

Electricity Supply Commission

FIFTEENTH
ANNUAL REPORT

of the

Electricity Supply Commission

for the

Year ended 31st December, 1937

with a

BRIEF REVIEW OF ITS ACTIVITIES

up to

31st March, 1938

NATURAL TRUST AND GOODWILL FOR THE WELFARE OF OUR COUNTRY AND



The Chairman (Dr. H. J. van der Bijl) introducing Gen. the Rt. Hon. J. C. Smuts, P.C., C.H., K.C., D.T.D. (on left), at the opening of Escom House, June, 1937. On the right is Councillor J. S. Fotheringham, Deputy-Mayor of Johannesburg.

MEMBERS OF THE
Electricity Supply Commission.

DR. HENDRIK JOHANNES VAN DER BIJL (Chairman).

ALBERT MICHAEL JACOBS.

ROBERT BURNS WATERSTON.

WILLIAM PLOWMAN MOYESE HENDERSON.

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Electricity Supply Commission.

Escom House,

Rizzik Street,

Johannesburg,

6th May, 1938.

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 Fifteenth Annual Report, covering its operations for the year ended 31st December, 1937, together with a brief review of its activities up to 31st March, 1938.

The demand for electricity, which has grown so vigorously since the end of the economic depression in 1933, and has necessitated an almost continuous programme of extensions to the Commission's power stations, was so great during 1937 that the sales from the Commission's generating stations were over 50 per cent. higher than the previous high record in 1936, and approximately 126 per cent. more than in 1935. Thus in two years the output from the Commission's Undertakings was more than doubled.

This result was achieved in spite of interruptions to supply caused by the worst weather conditions experienced in the history of the Commission at Durban and at Capetown, and by various mishaps to generating plant.

Notwithstanding the fact that the Klip Power Station, which will have an installed capacity of 424,000 kW., is only half completed, proposals for the construction of another large power station to meet the anticipated power requirements of the expanding gold mining industry are under consideration, but are not yet sufficiently far advanced to permit of details being given in this report.

FINANCIAL.

For the purpose of financing extensions to the Commission's Klip Generating Station, Rand Extension, Durban and other Undertakings, a further loan of £2,000,000 was raised in September, 1937, at £98 per cent., bearing interest at the rate of 3½ per cent. per annum, and redeemable on 30th June, 1957/67. The loan was fully subscribed within four days of the opening of the subscription lists.

The Commission's Loan Capital at the date of the Balance Sheet totalled £15,464,433. This amount was increased to £16,250,000 in February, 1938, when the remaining instalments for the above-mentioned loan were received. The whole of this Capital has been publicly subscribed in South Africa.

The amount in the Redemption Fund at 31st December, 1937, stood at £1,492,140, and the Reserve Fund at that date amounted to £1,096,031.

The book value of securities, representing investments in Government, Municipal and Electricity Supply Commission stocks, and debentures guaranteed by the Union Government, held by the Commission on behalf of the various Funds at 31st December, 1937, was £2,770,340, the nominal value being £2,791,303. The market value of these investments at that date was considerably higher than the book value.

Expenditure on Capital Account during the year amounted to £1,729,912, which brought the total capital expenditure at 31st December, 1937, up to £15,281,691.

Revenue, production costs, and other important figures relating to the operation of the Commission's Undertakings during the year 1937, and the comparative figures for 1936, are as follows:—

	1937.	1936.	Difference.
Total Revenue	£1,930,719	£1,548,420	+ 24·69%
Total Production Costs (including interest, redemption and reserve fund charges, but excluding a portion of Salt River Power Station costs paid by Capetown Corporation under the Pooling Agreement)	£1,909,918	£1,539,368	+ 24·07%
Excess of Revenue over Production Costs	£20,801	£9,052	+ £11,749
Average price per unit sold	0·180d.	0·217d.	- 17·05%

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Average Revenue per unit sold (including Sundry Revenue)	0·183d.	0·220d.	- 16·82%
Average cost per unit sold	0·181d.	0·219d.	- 17·35%
Total cost of coal consumed, including railage	£682,164	£513,636	+ 32·81%
Railage on coal consumed	£322,592	£279,425	+ 15·45%
Coal consumed (in tons of 2,000 lbs.) ...	2,263,064	1,561,266	+ 44·95%
Average cost of fuel per unit sold ...	0·065d.	0·066d.	- 0·001d.

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SALES OF ELECTRICITY.

Sales of electricity from all the Commission's Undertakings in 1937 totalled 2,535,620,748 units as compared with 1,688,047,108 in 1936, showing an increase of 50·21 per cent.

While the gold mining industry accounted for the largest increase in the consumption of power last year, substantial increases were recorded throughout the Commission's Undertakings to all classes of consumers, as reflected in the following table:—

Class of Supply.	1937.	1936.	Percentage Increase.
Bulk Supplies—			
*Mining, etc.	1,954,127,926	1,190,801,515	64·1
†Municipal	228,218,591	206,757,057	10·4
Direct Supplies for—			
Mining	36,644,566	31,932,815	14·8
Industrial	72,335,557	64,350,389	12·4
Domestic and Street Lighting	8,332,570	6,120,142	36·1
Traction	235,961,538	188,085,190	25·5
Totals	2,535,620,748	1,688,047,108	50·2

* The total consumption of electricity on the Reef by the gold mining and other industries and municipalities, etc., exceeded 3,900,000,000 units in 1937, and more than 50 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 is used for domestic and lighting purposes.

The development of the consumption of electric energy in the different categories of usage since 1926, when the Commission first commenced to supply, is summarised on page 9:—

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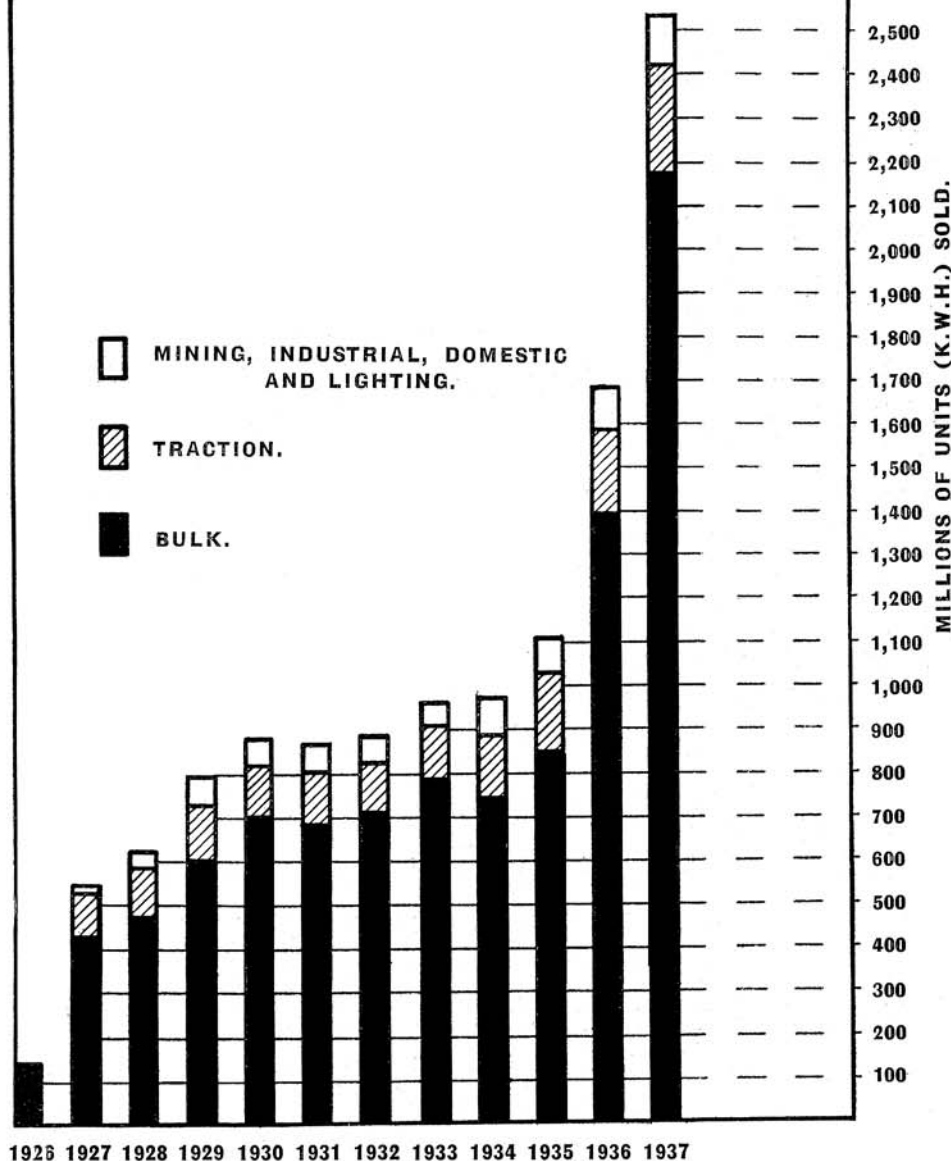
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Electricity Supply Commission

Diagram Showing Total Electricity Sales



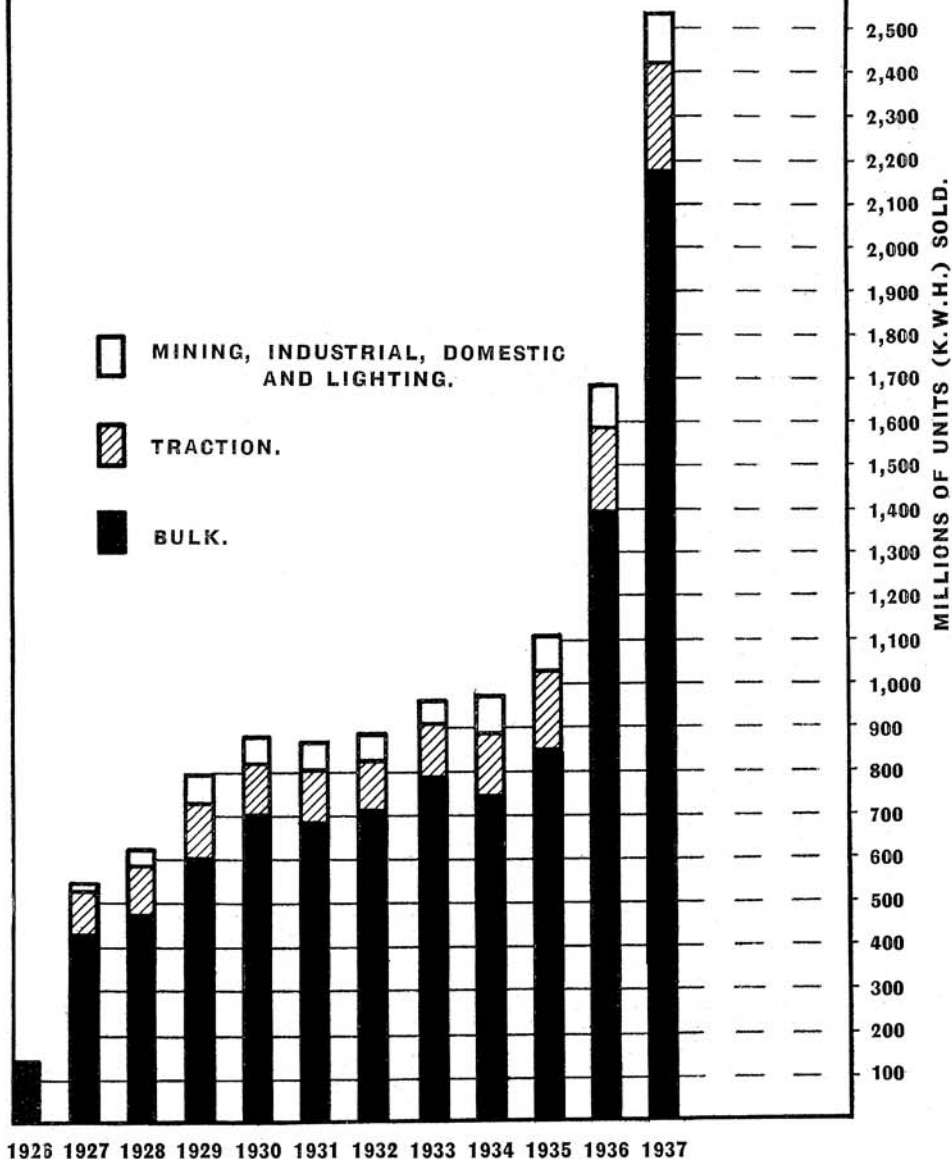
ENERGY CONSUMED (KILOWATT-HOURS).

Year.	BULK SUPPLIES.		DIRECT SUPPLIES.				Annual Total.	Percentage Increase over Previous Year.	
	Mining.	Municipal.	Mining.	Industrial.	Domestic and Lighting.	Traction.			
1926	...	159,532,156	755,882	636,649	743,083	Nil	Nil	161,667,770	—
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	20,733,367	36,792,584	1,008,582	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
*Per cent.		77·07	9·00	1·45	2·85	0·33	9·30	100·00	

* These percentages refer to 1937.

