station.				Units Generated.		Maximum Half-hourly Demand. Kilowatts (Sent Out).	Load Factor on Units Sent Out. %
Caledon	...	...	...	371,408			
Colenso	...	...	...	314,087,750	...	52,440	64·6
Congella	...	...	...	261,224,150	...	66,066	41·5
Klip	...	...	...	2,730,125,927	...	364,320 (Hour)	80·2
Margate	...	...	...	41,871			
Sabie	...	...	...	7,057,100	...	1,200	66·2
Salt River	...	...	...	64,198,632	...	46,200	14·3*
Witbank	...	...	...	798,967,837	...	104,697 (Hour)	81·0
				<hr/>			
				4,176,074,675			
				<hr/>			

\*Calculated for 8,736 hours.

# STATEMENT No. 7.

Particulars of coal used at the Commission's Steam-raising Power Stations during 1940.

Power Station.	COAL CONSUMED.			B.T.U.'s.		Thermal Efficiency on Units Sent Out.
	Tons. (2,000 lbs.)	Per Unit Gener- ated. Lbs.	Per Unit Sent Out. Lbs.	Average per lb. of Coal.	Average per Unit Sent Out.	
Colenso ... ..	228,675	1·46	1·54	12,320	18,970	18·0%
Congella ... ..	176,006	1·34	1·46	12,240	17,870	19·1%
Klip ... ..	2,166,318	1·59	1·69	9,400	15,870	21·5%
Salt River ... ..	53,798	1·68	1·87	13,000	24,300	14·1%
Witbank ... ..	683,996	1·71	1·84	10,950	20,100	17·0%

3,308,793

Average Cost per Ton (2,000 lbs.).											
	1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.	1938.	1939.	1940.
Colenso ...	8/-	8/3	9/10	10/7	10/9	10/9	11/-	10/10	10/9	10/11	10/11
Congella ...	13/2	14/2	15/4	15/6	15/4	15/-	15/5	15/2	15/-	15/3	15/2
Klip ...	—	—	—	—	—	—	3/2	3/-	3/3	3/4	3/6
Salt River ...	23/5	23/4	24/11	25/4	25/6	25/4	25/4	24/8	25/1	25/6	25/7
Witbank ...	2/2	2/2	2/4	2/4	2/3	2/3	2/2	2/2	2/1	2/1	2/-

## ANNEXURE “ C.”

### STATISTICS RELATING TO THE PRODUCTION AND SUPPLY OF ELECTRICITY IN THE UNION OF SOUTH AFRICA.

Extracted from the 1938/1939 Industrial Census, and published by courtesy of the Department  
of Census and Statistics (Pretoria).

#### UNITS GENERATED.

Province.			Local Authorities.	Other Producers.
Cape ...	...	...	432,822,671	190,614,277
Natal ...	...	...	15,116,626	661,470,583
O.F.S. ...	...	...	37,240,690	31,806,524
Transvaal	...	...	462,099,458	4,743,120,687
Totals	...	...	947,279,445	5,627,012,071
			6,574,291,516	

#### CONSUMERS AND SALES.

	PROVINCE.				
	Cape.	Natal.	O.F.S.	Transvaal.	Totals.
Total Number of Consumers	126,727	51,546	13,275	133,889	325,437
Total Units Consumed ...	527,132,000	569,684,407	65,768,395	4,290,852,552	5,453,437,354
Number of Domestic Consumers	113,957	38,944	11,700	114,067	278,668
Units Sold to Domestic Consumers	248,479,753	111,713,368	11,096,656	255,029,039	626,318,816
Average Units Sold per Domestic Consumer	2,180	2,869	948	2,236	2,248

**STATISTICS RELATING TO THE PRODUCTION AND SUPPLY OF ELECTRICITY  
IN THE UNION OF SOUTH AFRICA—(Continued).**

**INSTALLED CAPACITY OF PLANTS.**

Capacity.	Number of Power Stations.	Total Installed Capacity—Kilowatts.
50,000 kilowatts and over ... ..	11	1,267,600
20,000 kilowatts and over and below 50,000 kilowatts	6	213,350
10,000 kilowatts and over and below 20,000 kilowatts	6	74,600
5,000 kilowatts and over and below 10,000 kilowatts	5	39,930
1,000 kilowatts and over and below 5,000 kilowatts	35	69,987
Below 1,000 kilowatts ... ..	243	57,349
	<u>306</u>	<u>1,722,816</u>

**SIZE AND TYPE OF GENERATING UNITS.**

Size of Sets.	Steam Turbines.	Steam Recip- rocating Engines.	Diesel Petrol, Paraffin, Light Oil Engines.	Gas Engines.	Water Wheels and Turbines.	Total Number of Sets.
(1) <b>A.C. Plants—</b>						
Below 250 kilowatts ... ..	2	83	268	8	22	383
250 kilowatts and over, but below 1,000 kilowatts ... ..	24	72	19	7	11	133
1,000 kilowatts and over, but below 5,000 kilowatts ... ..	72	—	—	—	—	72
5,000 kilowatts and over ... ..	86	—	—	—	—	86
(2) <b>D.C. Plants—</b>						
Below 250 kilowatts ... ..	1	47	160	12	—	220
250 kilowatts and over, but below 1,000 kilowatts ... ..	1	13	2	3	—	19
1,000 kilowatts and over, but below 5,000 kilowatts ... ..	2	—	—	—	—	2

**FUEL CONSUMED.**

Type of Fuel.	Quantity. (Tons=2,000 lbs.).	Cost.
Coal ... ..	5,764,275	£2,085,955
Other Fuel ... ..	—	£111,019

**STATISTICS RELATING TO THE PRODUCTION AND SUPPLY OF ELECTRICITY  
IN THE UNION OF SOUTH AFRICA—(Continued).**

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**COAL CONSUMPTION.**  
(Calorific Values Unknown.)

Average Coal Consumption per Unit Generated.	Number of Undertakings.
Under 2 lbs. ... ..	23
2 lbs. and over, but under 3 lbs. ... ..	16
3 lbs. and over, but under 4 lbs. ... ..	16
4 lbs. and over, but under 6 lbs. ... ..	21
6 lbs. and over, but under 8 lbs. ... ..	10
8 lbs. and over ... ..	28

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**TRANSMISSION AND DISTRIBUTION LINES—ROUTE MILES.**

System.	Overhead Lines.	Underground Cables.
D.C.—All voltage ... ..	527	257
A.C.—Below 2,000 volts ... ..	5,654	2,650
2,000 volts to 11,000 volts ... ..	1,573	3,129
Above 11,000 volts ... ..	2,633	315

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**TRANSFORMERS.**

Total installed capacity ... ..	6,878,959 K.V.A.
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Total value of land, buildings, machinery, plant and tools ... ..	£45,727,077
Total number of persons employed in the electricity industry (generation and distribution) ... ..	16,875
Total salaries and wages paid for the year ... ..	£2,525,314

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