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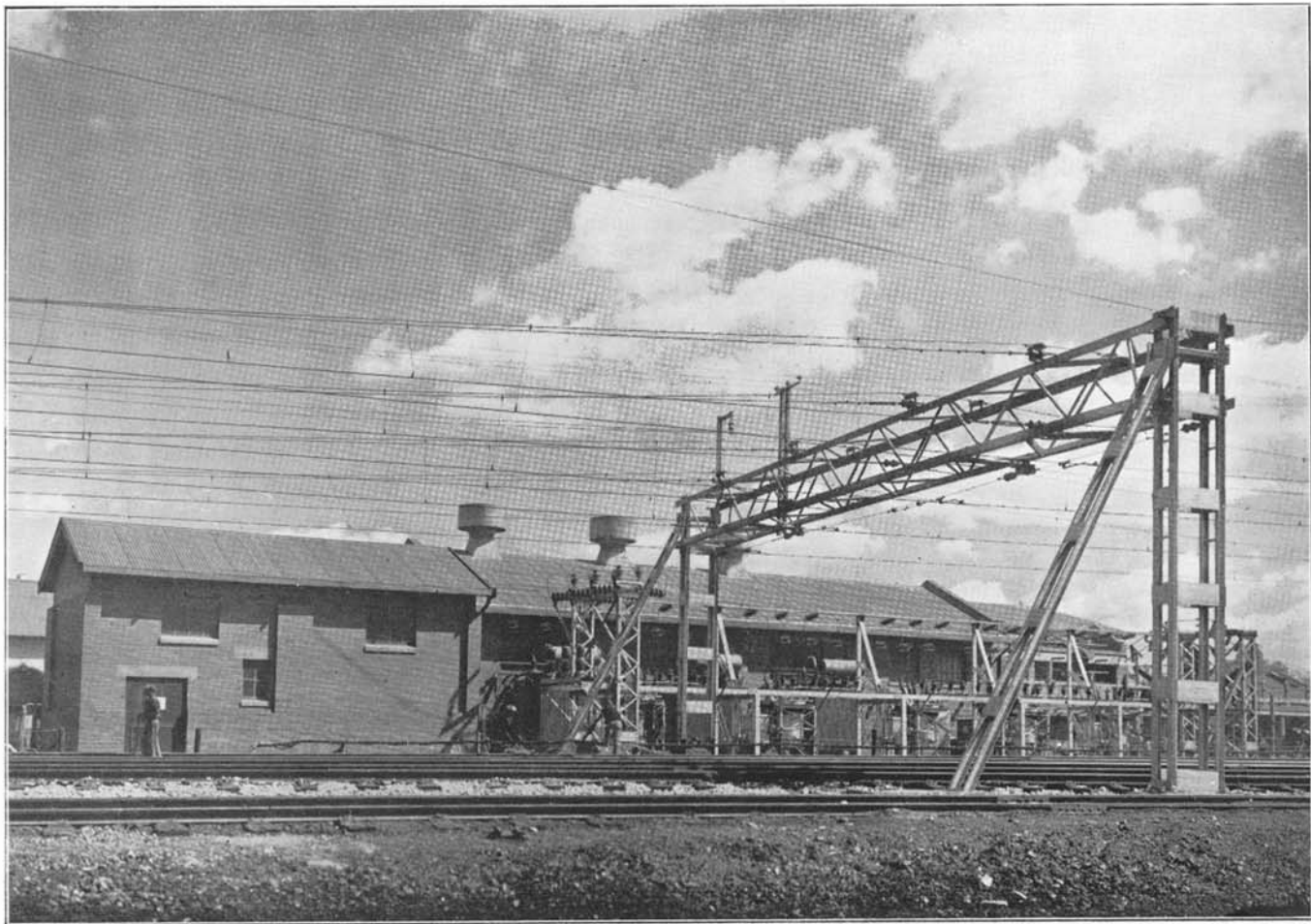
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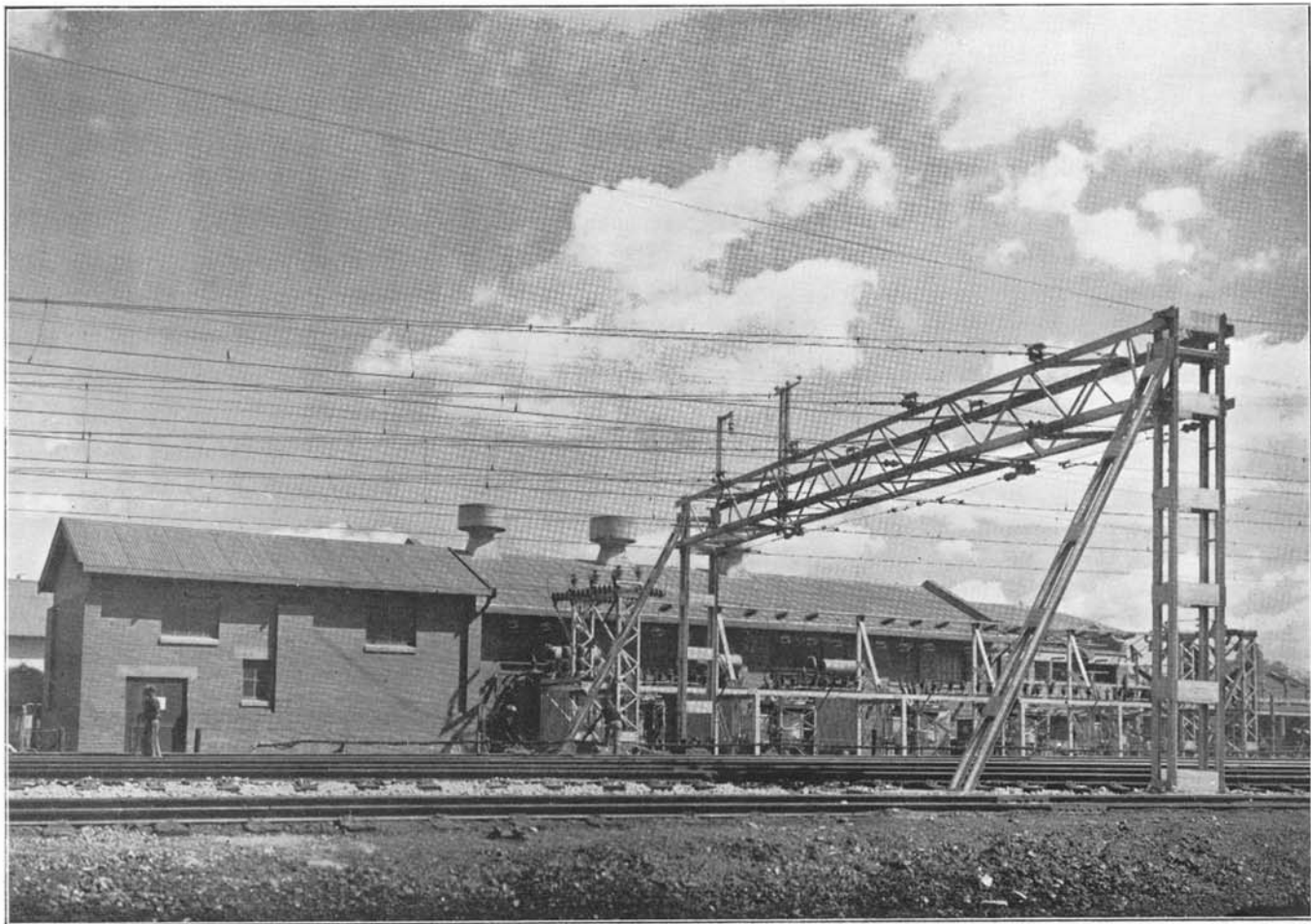
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* These percentages refer to 1937.



Reef Electrification: Braamfontein Mercury Arc Rectifier Traction Sub-station, also showing Overhead Track Structure.



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RAILWAY ELECTRIFICATION.

Natal. The electrification of the Glencoe-Volksrust section of the Natal Main Railway Line was completed and brought into service in October, 1937, and railway traffic is now being operated electrically right through from Port Natal to the Transvaal border town, a distance of 326·5 route miles.

Work was commenced last year on the conversion from steam to electric traction of the Durban Bluff Line from Booth to Wests (7 route miles), and it is expected that electric trains will soon be running over that section.

The South African Railways and Harbours Administration has also decided to electrify the suburban railway line from Rossburgh to Hillcrest (24 route miles).

The power for railway traction purposes throughout Natal and the Orange Free State, which in 1937 amounted to 174,831,231 units, is being supplied from the Commission's Colenso power station, Natal Central Undertaking.

Transvaal. The Reef railway electrification scheme from Randfontein to Springs has been completed and electric working was introduced progressively from March, 1937, the electric power being supplied from the joint system of the Commission and The Victoria Falls and Transvaal Power Company, Limited.

It is expected that the Germiston-Pretoria section will be operated electrically by the end of July, 1938. The electricity for this section will be taken partly from the Pretoria Municipal power station through the Commission's Mercury Arc Rectifier Substations at Pretoria and Pinedene, under an agreement between the Commission and the Municipality, and partly from the joint system of the Commission and The Victoria Falls and Transvaal Power Co., Ltd., through a substation at Birchleigh.

Cape. Electrification of the Pinelands-Langa section (2·5 route miles) of the Cape suburban railways, is under construction, and a rotary converter substation at Maitland is being provided by the Commission for the supply of electricity from its Salt River Power Station.

When the present programme has been completed the Union of South Africa will have a total of 1,110 track miles of electrified railway lines.

The cost per unit of electricity supplied for traction purposes has decreased progressively with the extension of railway electrification, the reductions being compatible with the increased consumption of power, and the benefits of railway electrification are thus being realised more fully.

An agreement has been entered into whereby the Commission's Mercury Arc Rectifier traction substations in Natal and the Orange Free State will be operated and maintained by the Railway Administration's Electrical Department, thus avoiding the duplication of staff.

Economies in other directions, particularly in the construction of transmission lines, have also been effected as a result of the close co-operation existing between the Commission and the Railway Administration's Electrical Department.

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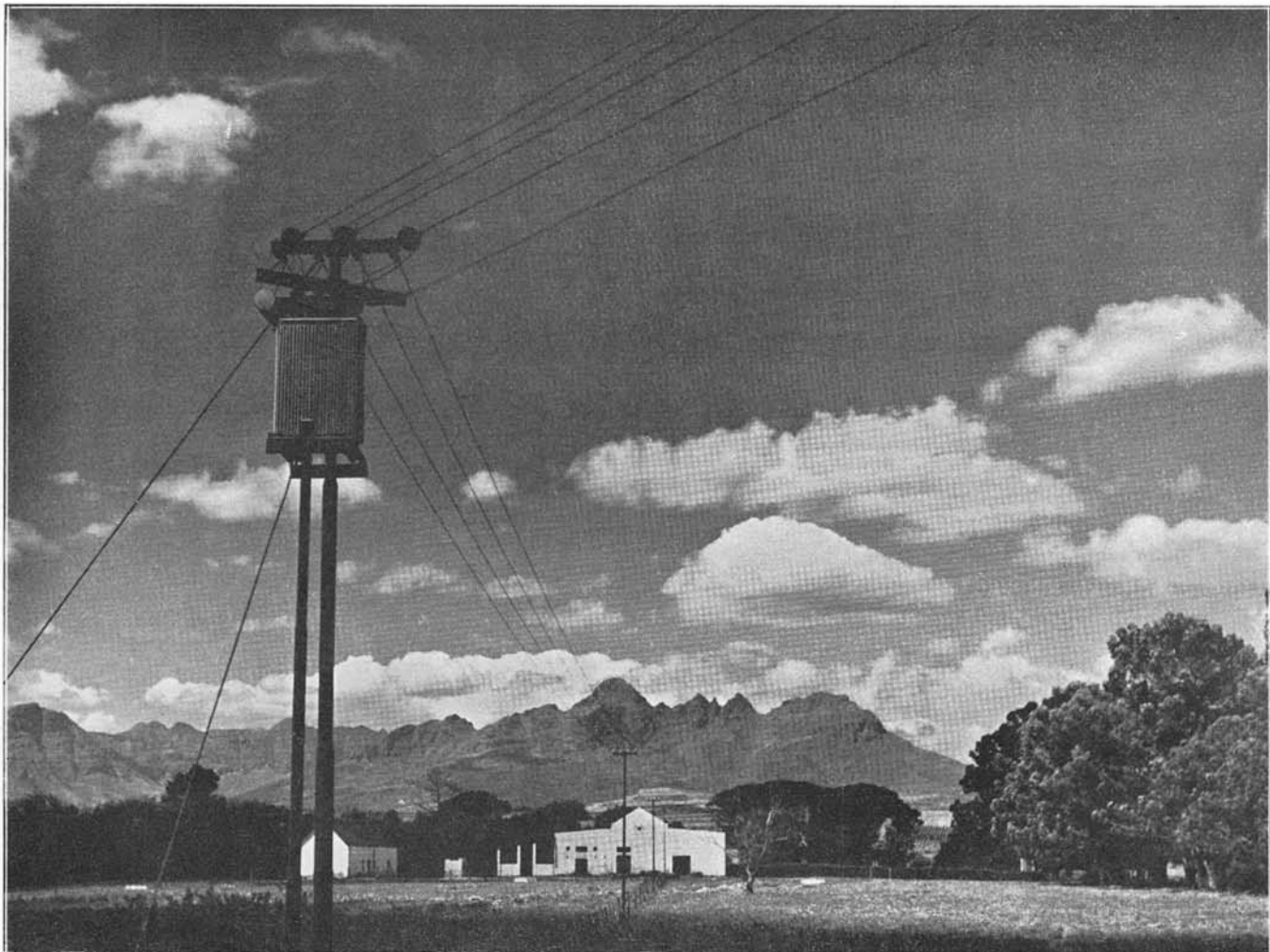
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Capetown Undertaking: Typical Farm Supply Line in the Western Province Fruit-growing District of the Cape, showing Pole-Type Transformer tapping a 6.6 k.v. Supply.



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RURAL ELECTRIFICATION.

The development of the supply of electricity to rural communities and farmers within economic reach of the Commission's power lines has been actively pursued.

During the period under review arrangements were completed for the supply of electricity to eleven townships and rural communities and six farms in Natal, and one village and thirty-nine farms in the Western Cape Province. The total number of towns and villages supplied by the Commission in the Union at 31st December, 1937, was seventy-five, and the number of farms supplied was 313.

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DOMESTIC DEVELOPMENT.

Supplies of electricity to domestic and lighting consumers are on a comparatively small scale due to the fact that most of the larger municipalities and local authorities in the Commission's areas of supply purchase electricity in bulk and themselves undertake house-to-house distribution. In recent years, however, there has been an increasing tendency on the part of the smaller towns to grant to the Commission the right to supply and distribute electricity in their areas of jurisdiction, or to sell their electricity undertakings to the Commission, with beneficial results to consumers. The total number of such direct supplies at 31st December, 1937, was 59, aggregating 5,703 consumers, and the average consumption per domestic consumer supplied direct by the Commission was 1,385 units last year, as compared with 1,168 units in 1936, an increase of 18·6 per cent.

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A section of the Permanent Exhibition of Domestic Electrical Appliances in the Hall of Achievement, Escom House.



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PROMOTIONAL WORK.

Escom Magazine, which is published monthly by the Commission, in the interests of domestic electricity consumers in South Africa, has, in less than two years, achieved a national circulation of approximately 20,000. This comparatively large number of subscribers has been obtained through the helpful co-operation of municipalities throughout the Union, not only in areas served by the Commission, but also in other areas.

Cooking demonstrations by the Commission's trained demonstrators were held during the year in a number of towns and villages in the Commission's areas of supply in Natal, Transvaal and the Western Cape Province, and were very well attended.

A permanent exhibition of approved domestic electrical appliances by leading manufacturers from various countries has been established in the Hall of Achievement, Escom House, Johannesburg. A trained staff is in attendance to demonstrate the appliances and furnish information to enquirers. Public appreciation of the facilities available at this exhibition may be judged by the fact that the number of enquirers who have sought advice on the selection of electrical ranges and other appliances has exceeded 185 per week since the opening of the exhibition in October, 1937, and in addition there has been a large number of casual visitors. Demonstrations of electric cooking, refrigeration, etc., are held regularly in either the Hall of Achievement or the Lecture Theatre, Escom House, and have proved to be very popular.

These efforts are directed towards the development of a better and more widespread appreciation of the advantages and labour-saving possibilities of electricity in the home.

A view of the exhibition is reproduced on the opposite page.

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ESCOM HOUSE.

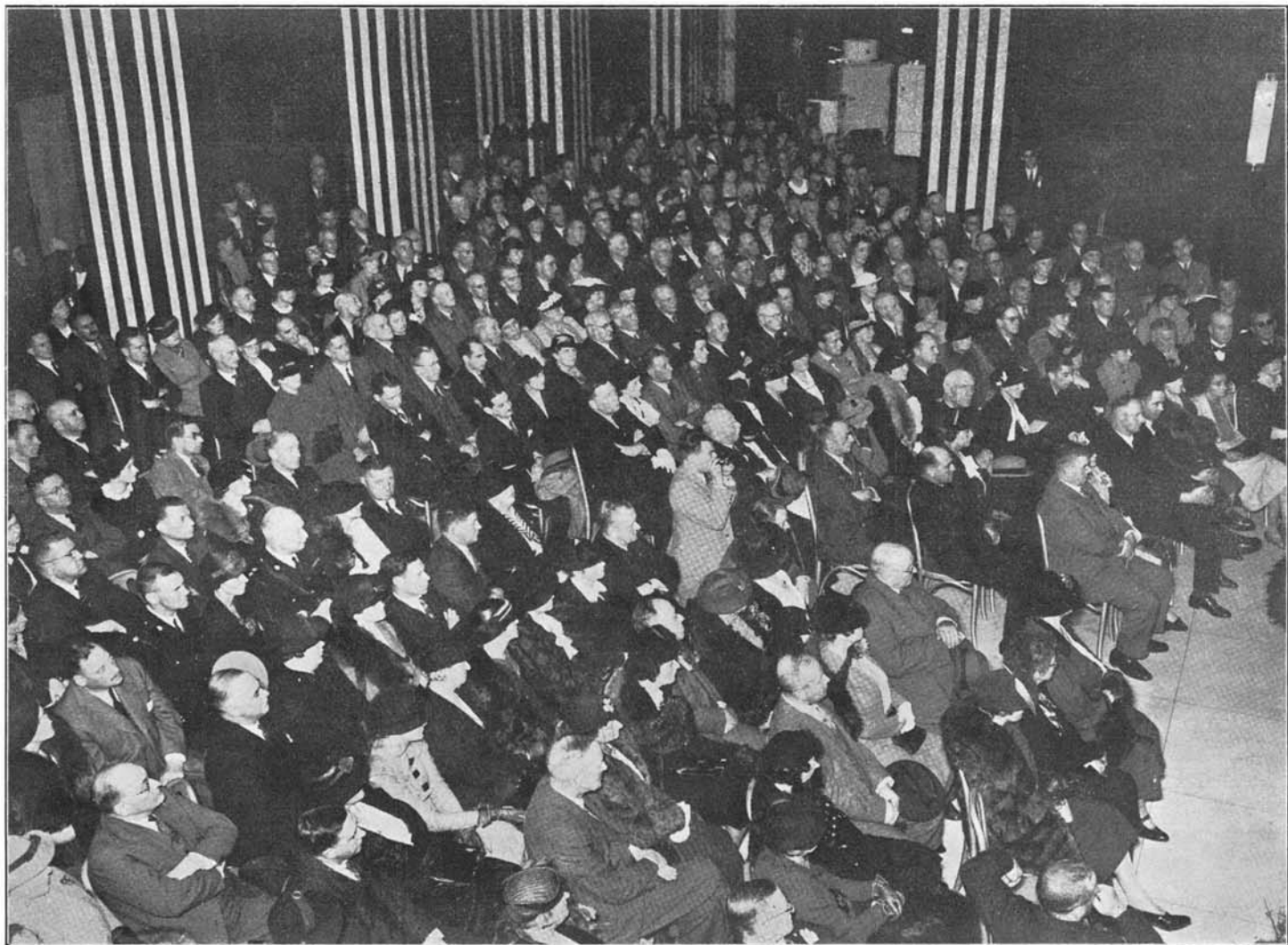
Escom House, the Commission's new headquarters, was officially opened on 22nd June, 1937, by General the Right Hon. J. C. Smuts, P.C., in the presence of a distinguished gathering of more than 1,000 guests, who came from all parts of the Union.

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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 486 Europeans and 538 non-Europeans at 31st December, 1937, an increase of 24 and 138 respectively as compared with the numbers at the end of 1936.

The Commission records with pleasure its appreciation of the loyal and efficient service rendered by its officials and employees during a year of marked progress.

COMMISSION'S UNDERTAKINGS.

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

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NATAL CENTRAL UNDERTAKING.

The public hearing of the Commission's application for amendment of its Natal Central Licence was resumed in September last, when the tentative conditions of settlement arrived at by the representatives of the Commission, the Durban Corporation and the Railway Administration, which were embodied in an agreement between the Commission and the Corporation, were approved by the Electricity Control Board.

Power Station Extensions.

Two 60,000 lbs./hr. low-pressure boilers, which were displaced by larger boilers at the Salt River Power Station, have been transferred to the Colenso Power Station and re-erection is in progress. Steaming conditions at Colenso Power Station are very difficult, due to the fluctuating traction load, and these boilers will provide much needed relief.

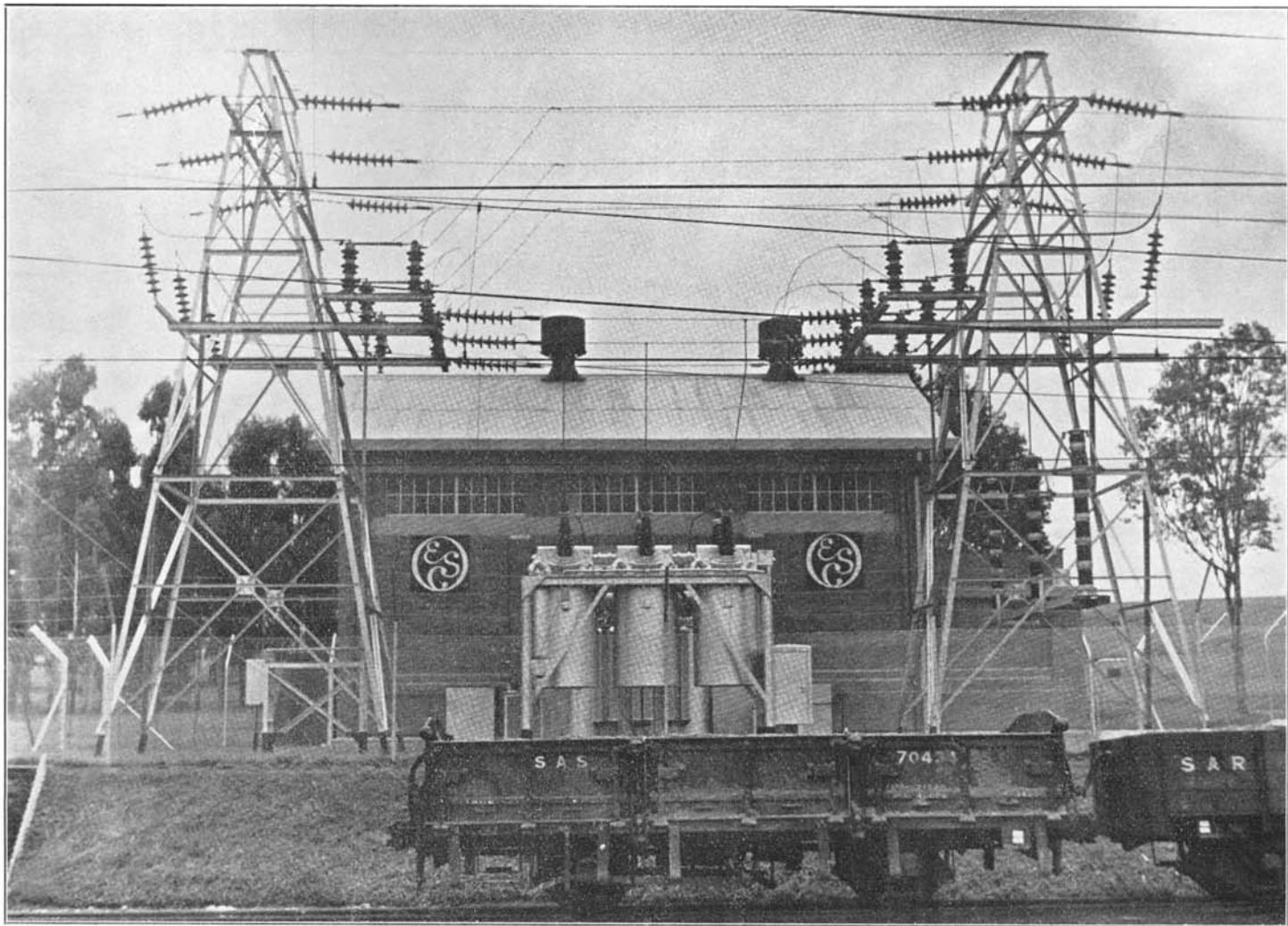
The steam generating plant in the power station taken over by the Commission from the Volksrust Municipality has been disposed of and is being replaced by two 300 kVA. Diesel engines, which will act as standby in the event of an interruption to supply from the Colenso Power Station. These sets are arranged for automatic starting in the event of failure of the main supply.

Numerous faults on the 88 kV. transmission lines radiating from the Colenso Power Station were found to be due to birds coming into contact with the lines at suspension towers and causing flashovers, and in order to minimise the interruptions to supply from this cause, and also to provide additional insulation in view of the prevalence of severe lightning storms in the area traversed by the lines, it was decided to increase the number of insulator discs from 6 to 8, thus increasing the distance between the live conductors and the earthed metal work of the towers. This work was completed during the year, and the results have been highly satisfactory.

The net capital expenditure on the Undertaking as at 31st December, 1937, was £4,021,367, an increase of £164,732 as compared with the figures for 1936.

Coal Supplies.

The shortage of coal supplies, due to abnormal railway traffic, was so critical at one stage at the Colenso Power Station that coal had to be transported from one storage bunker to another to keep all the boilers supplied, and on several occasions the stock on hand was barely sufficient for one day's requirements.



Natal Central Undertaking: Mercury Arc Rectifier Traction Sub-station at Alcockspruit, Natal.

Working Results.

The units sent out from the Colenso Power Station during the year totalled 224,597,349, an increase of 24·16 per cent. over the previous year. Of the total, 174,831,231 units were sold for railway traction purposes, or 25·60 per cent. more than in 1936.

Sales for all purposes were as follows—

	Units.	Percentage increase over 1936.
Bulk (12 consumers—municipal and other) ...	27,576,943	9·12
Industrial and Mining (77 consumers) ...	6,678,268	13·53
Domestic and Lighting (1,037 consumers) ...	1,546,385	37·38
Railway Traction	174,831,231	25·60

The maximum half-hourly demand sent out was 45,300 kW., and the load factor 56·60 per cent. The thermal efficiency of the power station on units sent out was 18·1 per cent.

The revenue for the year was £462,870, and the working costs £451,217. The average price per unit sold decreased by 8·57 per cent. from 0·572d. in 1936 to 0·523d. in 1937.

New Consumers.

Supply of electricity in bulk to the Bethlehem Municipality was commenced during the year, and new consumers were connected at Alcockspruit, Dargle, Delville Wood, Hilton Road, Ingogo and White Gates.

Arrangements were concluded during the period under review for the supply of electricity from the Natal Central Undertaking to consumers in the townships of Hattingspruit and Wakkerstroom. There were 66 farms connected to the system of the Undertaking at the end of 1937.

The total number of consumers supplied by the Undertaking at 31st December, 1937, was 1,127, including bulk supplies to nine local authorities with a total European population of nearly 40,000, showing an increase of 111 consumers over the previous year.

Domestic Electrical Appliances—Hire-purchase Scheme.

Facilities for the hire-purchase of domestic electrical appliances have been made available by the Commission to consumers of the Natal Central Undertaking, and up to the end of 1937 a total of 98 electric ranges had been sold under the scheme.

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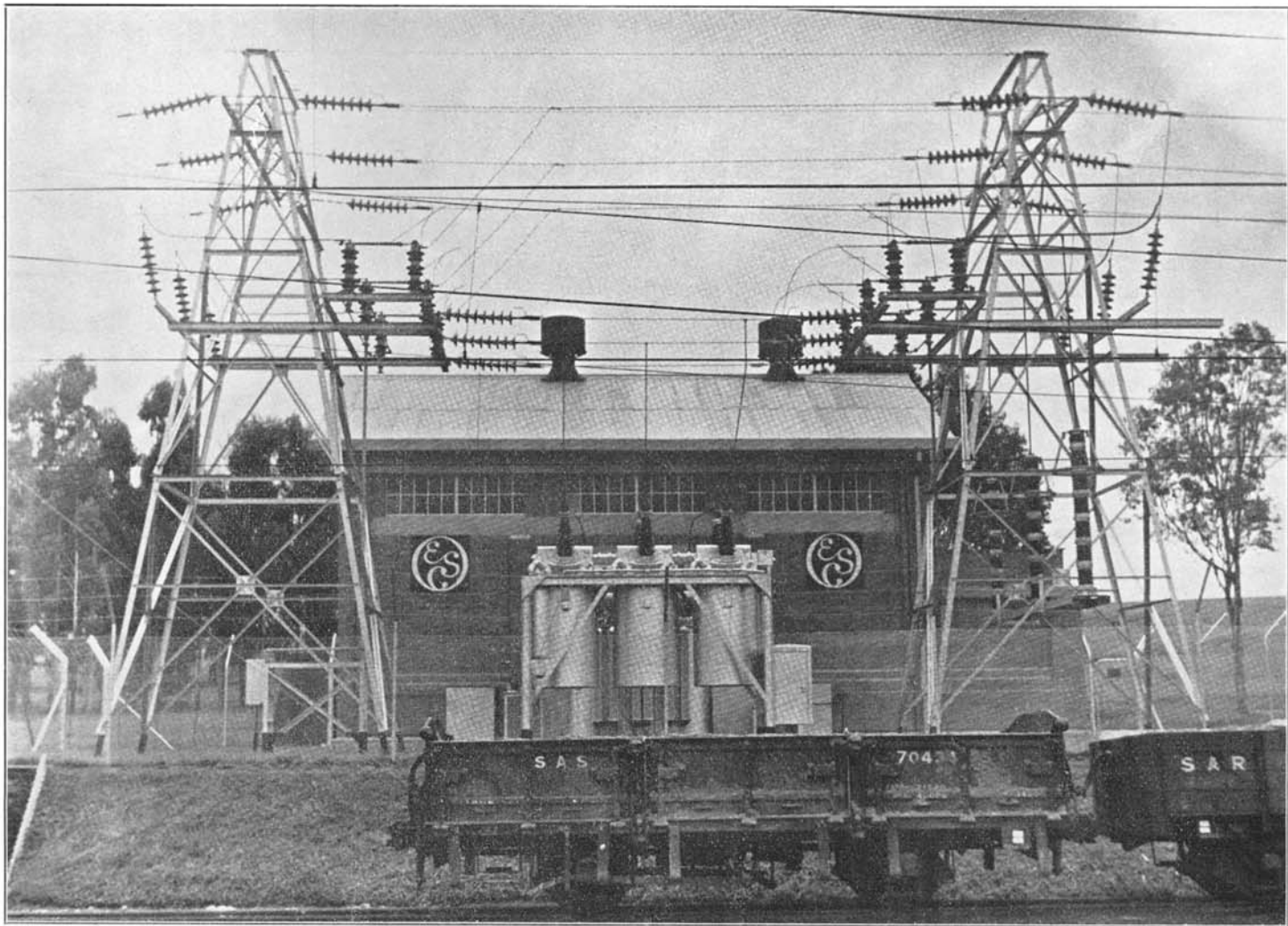
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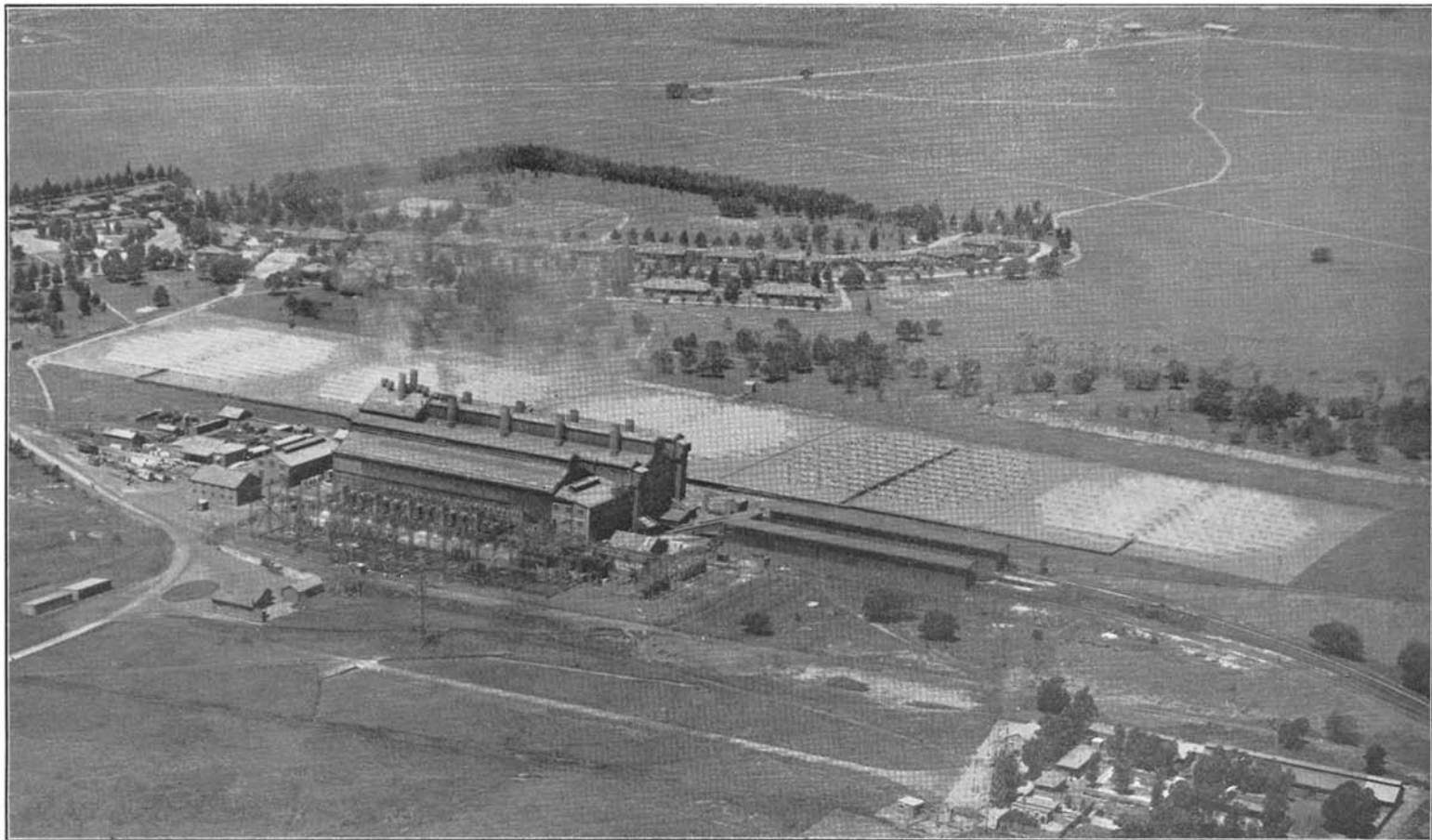
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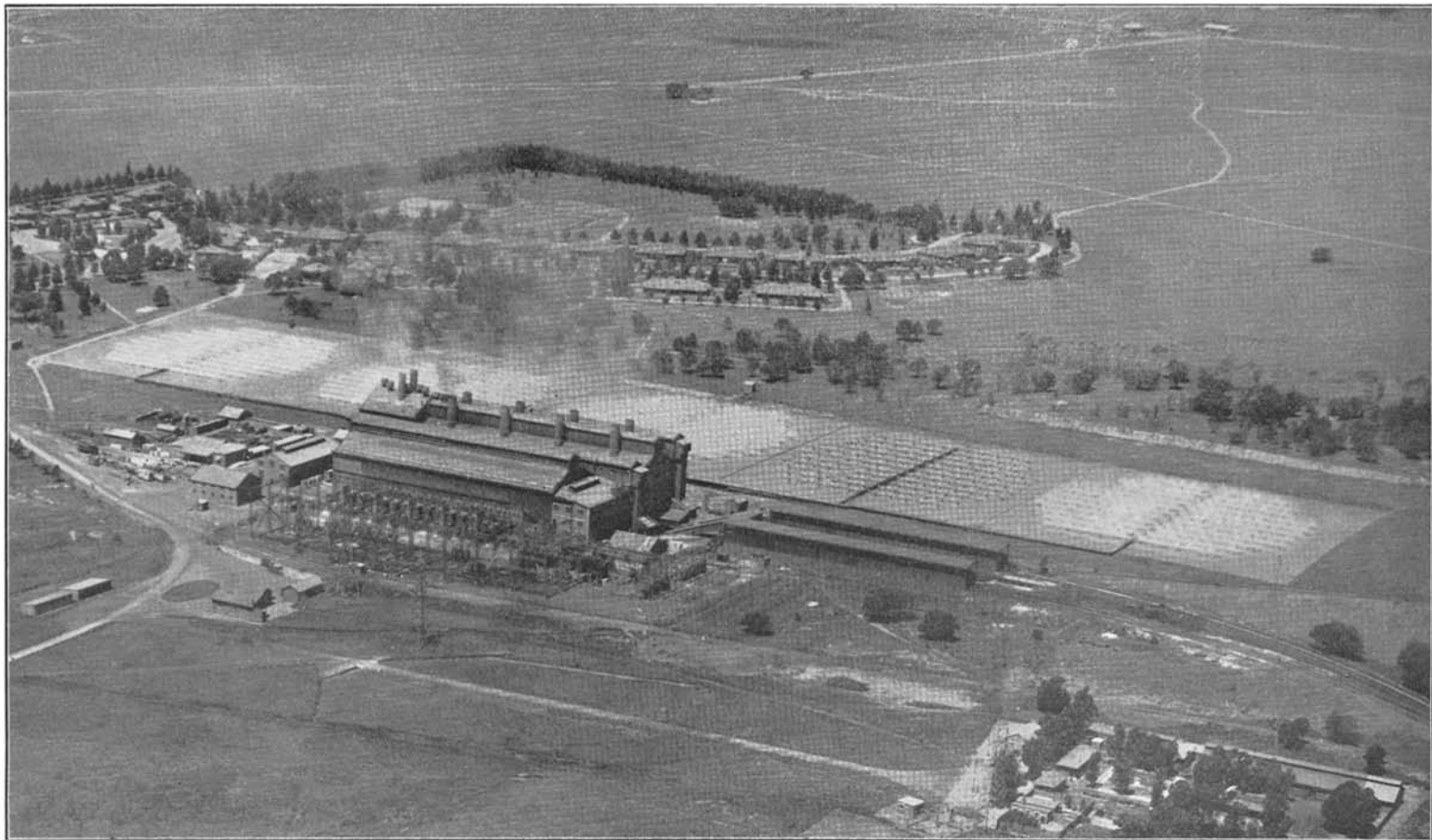
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Aerial View of Witbank Power Station.

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WITBANK UNDERTAKING.

The installed capacity of the Witbank Power Station remained unchanged during 1937 at 100,000 kW. of generating plant and a total boiler capacity of 1,400,000 lbs. of steam per hour.

The net capital expenditure on this Undertaking as at 31st December, 1937, was £2,440,534.

The units sent out from the Witbank Power Station during the year totalled 674,466,870. As compared with the previous year the output shows a decrease of 3·08 per cent.

The Victoria Falls and Transvaal Power Company, Limited, operates this station on behalf of the Commission, and the bulk of the output is supplied to the Company's distribution system serving the Witwatersrand gold mining area. Sales of electricity to The Falls Company last year totalled 604,274,462 units, being 4·66 per cent. less than in 1936; but the sales from the Undertaking to other consumers showed an increase of 28·24 per cent. over the same period, and were as follows:—

	Units.	Percentage increase over 1936.
Traction (for Reef Railway Electrification) ...	10,886,293	—
Bulk (Middelburg Municipality) ...	941,400	13·41
Industrial and Mining (58 consumers) ...	67,049,694	10·73
Domestic and Lighting (614 consumers) ...	1,364,784	14·99

Working Results.

The maximum hourly demand sent out was 98,657 kW., and the load factor was 78 per cent. The thermal efficiency of the station on units sent out was 15·78 per cent.

The revenue for the year was £404,691, and the working costs £400,424. The average price per unit sold was 0·140d. as compared with 0·126d. in 1936.

New Consumers.

New consumers supplied with electricity from the Witbank Undertaking during the year include the Railway Administration for traction purposes on the Reef, and arrangements were concluded for supply to the S.A. Cyanamid (Pty.), Ltd., and the Tavistock and Uitspan Collieries. Altogether there were 40 new connections to the system, bringing the total number of consumers at the end of 1937 up to 675.

Hire-purchase of Domestic Electrical Appliances.

Sales of domestic electrical appliances under the hire-purchase scheme of this Undertaking up to 31st December, 1937, were as follows:—

Ranges	94	Water Heaters	21
Refrigerators	23	Miscellaneous small appliances	510

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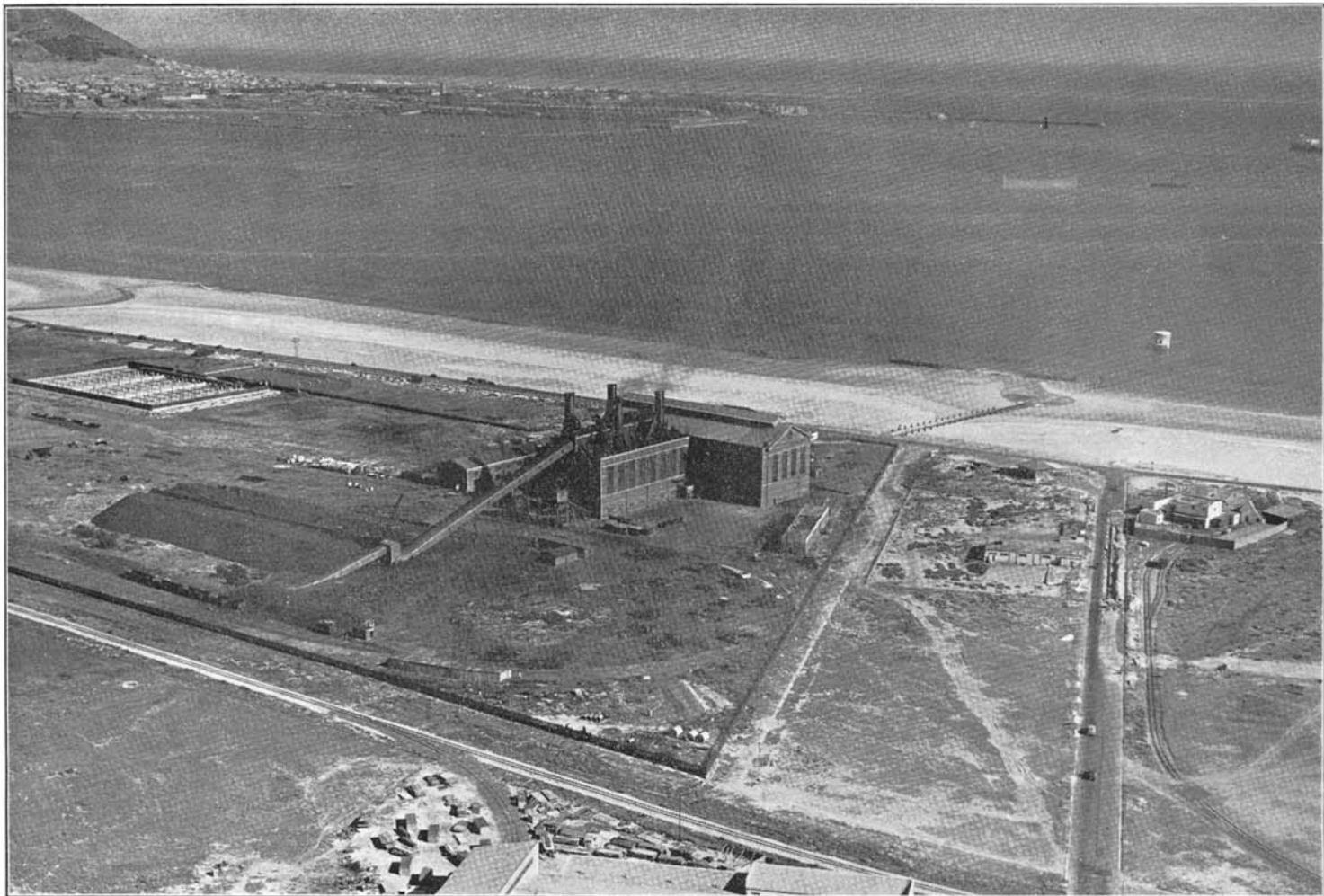
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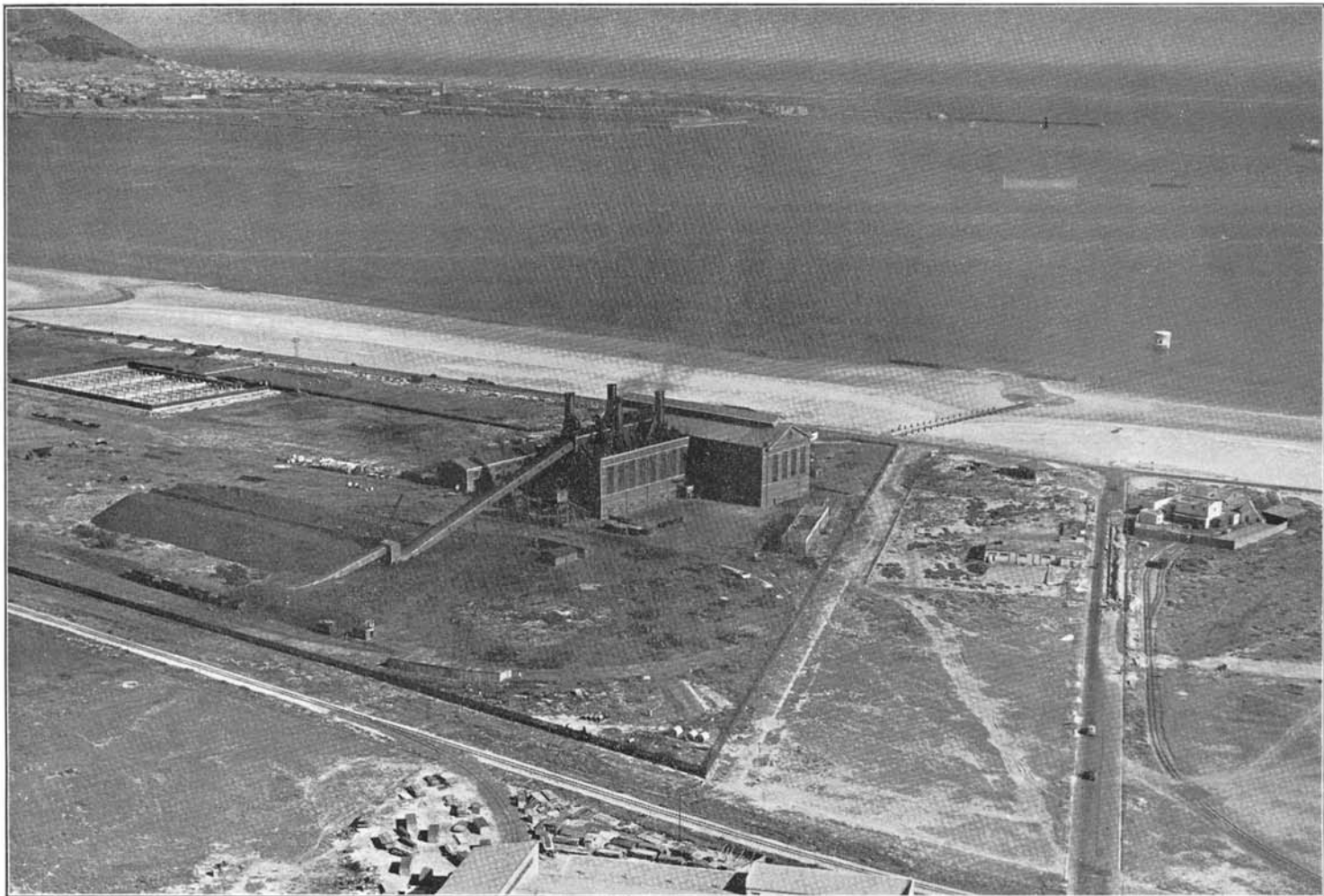
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CAPETOWN UNDERTAKING.

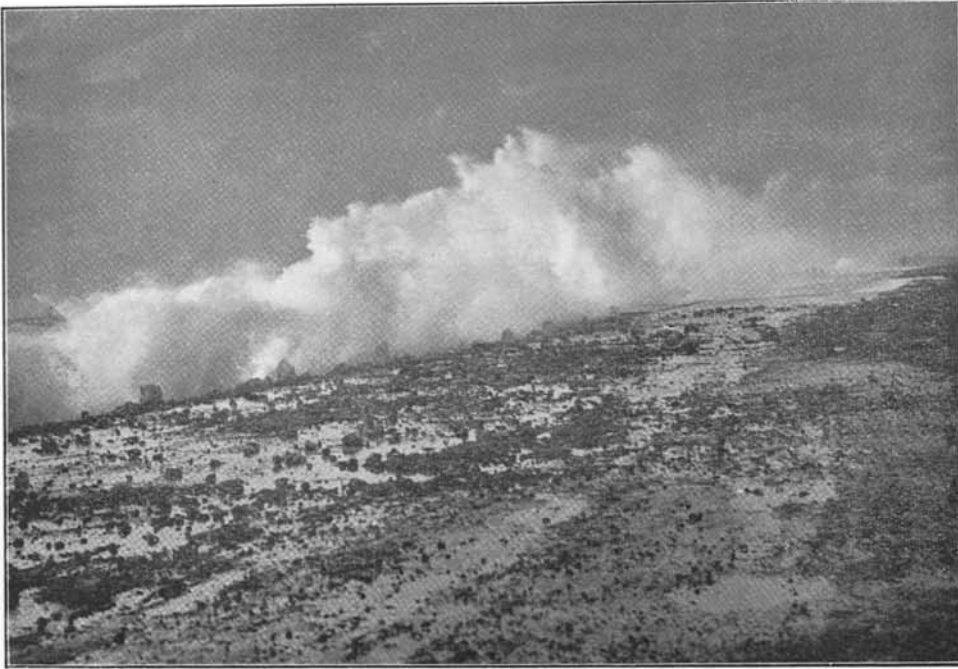
A record output of 305,550,088 units from the Salt River Power Station was achieved in 1937. Of this total approximately 204,000,000 units were supplied to the Capetown Corporation under the pooling arrangements. The balance, after allowing for losses in transmission and distribution, viz., 94,038,449 units, was sold as follows :—

	Units.	Percentage increase over 1936.
Bulk (three municipalities)	10,998,397	3.83
Railway Traction	50,244,014	2.77
Industrial (185 consumers)	27,925,618	22.04
Domestic and lighting (3,706 consumers) ...	4,870,420	40.12
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The units sold in 1937, excluding those supplied to the Capetown Corporation, represent an increase of 9.55 per cent. as compared with the sales for the previous year.

The record output was accomplished in spite of several mishaps which occurred at the Salt River Power Station. The first of these was the breakdown of one of the 20,000 kW. Turbo-generators in June. Pending repair of the damaged stator and rotor of this set, the turbine was coupled up to a stator and rotor held as spares for one of the 10,000 kW. Turbo-generators, thus enabling it to be operated at half of its normal rated capacity up to the end of January, 1938, when the damaged parts were repaired. This breakdown was followed the next day by trouble with the circulating water system, which was blocked by unusually large quantities of sand and seaweed cast up by the sea during an exceptionally severe storm. Part of the screening plant was put out of action and quantities of the debris were drawn up into the condensers, necessitating the easing of load and the frequent changing over of the Turbo-generators during cleaning operations.

In November a further mishap put another 20,000 kW. machine out of service for more than three months. The position on each occasion was met by transferring load to the Corporation's Dock Road Power Station, which normally is brought into operation for only a few hours a day.



These photographs show the violence of the heavy storms which were experienced in the Cape in June, 1937.

[Cape Times.



Top: Seas breaking over the Marine Drive opposite the Salt River Power Station.

Bottom Left: Debris being removed from the Intake Pipe.

Bottom Right: Portion of Seaweed removed from the Intake Pits and Screens.



[Cay's Photo Services.

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It has been decided, in co-operation with the Railway Administration, to take advantage of the opportunity afforded by the Capetown Foreshore and Harbour Development Scheme to construct new intake works to bring the circulating water from the proposed new harbour basin, which will not be exposed to seaweed and sand-scouring action as is the case at the present intake works. This scheme, while acting as a standby to the present power station, will also make ample provision for the generation of further power at Salt River. The contract for the work has been placed and construction has been commenced.

It is a tribute to the officials and employees of the Commission and the Capetown Corporation that consumers were not inconvenienced more than they were, as operating conditions during the storm and other occurrences were extremely difficult. The Commission has pleasure in recording its appreciation and thanks to all concerned for their valuable assistance.

The net capital expenditure on the Undertaking as at 31st December, 1937, was £2,289,155, after crediting the amount received from the Railway Administration in respect of certain capital losses, which resulted from the closing down of the railway line to Sea Point, and the amount realised on the transfer of the two 60,000 lbs./hr. boilers to the Colenso Power Station.

**Working
Results.**

The thermal efficiency of the Salt River Power Station dropped from 21·7 per cent. in 1936 to 20·2 per cent. in 1937. This was in a measure attributable to the poor results obtained from the mixture of coal received while the acute shortage of railway trucks lasted, and to the plant breakdowns to which reference has already been made.

The maximum half-hourly demand sent out was 68,200 kW., and the load factor 50·4 per cent.

The revenue for the year was £311,958, and the working costs £310,480, which includes a proportion of the pooled costs of the Salt River and Dock Road Power Stations, which are interconnected.

The average price per unit to all consumers decreased from 0·804d. in 1936 to 0·793d. in 1937.

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Arrangements were made during the period under review to establish new farm supply schemes in the district of Stellenbosch, and to supply additional farmers in the areas of Vlotenberg and Wellington.



Aerial View of Table Bay Power Station showing its relation to Foreshore.

[Merl La Voy

The total number of farms connected to the system of the Commission's Capetown Undertaking at 31st December, 1937, was 247, showing an increase of 39 over the previous year. Consumers of all classes supplied by the Undertaking at that date totalled 3,896, or 624 more than in 1936.

**Table Bay
Power
Station.**

The Capetown Corporation's new Table Bay Power Station, which will have an initial installed capacity of 120,000 kilowatts of generating plant, and will be interconnected with the Commission's Salt River Power Station under a pooling agreement between the Corporation and the Commission, is progressing steadily, though not as rapidly as was expected, the construction programme having been retarded by late delivery of plant, etc., due partly to abnormal conditions at manufacturers' works overseas. The anticipated assistance from his station to meet the winter peak loads in 1938 will not, therefore, be forthcoming, but it is hoped that the first 40,000/50,000 kW. turbo-alternator will be brought into service by about the end of August, 1938.

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Sales of domestic electrical appliances under the hire-purchase scheme of this Undertaking, up to 31st December, 1937, were as follows:—

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Refrigerators	98
Washing Machines	135
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CAPETOWN UNDERTAKING.

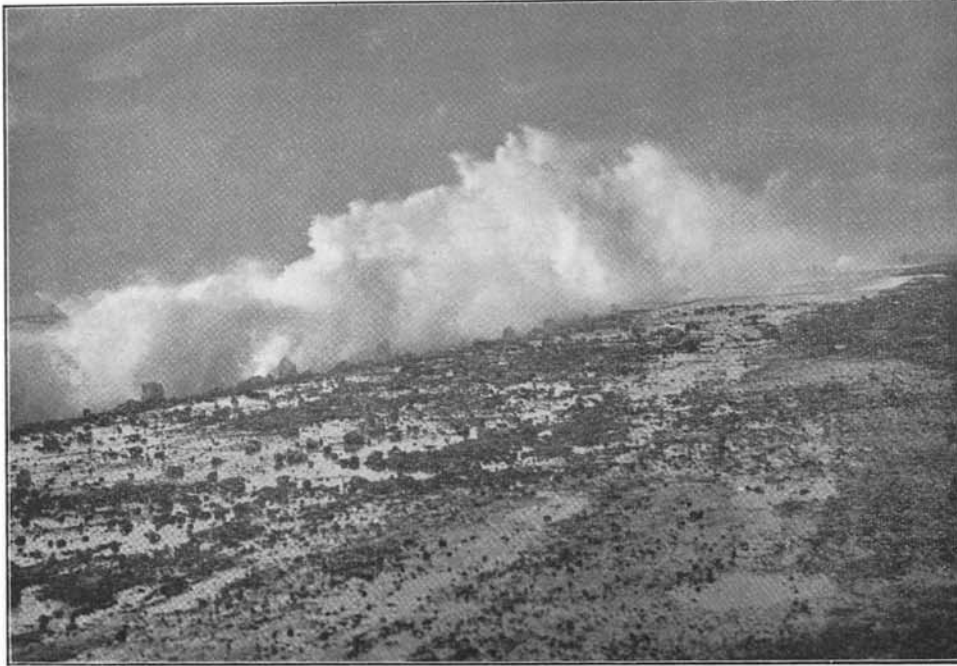
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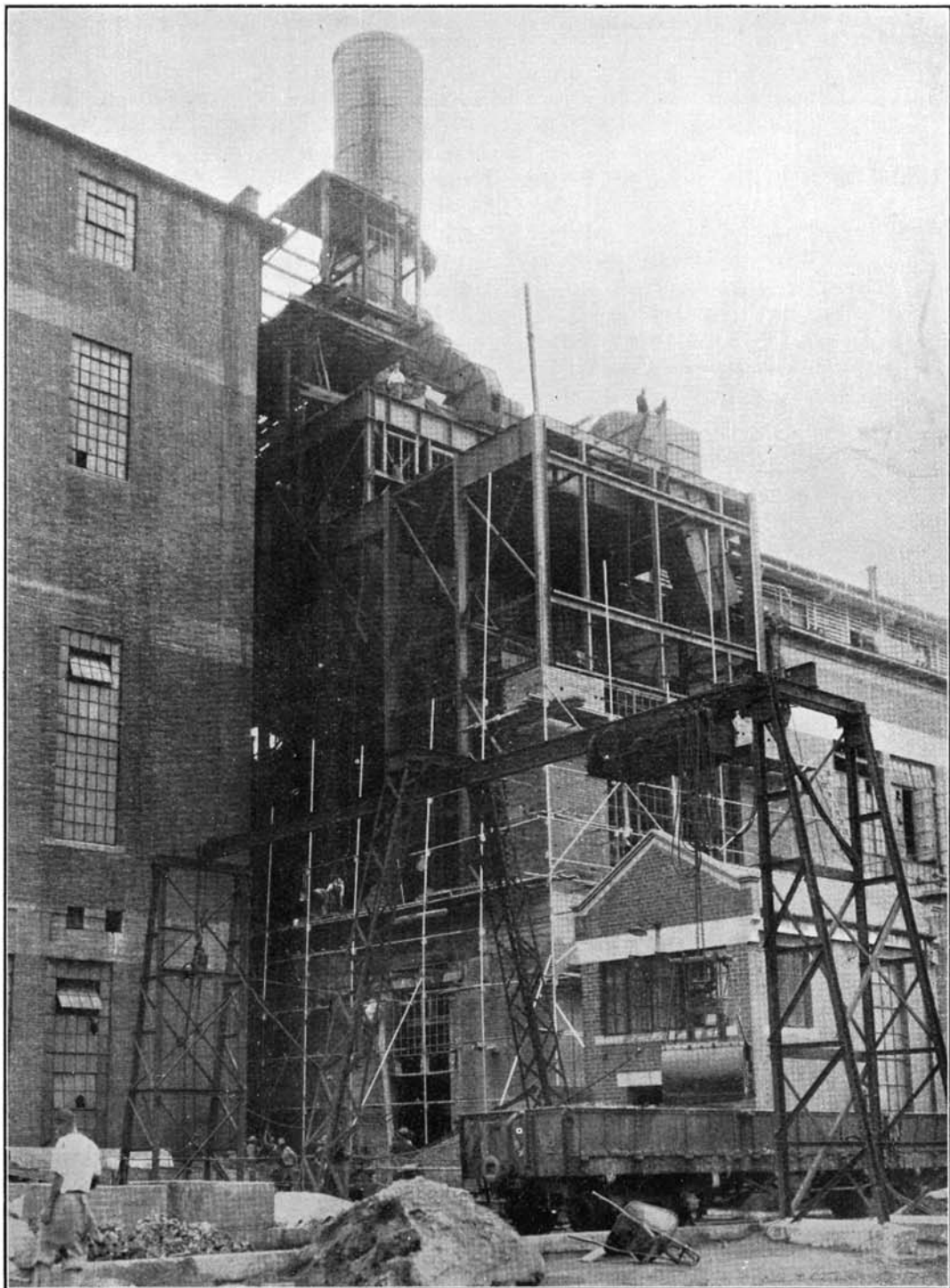
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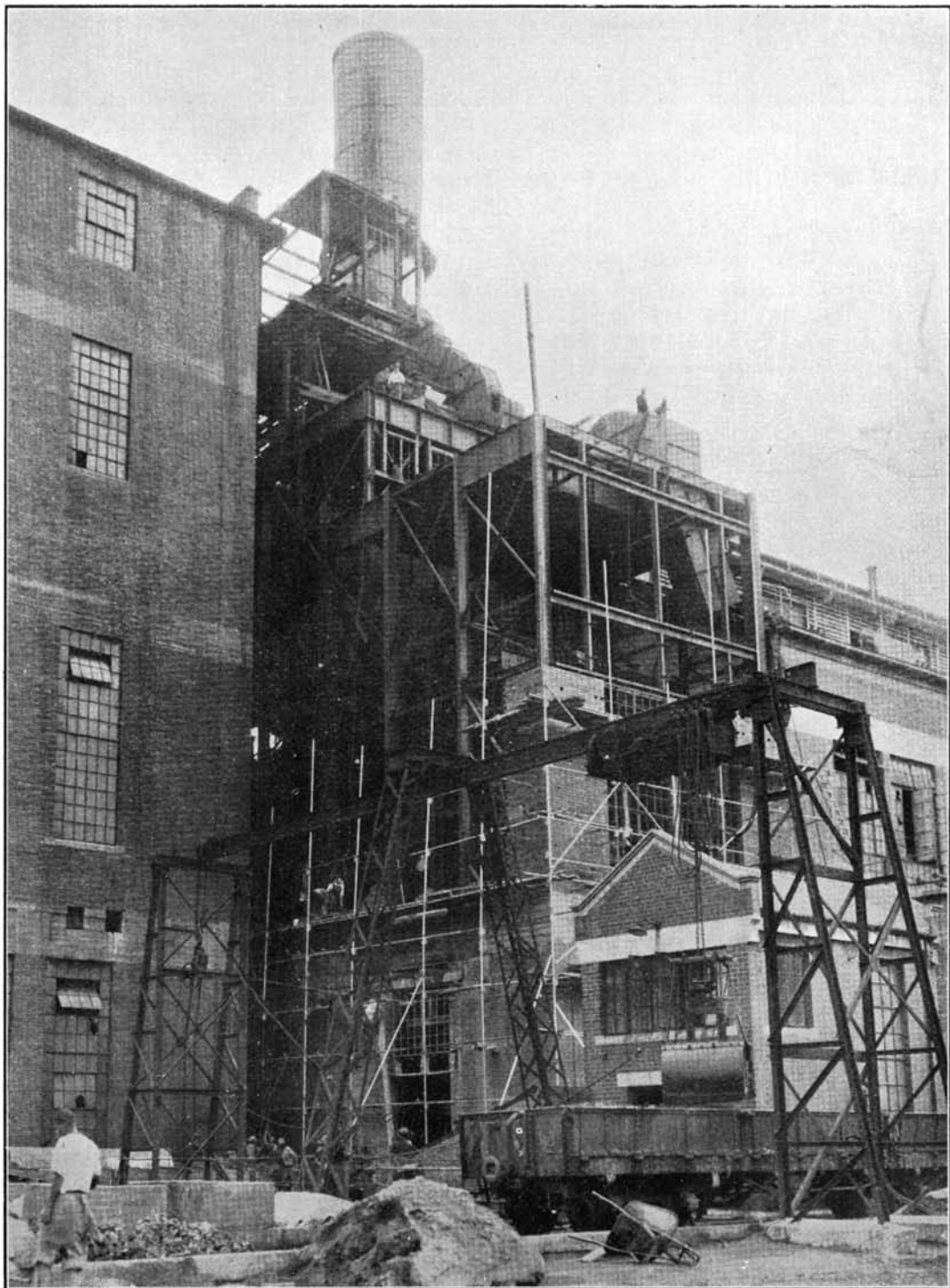
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Durban Undertaking: Extensions to the Boiler House at Congella Power Station.



Durban Undertaking: Extensions to the Boiler House at Congella Power Station.

DURBAN UNDERTAKING.

Extension
of Congella
Power
Station.

The installation of an additional 30,000 kW. Turbo-alternator set and two 120,000 lbs./hr. boilers at Congella Power Station was commenced during the year, and this plant is expected to be in service by the winter months of 1938.

The indications are that further generating plant will have to be provided much earlier than was expected to cope with the rapidly-increasing demand.

Flood
Damage.

On the night of 3rd August, a rain storm of exceptional severity caused extensive flood damage at the Congella Power Station, and to the feeder cables, resulting in a complete cessation of supply from that station for approximately 10 hours, from 10 p.m. The rainfall recorded in the vicinity of the station exceeded eleven inches in two hours. The boiler house basement, coal staithes and ash pits were inundated, but the actual damage to the plant was, fortunately, not considerable. With the aid of three engines of the City Fire Brigade, the water was pumped out, and with all available staff working unceasingly, night and day, the supply was gradually restored from about 8 o'clock the next morning, a normal supply being resumed about 30 hours later.

The Commission gratefully acknowledges the valuable co-operation of the various public and other bodies, which enabled the restoration work to be carried out so expeditiously, and records its high appreciation of the loyalty and devotion to duty displayed by all members of the staff under trying and difficult conditions.

The net capital expenditure on the Undertaking as at 31st December, 1937, was £1,200,204.

Working
Results.

The units sent out from the Congella Power Station during the year totalled 188,701,851, an increase of 10.96 per cent. over the previous year. The total output was sold to the Durban Corporation at the Congella Power Station busbars for distribution in the municipality and an area outside the municipal boundary, in which the Corporation is authorised to supply electricity. Of that total the Corporation supplied 11,735,000 units to the South African Railways and Harbours Workshops, Graving Dock, etc.

Electricity for supply to consumers connected to the South Coast distribution system of the Durban Undertaking is purchased by the Commission from the Durban Corporation, the power being



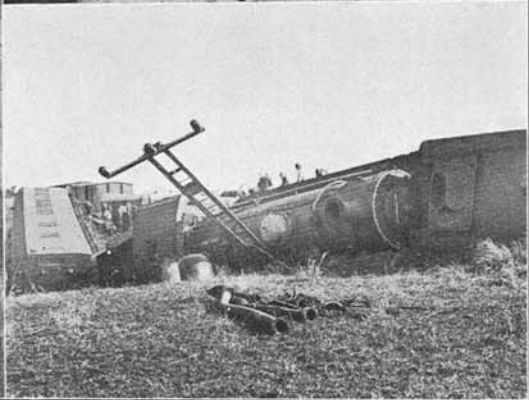
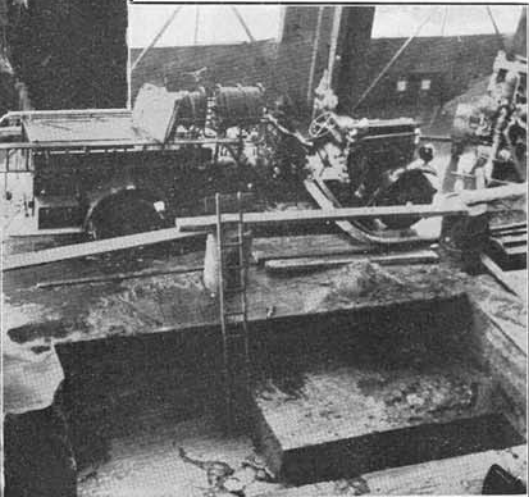
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3rd August, 1937.**

**Top Left: Conditions after the
Flood at the Coal Staithes.**

**Bottom Left: Water in the Cable
Chamber.**

**Centre Right: Pumping Water
from the Basement of the Power
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**Bottom Right: A Train Derailed
by Subsidence of Track on the
South Coast brought down a
Transmission Line Structure.**



transmitted over the Corporation's high tension line from Durban to Warner Beach and thence over the Commission's system. In 1937 the Commission purchased 954,145 units of electricity from the Corporation for supply to consumers on the South Coast, and, after allowing for losses in transmission, these were sold as follows:—

	Units.	Percentage increase over 1936.
Industrial (17 consumers)	159,859	58·43
Domestic and Lighting (363 consumers) ...	550,981	66·16

The maximum half-hourly demand sent out from the Congella Power Station was 45,600 kW., and the load factor 47·2 per cent. The thermal efficiency of the power station on units sent out was 19·3 per cent.

The revenue for the year was £261,483, and the working costs £258,104. The average price per unit sold decreased from 0·347d. in 1936 to 0·327d. in 1937.

**New
Consumers.**

During the period under review construction work was commenced in connection with the extension of the South Coast Transmission System of the Commission's Durban Undertaking for the supply of electricity to industrial and domestic consumers at Esperanza, Pennington, Sezela and Umzinto.

The total number of consumers connected to the Commission's Reticulation Systems on the South Coast as at 31st December, 1937, was as follows:—

Clansthal	7
Park Rynie	28
Renishaw	23
Scottburgh	163
Umkomaas	159
Total	380

an increase of 68 compared with the number at the end of 1936.

Facilities for the hire-purchase of domestic electrical appliances have been made available by the Commission to its consumers on the South Coast, and up to the end of the year 11 ranges had been sold under the scheme. Similar facilities for consumers in the municipal area of supply are provided by the Durban Corporation.

DURBAN UNDERTAKING.

Extension
of Congella
Power
Station.

The installation of an additional 30,000 kW. Turbo-alternator set and two 120,000 lbs./hr. boilers at Congella Power Station was commenced during the year, and this plant is expected to be in service by the winter months of 1938.

The indications are that further generating plant will have to be provided much earlier than was expected to cope with the rapidly-increasing demand.

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Damage.

On the night of 3rd August, a rain storm of exceptional severity caused extensive flood damage at the Congella Power Station, and to the feeder cables, resulting in a complete cessation of supply from that station for approximately 10 hours, from 10 p.m. The rainfall recorded in the vicinity of the station exceeded eleven inches in two hours. The boiler house basement, coal staites and ash pits were inundated, but the actual damage to the plant was, fortunately, not considerable. With the aid of three engines of the City Fire Brigade, the water was pumped out, and with all available staff working unceasingly, night and day, the supply was gradually restored from about 8 o'clock the next morning, a normal supply being resumed about 30 hours later.

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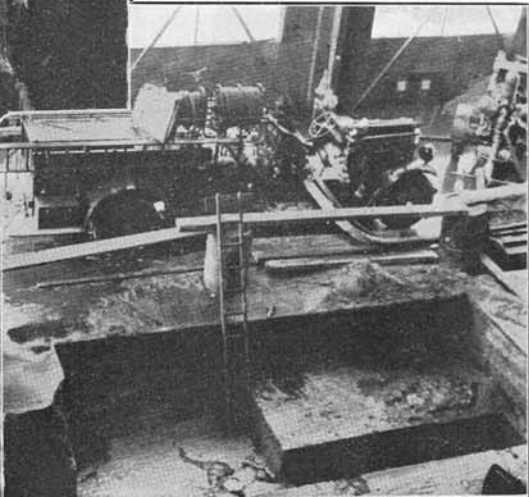
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Sabie Gorge Hydro-Electric Power Station, Eastern Transvaal.



Sabie Gorge Hydro-Electric Power Station, Eastern Transvaal.

SABIE UNDERTAKING.

No new developments have taken place at the Sabie Undertaking, which comprises a hydro-electric power station situated in a gorge on the Sabie River, about 8 miles downstream from the Sabie Township, and a 22 kV. transmission line from the power station to a substation in the township, for the supply of electricity to two gold mining companies operating in the district.

The power station has an installed capacity of 1,350 kilowatts, and was designed for generating 900 kW. all the year round, i.e. under the worst conditions of water flow that could be anticipated.

A total of 7,575,500 units was sent out from the station in 1937, the maximum half-hourly demand being 1,180 kW., and the load factor 73·29 per cent.

The revenue for the year was £13,774, and the working costs amounted to £13,750.

The average price per unit sold decreased from 0·485d. in 1936 to 0·461d. in 1937.

The net capital expenditure on the Undertaking as at 31st December, 1937, was £96,145.

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The net capital expenditure on the Undertaking as at 31st December, 1937, was £96,145.

RAND EXTENSION UNDERTAKING.

The Rand Extension Undertaking comprises a 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.

The net capital expenditure on the Undertaking as at 31st December, 1937, was £380,355, showing an increase of £136,013 as compared with the figures for 1936.

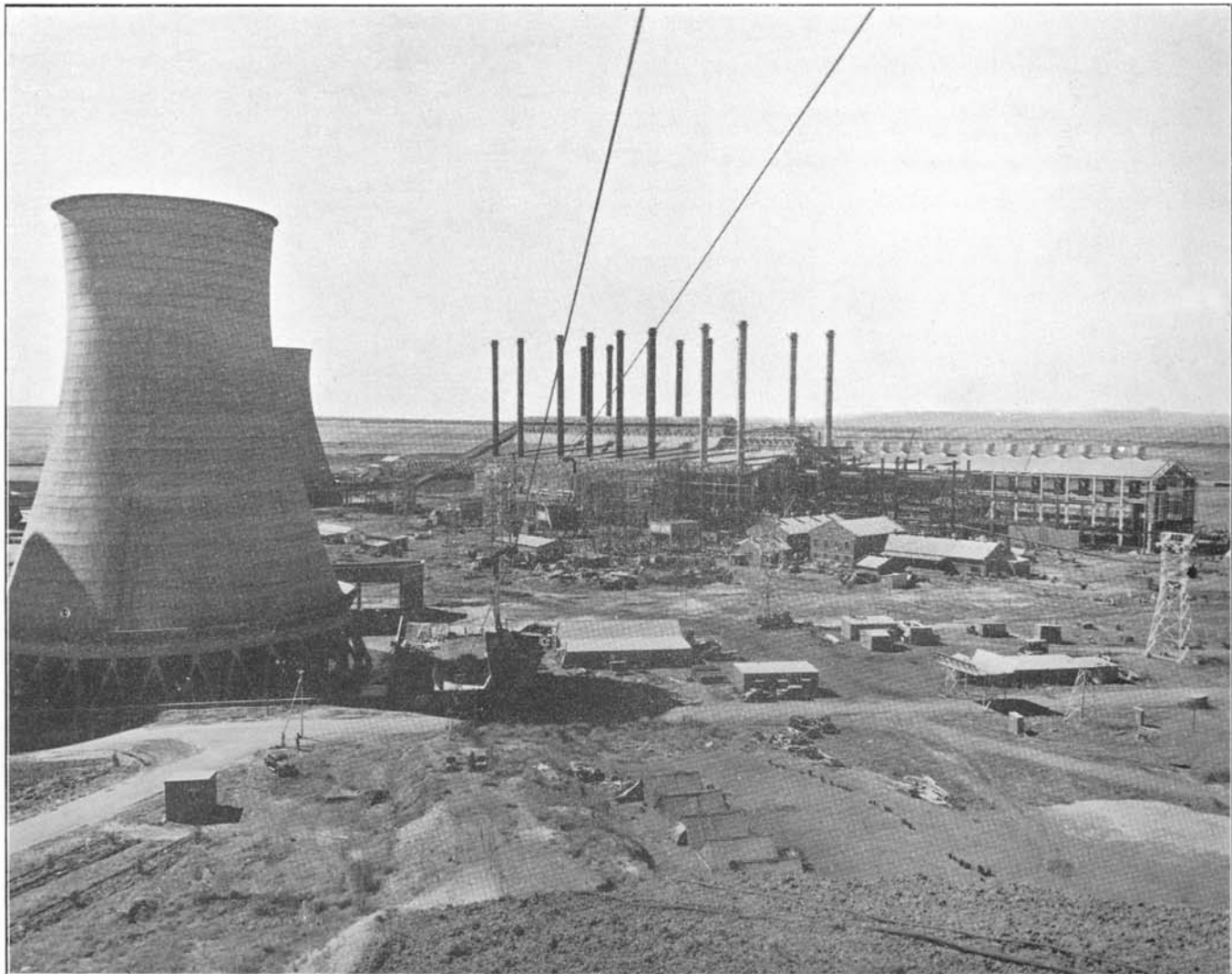
The proportion of working costs, amounting to £17,183, expended by the Commission in 1937 in respect of this Undertaking, was recovered by the Commission from The Falls Company.

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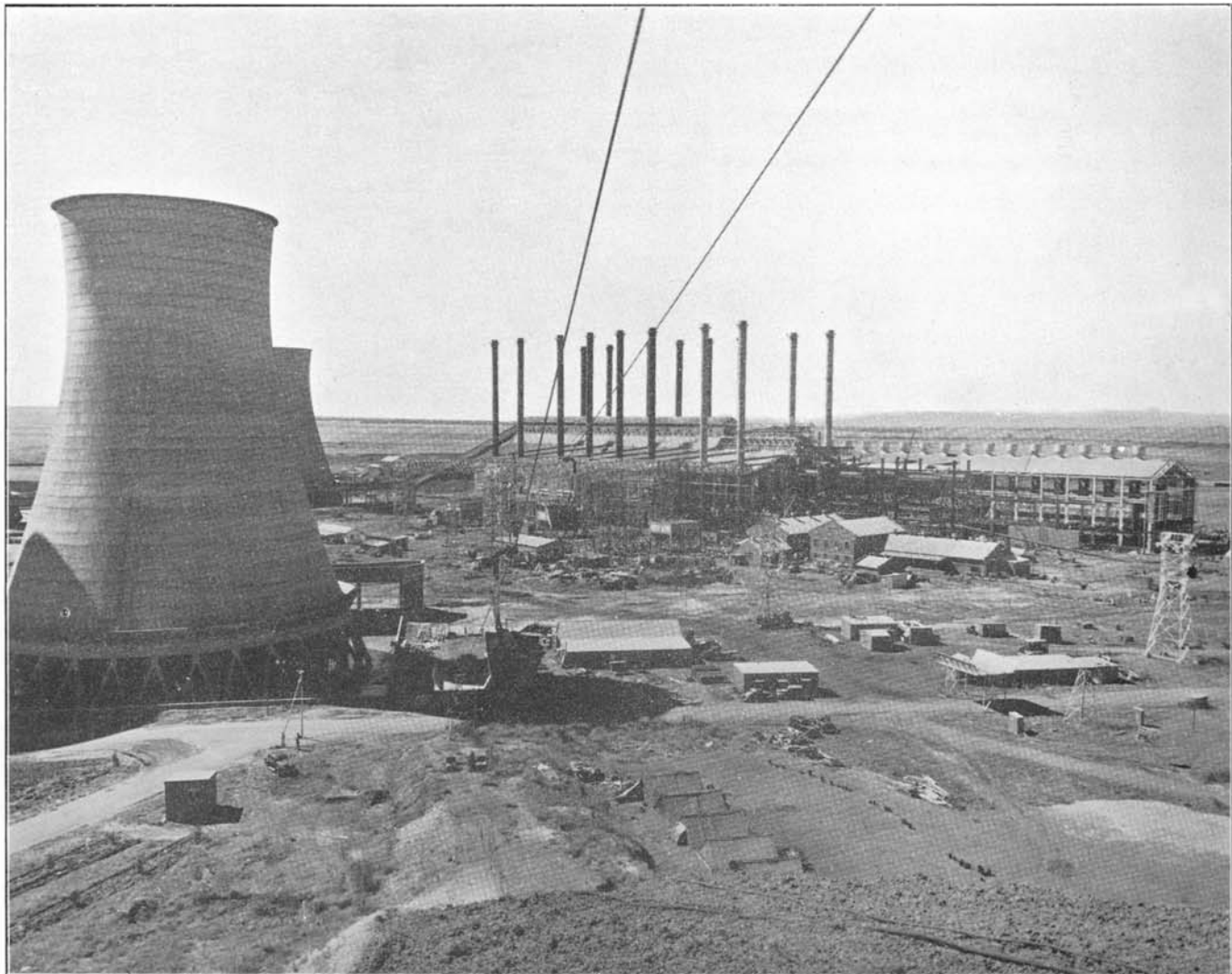
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Klip Power Station: Showing Progress on the Extension of the Turbine House and Two of the Ten Cooling Towers.



Klip Power Station: Showing Progress on the Extension of the Turbine House and Two of the Ten Cooling Towers.

KLIP GENERATING STATION UNDERTAKING.

Of the twelve 33,000 kW. generating sets to be installed in the Klip Power Station, six were in operation at the end of the year, and two of the four 7,000 kW. house sets had been installed at 31st December, 1937. The seventh 33,000 kW. machine was practically ready for service early in March this year; but, during a preliminary run up before it was connected to the busbars, a mishap occurred which put the turbine temporarily out of action. The eighth machine is in course of erection.

This station, when completed, will have an installation of 22 boilers, each normally rated at 180,000 lbs. of steam per hour at 355 lbs. gauge. Twelve boilers were in commission at the end of the year, and four were under construction.

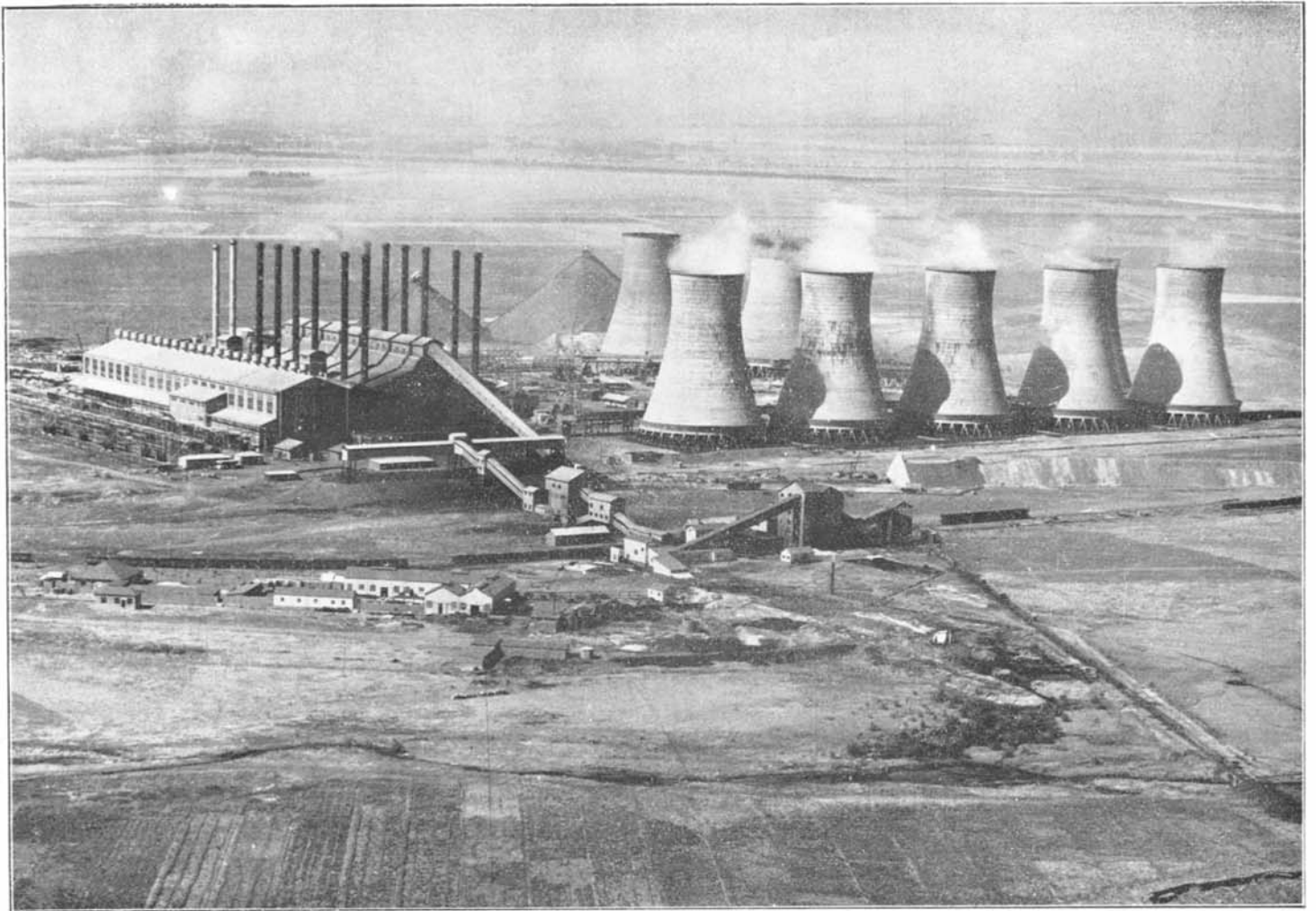
The ten cooling towers, of which nine have been erected and the tenth is nearing completion, will each be capable of cooling approximately two million gallons of water per hour from 38°C. to 28°C. with atmospheric temperatures at 21°C. and 75 per cent. humidity.

The net capital expenditure on the Klip Generating Station Undertaking, as at 31st December, 1937, was £4,213,875.

The units sent out from the Klip Power Station in 1937 totalled 1,349,853,464, representing an increase of 142·34 per cent. as compared with the figures for the previous year. This station is owned by the Commission but is operated on its behalf by The Victoria Falls and Transvaal Power Company, Limited, and the whole of the output is fed into the Witwatersrand grid system of that Company and the Commission to supply part of the large power requirements of the gold mining industry and other consumers.

The Falls Company, as the sole consumer of the output of the Station, pays the whole of the operating costs, including capital charges (interest, Redemption Fund and Reserve Fund), which, in 1937, amounted to £458,760.

The maximum hourly demand sent out from the Klip Power Station was 198,990 kW.; average load factor, 85·1 per cent.; thermal efficiency of the station on units sent out, 21·74 per cent.; and the average price per unit sold was 0·081d. as compared with 0·087d. in 1936.



[Aircraft Operating Co., Ltd.]

Aerial view of the Kiip Power Station showing, in the foreground, the Springfield Colliery, from which coal is supplied direct to the bunkers of the Station.

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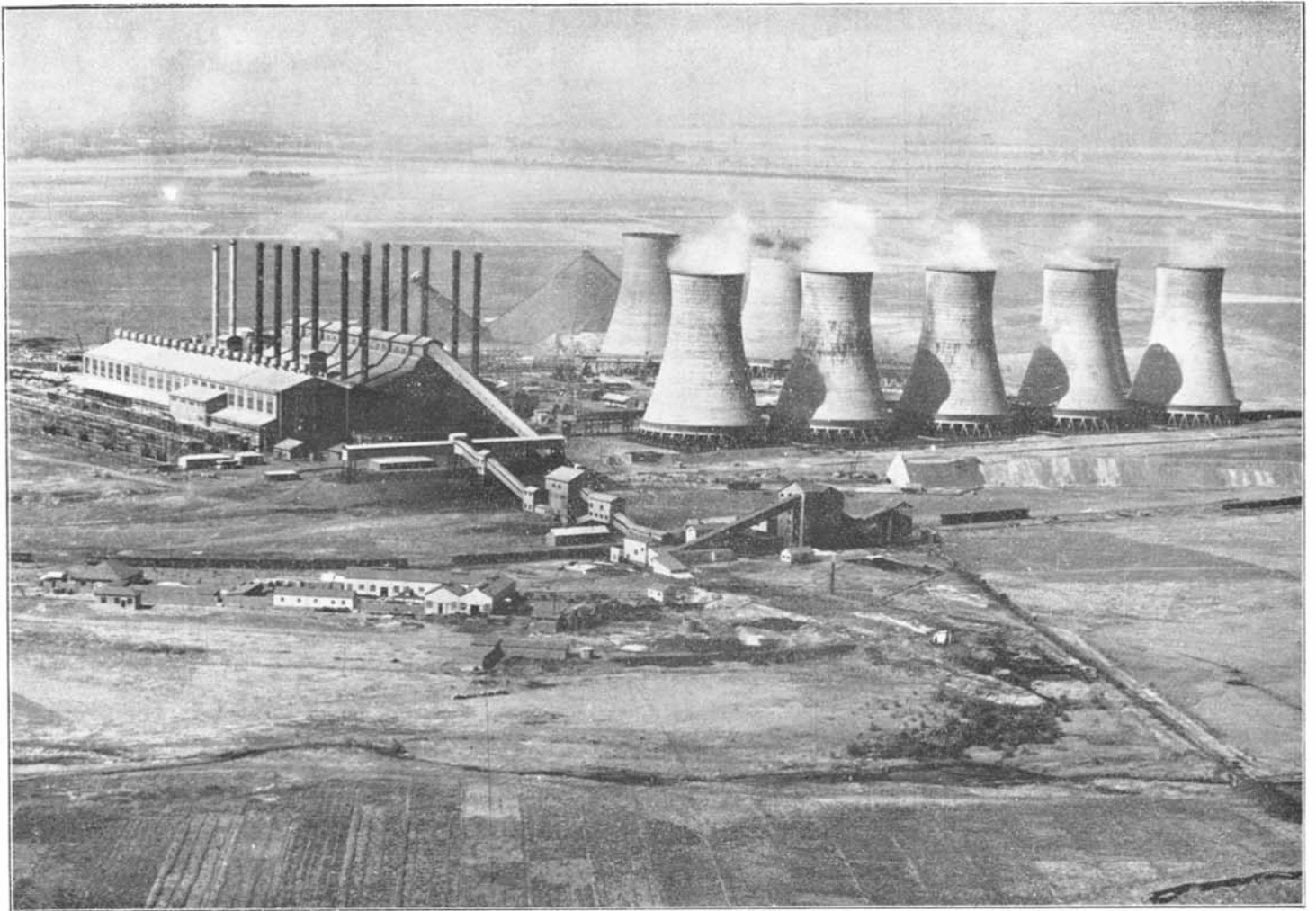
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MUNICIPAL ELECTRICITY SUPPLY SCHEMES.

In terms of Section 38 of the Electricity Act, the Commission is required to report to the Administrators of the various provinces on the proposals of urban local authorities to establish electricity undertakings, or to enlarge existing undertakings, and up to 31st December, 1937, 360 reports and 173 supplementary reports and reports on tenders had been submitted.

During the year 1937 the following schemes were reported on by the Commission:—

TRANSVAAL.		
<u>New Scheme.</u>	<u>Extension.</u>	<u>Tenders.</u>
Brits.	Alberton. Bethal. Ermelo. Pretoria. Warmbaths.	Bethal. Nelspruit. Rustenburg.
	NATAL.	
	Howick.	Eshowe.
	ORANGE FREE STATE.	
Ventersburg.		Reitz. Springsfontein.
	CAPE.	
Britstown. Carnarvon. Fraserburg. Hanover. Jansenville. Mount Frere. Rawsonville. Richmond. Rivier Sonder End.	Adelaide. Alice. Barkly East. Bredasdorp. Burghersdorp. Calvinia. Elliott. Griquatown. Hopefield. Knysna. Kokstad. Matatiele. Oudtshoorn. Port Elizabeth Riversdale. Umtata.	Adelaide. Adendorp. Alexandria. Burghersdorp. Butterworth. Carnarvon. Elliott. Griquatown. Hopefield. Humansdorp. Montagu. Riversdale. Somerset East. Sterkstroom.
	SOUTH-WEST AFRICA.	
Okahandja. Omaruru.		

Of the total of 360 municipal electricity supply schemes reported upon by the Commission up to the end of the year 1937, 143 were new schemes.

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ANNEXURES.

The Commission submits for the year 1937, 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.—Capetown Undertaking.
 Statement of Pooled Costs—Salt River and Dock Road Power Stations.
 Account No. 6.—Durban Undertaking.
 Account No. 7.—Sabie Undertaking.
 Account No. 8.—Klip Generating Station Undertaking.
 Account No. 9.—Rand Extension Undertaking.

ANNEXURE " B. "

Statement No. 1.—Summary of principal plant and equipment installed at the Commission's several Undertakings as at 31st December, 1937.
 Statement No. 2.—Summary of principal plant and equipment in course of installation or on order as at 31st December, 1937.
 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 1937.
 Statement No. 4.—Units sold to all consumers during the past 12 years.
 Statement No. 5.—Distribution of units sold during 1937 as between the various classes of consumers.
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 Statement No. 7.—Particulars of coal used at the Commission's Steam-raising Power Stations.

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ANNEXURE " C. "

Union Statistics relating to the production and distribution of electricity. This information, which was extracted from the 1935/36 Industrial Census, is published in this Report by the courtesy of the Union Census and Statistics Office.

I have the honour to be

Sir,

Your obedient servant,

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CHAIRMAN.

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INDEX TO ANNEXURE "A" (ACCOUNTS).

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Reserve Fund Account	56-57
Revenue Accounts:—	
Natal Central Undertaking	58-59
Witbank Undertaking	60-61
Capetown Undertaking	62-63
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Durban Undertaking	66-67
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Klip Generating Station Undertaking	70-71
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ANNEXURE " A. "**THE REPORT OF THE AUDITORS.**

Johannesburg,
May 4th, 1938.

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, 1937.

REDEMPTION FUND.

In accordance with the provisions of the Schedule to the Electricity Act the Commission has established separate sections of the Fund relating to the various loans.

Clause 16 of the Schedule to the Act lays down a maximum period of redemption, but the Commission has adopted the policy of providing for redemption, not only from the date legally requisite to date of repayment, but in certain cases in a shorter period.

After investigation of the position of each loan we are satisfied that, on a 3½ per cent. interest basis, not only has an adequate sinking fund been provided, in terms of Section 12 (2) of the Schedule to the Act, to redeem each loan at maturity, but that the section of the fund relating to each loan is sufficient to cover the excess obligations of the fund in view of the shorter and conservative terms of redemption being in certain cases adopted by the Commission.

In the case of loan No. 8 the final payments by stock-holders were only due on February 28th, 1938. Application to the Minister to fix a date from which redemption of the loan shall commence has not yet been made. As certain funds of this loan were, however, expended on work in beneficial operation prior to December 31st, 1937, a small sum in respect of such work has been contributed during the year to the section of the Redemption Fund applicable to this loan.

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

The gross amount of this expenditure is slightly less than the corresponding figure for the previous year.

It covers (1) cost of the publicity department, including the running of the Escom Magazine, and (2) excess of expenditure over revenue in connection with the working of Escom House.

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It covers (1) cost of the publicity department, including the running of the Escom Magazine, and (2) excess of expenditure over revenue in connection with the working of Escom House.

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

- (1) Fees accruing to the Commission in connection with the establishment of the Klip and Rand Extension Undertakings in terms of agreements with The Victoria Falls and Transvaal Power Co., Ltd.
- (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 allocated against the Revenue Accounts of all the Undertakings. 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 Co., Ltd. The expenditure charged to the other Undertakings has been apportioned by the Commission on a basis considered equitable. We have no reason to take exception to this basis of apportionment, which has been slightly modified during 1937.

RAND RAILWAY ELECTRIFICATION SCHEME.

During 1937 portions of this scheme came into operation, and the operating figures are shown in the Revenue Account of the Witbank Undertaking. Under agreements made the energy supplied is purchased by the Commission from The Victoria Falls and Transvaal Power Co., Ltd., and drawn from the Rand-Witbank general system. It is sold by the Commission to the South African Railways at a price which covers cost, capital charges and overhead expenses. The first cost of the power to the Commission is shown in the Revenue Account as Power Purchased and the sale to the Railways as Traction Supplies.

KLIP UNDERTAKING.

Under agreement with The Victoria Falls and Transvaal Power Co., Ltd., this Power Station is operated by that company for and on behalf of the Commission. The Company is the sole consumer, takes the whole output of this Station, and pays the total cost of operating the Station, including the Capital Charges (Interest, Redemption Fund and Reserve Fund), which accrue to the Commission.

As the Company is the sole party interested, we have accepted as correct the Working Costs as rendered by the Company, and have not verified the same apart from the Capital Charges and the Head Office Administration and Engineering Expenses.

GENERAL.

As the result of our audit of the Books and Accounts of the Commission for the year 1937, 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 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,

(Signed) B. HALSEY,

ALEX. AIKEN & CARTER.

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

- (1) Fees accruing to the Commission in connection with the establishment of the Klip and Rand Extension Undertakings in terms of agreements with The Victoria Falls and Transvaal Power Co., Ltd.
- (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 allocated against the Revenue Accounts of all the Undertakings. 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 Co., Ltd. The expenditure charged to the other Undertakings has been apportioned by the Commission on a basis considered equitable. We have no reason to take exception to this basis of apportionment, which has been slightly modified during 1937.

RAND RAILWAY ELECTRIFICATION SCHEME.

During 1937 portions of this scheme came into operation, and the operating figures are shown in the Revenue Account of the Witbank Undertaking. Under agreements made the energy supplied is purchased by the Commission from The Victoria Falls and Transvaal Power Co., Ltd., and drawn from the Rand-Witbank general system. It is sold by the Commission to the South African Railways at a price which covers cost, capital charges and overhead expenses. The first cost of the power to the Commission is shown in the Revenue Account as Power Purchased and the sale to the Railways as Traction Supplies.

KLIP UNDERTAKING.

Under agreement with The Victoria Falls and Transvaal Power Co., Ltd., this Power Station is operated by that company for and on behalf of the Commission. The Company is the sole consumer, takes the whole output of this Station, and pays the total cost of operating the Station, including the Capital Charges (Interest, Redemption Fund and Reserve Fund), which accrue to the Commission.

As the Company is the sole party interested, we have accepted as correct the Working Costs as rendered by the Company, and have not verified the same apart from the Capital Charges and the Head Office Administration and Engineering Expenses.

GENERAL.

As the result of our audit of the Books and Accounts of the Commission for the year 1937, 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 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,

(Signed) B. HALSEY,

ALEX. AIKEN & CARTER.

Electricity Supply

Incorporated under the
BALANCE SHEET at

Loan Capital ...					£15,464,432 10 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		
<i>Less</i> —Repaid during 1933 and 1934	8,000,000	0	0		
Local Registered Stocks—					
Loan No. 3 £500,000 4½ 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 3¼ per cent. 1954/64	6,750,000	0	0		
Loan No. 6 £2,500,000 3¼ 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 3¼ per cent. 1957/67 (payable in full not later than 28th February, 1938, in terms of Prospectus)—					
Fully paid	397,450	0	0		
Partly paid Instalments due	£881,402	10	0		
<i>Less</i> — Amount outstanding since paid	64,420	0	0		
	£16,250,000				816,982 10 0
Interest Accrued on Loan Capital					72,576 11 7
Sundry Loans					37,132 0 4
Umkomaas Town Board	10,380	0	0		
Volksrust Municipality	26,752	0	4		
Sundry Creditors and Credit Balances					494,243 10 11
Pension Fund					89,160 11 5
Redemption Fund (As per Account No. 1.)					1,492,139 18 11
Sinking Fund (Umkomaas Loan.)					2,335 2 3
Sundry Loans Repaid					1,513 3 6
Reserve Fund (As per Account No. 2.)					1,096,031 3 9
Balance on Revenue Accounts (As per Accounts Nos. 3 to 7.)					78,746 12 8
Natal Central Undertaking	27,826	8	6		
Witbank Undertaking	19,725	5	0		
Capetown Undertaking	16,438	8	3		
Durban Undertaking	13,676	8	11		
Sabie Undertaking	1,080	2	0		
	£18,828,311	5	4		

NOTE.—In addition to the liabilities shown above, the Commission is committed to the extent of approximately £3,158,000 for expenditure on Capital Account; also £74,250 chargeable against Reserve Fund.

H. J. VAN DER BIJL, Chairman.
A. E. HARTE, C.A. (S.A.), Chief Accountant.

Johannesburg,
31st March, 1938.

Commission.

Electricity Act, 1922.

31st DECEMBER, 1937.

Expenditure on Capital Account— (As per Schedule attached)					
Land and Rights	£147,862	11	8		
Buildings and Civil Works	4,151,228	10	8		
Machinery and Plant	10,982,599	16	6		
					£15,281,690 18 10
<i>Less</i> —Net Revenue during Construction	133,087	12	3		
Provision made prior to Financial Adjustments Act, 1930, for repayment of Advances, appropriated in reduction of Capital Expenditure	123,650	1	10		
					256,737 14 1
					15,024,953 4 9
Movable Plant and Equipment (less depreciation)					61,395 17 7
Workshop Equipment, Instruments, Tools and Loose Plant	31,710	16	4		
Transportation Equipment	3,290	11	0		
Furniture, Fixtures and Fittings	26,394	10	3		
Stores and Materials					145,475 15 8
Sundry Debtors and Debit Balances					204,011 5 0
Investments					315,611 12 5
Cash on deposit at interest	315,393	15	0		
Interest Accrued	217	17	5		
Cash on Current Account					306,523 10 4
Investment of Pension Fund					89,776 5 7
Amount invested in Municipal and Electricity Supply Commission Stocks	89,352	10	0		
Interest Accrued	423	15	7		
Investment of Redemption Fund (As per Statement attached.)					1,547,276 4 10
Investment of Sinking Fund					2,417 1 9
Amount invested in Municipal and Electricity Supply Commission Stocks	2,404	0	0		
Interest Accrued	13	1	9		
Investment of Reserve Fund					1,130,870 7 5
Amount invested in Stocks 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	1,125,512	7	1		
Interest Accrued	5,358	0	4		
	£18,828,311	5	4		

Referred to in our Report of May 4th, 1938.

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

Electricity Supply

SCHEDULE OF EXPENDITURE ON CAPITAL

Expenditure in connection with Electricity Undertakings.	Total to 31st December, 1936.	Year ended 31st December, 1937.	Total to 31st December, 1937.
NATAL CENTRAL UNDERTAKING:			
Land and Rights	£20,095 16 5	£256 7 0	£20,352 3 5
Buildings and Civil Works	781,641 14 9	7,831 18 8	789,473 13 5
Machinery and Plant	3,178,547 6 2	157,008 0 4	3,335,555 6 6
	3,980,284 17 4	165,096 6 0	4,145,381 3 4
Net Revenue during Construction ...	—	Cr. 363 10 8	Cr. 363 10 8
Provision made prior to Financial Adjustments Act, 1930, for repayment of Advances, appropriated in reduction of Capital Expenditure ...	Cr. 123,650 1 10	—	Cr. 123,650 1 10
	£3,856,634 15 6	£164,732 15 4	£4,021,367 10 10
WITBANK UNDERTAKING:			
Land and Rights	£9,478 11 0	£33 13 11	£9,512 4 11
Buildings and Civil Works	597,709 16 11	12,920 13 7	610,630 10 6
Machinery and Plant	1,807,587 10 4	116,262 13 6	1,923,850 3 10
	2,414,775 18 3	129,217 1 0	2,543,992 19 3
Net Revenue during Construction ...	Cr. 103,458 8 4	—	Cr. 103,458 8 4
	£2,311,317 9 11	£129,217 1 0	£2,440,534 10 11
CAPETOWN UNDERTAKING:			
Land and Rights	£23,055 1 0	£546 1 3	£23,601 2 3
Buildings and Civil Works	688,487 14 8	Cr. 6,590 4 2	681,897 10 6
Machinery and Plant	1,585,570 8 1	3,104 19 3	1,588,675 7 4
	2,297,113 3 9	Cr. 2,939 3 8	2,294,174 0 1
Net Revenue during Construction ...	Cr. 5,019 2 1	—	Cr. 5,019 2 1
	£2,292,094 1 8	Cr. £2,939 3 8	£2,289,154 18 0
DURBAN UNDERTAKING:			
Land and Rights	£29,810 16 4	—	£29,810 16 4
Buildings and Civil Works	358,680 16 10	£19,623 7 5	378,304 4 3
Machinery and Plant	747,921 6 9	59,289 15 9	807,211 2 6
	1,136,412 19 11	78,913 3 2	1,215,326 3 1
Net Revenue during Construction ...	Cr. 15,121 15 4	—	Cr. 15,121 15 4
	£1,121,291 4 7	£78,913 3 2	£1,200,204 7 9

Commission.

ACCOUNT TO 31st DECEMBER, 1937.

Expenditure in connection with Electricity Undertakings.	Total to 31st December, 1936.	Year ended 31st December, 1937.	Total to 31st December, 1937.
SABIE UNDERTAKING:			
Land and Rights	£510 0 0	—	£510 0 0
Buildings and Civil Works	65,458 1 8	—	65,458 1 8
Machinery and Plant	39,301 7 5	—	39,301 7 5
	105,269 9 1	—	105,269 9 1
Net Revenue during Construction ...	Cr. 9,124 15 10	—	Cr. 9,124 15 10
	£96,144 13 3	—	£96,144 13 3
KLIP GENERATING STATION UNDERTAKING:			
Land and Rights	£3,108 13 3	£7 7 0	£3,116 0 3
Buildings and Civil Works	895,813 17 2	405,918 14 10	1,301,732 12 0
Machinery and Plant	2,115,516 6 3	793,510 3 3	2,909,026 9 6
	£3,014,438 16 8	£1,199,436 5 1	£4,213,875 1 9
RAND EXTENSION UNDERTAKING:			
Land and Rights	£841 10 6	£533 11 0	£1,375 1 6
Machinery and Plant	243,499 16 2	135,480 3 3	378,979 19 5
	£244,341 6 8	£136,013 14 3	£380,355 0 11
ESCOM HOUSE:			
Land	£59,585 3 0	—	£59,585 3 0
Building and Equipment	299,557 3 6	£24,174 14 10	323,731 18 4
	£359,142 6 6	£24,174 14 10	£383,317 1 4
SUMMARY:			
Land and Rights	£146,485 11 6	£1,377 0 2	£147,862 11 8
Buildings and Civil Works	3,687,349 5 6	463,879 5 2	4,151,228 10 8
Machinery and Plant	9,717,944 1 2	1,264,655 15 4	10,982,599 16 6
	13,551,778 18 2	1,729,912 0 8	15,281,690 18 10
Net Revenue during Construction ...	Cr. 132,724 1 7	Cr. 363 10 8	Cr. 133,087 12 3
Provision made prior to Financial Adjustments Act, 1930, for repayment of Advances, appropriated in reduction of Capital Expenditure ...	Cr. 123,650 1 10	—	Cr. 123,650 1 10
	£13,295,404 14 9	£1,729,548 10 0	£15,024,953 4 9

Electricity Supply

Statement showing details of Investments of the

	Nominal Amount.	Loan No. 3. £500,000 4½% Local Registered Stock, 1953/63.
Electricity Supply Commission 4½ per cent. Local Registered Stock, 1953/63	£93,700 0 0	£39,657 10 8
Electricity Supply Commission 4½ per cent. Local Registered Stock, 1953	134,270 0 0	—
Electricity Supply Commission 3¼ per cent. Local Registered Stock, 1954/64	354,850 0 0	—
Electricity Supply Commission 3½ per cent. Local Registered Stock, 1959/64	28,150 0 0	—
Electricity Supply Commission 3¼ per cent. Local Registered Stock, 1956/66	301,500 0 0	16,490 0 0
Electricity Supply Commission 3½ per cent. Local Registered Stock, 1957/67	260,300 0 0	16,975 0 0
Union of South Africa 4½ per cent. Local Registered Stock, 1953	321,240 0 0	—
South African Iron and Steel Industrial Corporation, Limited, 5 per cent. Guaranteed First Mortgage Registered Debentures, 1946/71	61,200 0 0	—
	£1,555,210 0 0	£73,122 10 8
Interest Accrued	—	317 11 4
	£1,555,210 0 0	£73,440 2 0

Johannesburg,
31st March, 1938.

Commission.

Redemption Fund as at 31st December, 1937.

Loan No. 4. £2,500,000 4½% Local Registered Stock, 1953.	Loan No. 5. £6,750,000 3¼% Local Registered Stock, 1954/64.	Loan No. 6. £2,500,000 3½% Local Registered Stock, 1959/64.	Loan No. 7. £2,000,000 3¼% Local Registered Stock, 1956/66.	Totals.
—	£56,950 0 0	—	—	£96,607 10 8
£133,670 0 0	—	£600 0 0	—	134,270 0 0
—	353,376 6 1	—	—	353,376 6 1
—	—	28,150 0 0	—	28,150 0 0
98,940 0 0	143,560 0 0	19,400 0 0	£14,065 0 0	292,455 0 0
75,369 0 0	78,182 0 0	60,043 0 0	21,922 0 0	252,491 0 0
321,240 0 0	—	—	—	321,240 0 0
51,200 0 0	9,975 0 0	—	—	61,175 0 0
£680,419 0 0	£642,043 6 1	£108,193 0 0	£35,987 0 0	£1,539,764 16 9
2,862 1 6	3,823 3 6	351 13 10	156 17 11	7,511 8 1
£683,281 1 6	£645,866 9 7	£108,544 13 10	£36,143 17 11	£1,547,276 4 10

A. E. HARTE, C.A. (S.A.), Chief Accountant.

Electricity Supply Commission.

Redemption Fund Account for the Year ended 31st December, 1937.

	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.	Totals.
Cr.							
By Balance at 31st December, 1936, brought forward—							
Natal Central Undertaking	£171 3 2	£6,735 19 10	£177,789 12 10	—	£3 0 7	—	£184,699 16 5
Witbank Undertaking	274 14 0	388,696 17 5	135,316 8 5	—	—	—	524,287 19 10
Capetown Undertaking	36,372 18 7	13,760 19 11	91,692 8 7	—	27 15 10	—	141,854 2 11
Durban Undertaking	17,638 11 1	137,678 0 11	42,741 8 4	—	—	—	198,058 0 4
Sabie Undertaking	—	26,365 4 3	8,702 12 4	—	—	—	35,067 16 7
Klip Generating Station Undertaking	—	—	—	£33,071 14 6	152 0 4	—	33,223 14 10
Rand Extension Undertaking	—	—	—	4,306 18 0	108 9 3	—	4,415 7 3
Head Office	—	969 0 9	378 12 10	—	—	—	1,347 13 7
	£54,457 6 10	£574,206 3 1	£456,621 3 4	£37,378 12 6	£291 6 0	—	£1,122,954 11 9
„ Amounts Contributed during the Year out of Revenue—							
Natal Central Undertaking	£53 18 0	£3,401 9 9	£73,404 14 6	—	£843 15 1	—	£77,703 17 4
Witbank Undertaking	93 9 1	37,794 17 6	18,286 6 7	—	1,848 8 4	£2 0 1	58,025 1 7
Capetown Undertaking	11,198 11 3	6,472 2 9	38,053 11 3	—	185 3 8	—	55,909 8 11
Durban Undertaking	4,287 13 8	19,801 7 8	7,980 10 8	—	47 15 11	20 19 7	32,138 7 6
Sabie Undertaking	—	2,643 7 9	882 6 8	—	—	—	3,525 14 5
Klip Generating Station Undertaking	—	—	—	£58,978 4 4	23,859 17 7	—	82,838 1 11
Rand Extension Undertaking	—	—	—	5,312 14 0	642 2 6	26 15 7	5,981 12 1
Head Office	—	166 9 8	2,113 14 1	—	4,355 6 5	—	6,635 10 2
	£15,633 12 0	£70,279 15 1	£140,721 3 9	£64,290 18 4	£31,782 9 6	£49 15 3	£322,757 13 11
„ Net Proceeds of Sales of Fixed Property—							
Natal Central Undertaking	—	—	£15 0 0	—	—	—	£15 0 0
Witbank Undertaking	—	£323 12 2	—	—	—	—	323 12 2
	—	£323 12 2	£15 0 0	—	—	—	£338 12 2
„ Net Interest Earned on Investments, after Deducting Amounts Appropriated in Reduction of Premiums on Investments Purchased—							
Natal Central Undertaking	£5 19 10	£326 5 0	£7,475 11 5	—	£3 11 11	—	£7,811 8 2
Witbank Undertaking	9 12 3	16,115 1 11	5,111 10 0	—	1 15 3	—	21,237 19 5
Capetown Undertaking	1,273 1 1	661 6 7	3,871 0 3	—	3 4 2	—	5,808 12 1
Durban Undertaking	617 7 0	5,811 8 3	1,646 10 10	—	7 4	—	8,075 13 5
Sabie Undertaking	—	1,095 2 8	324 11 10	—	—	—	1,419 14 6
Klip Generating Station Undertaking	—	—	—	£1,234 18 9	234 10 2	—	1,469 8 11
Rand Extension Undertaking	—	—	—	139 3 7	10 1 11	—	149 5 6
Head Office	—	41 13 3	36 11 7	—	38 14 3	—	116 19 1
	£1,906 0 2	£24,050 17 8	£18,465 15 11	£1,374 2 4	£292 5 0	—	£46,089 1 1
Grand Total	£71,996 19 0	£668,860 8 0	£615,823 3 0	£103,043 13 2	£32,366 0 6	£49 15 3	£1,492,139 18 11
Dr.							
To Balance as per Balance Sheet—							
Natal Central Undertaking	£231 1 0	£10,463 14 7	£258,684 18 9	—	£850 7 7	—	£270,230 1 11
Witbank Undertaking	377 15 4	442,930 9 0	158,714 5 0	—	1,850 3 7	£2 0 1	603,874 13 0
Capetown Undertaking	48,844 10 11	20,894 9 3	133,617 0 1	—	216 3 8	—	203,572 3 11
Durban Undertaking	22,543 11 9	163,290 16 10	52,368 9 10	—	48 3 3	20 19 7	238,272 1 3
Sabie Undertaking	—	30,103 14 8	9,909 10 10	—	—	—	40,013 5 6
Klip Generating Station Undertaking	—	—	—	£93,284 17 7	24,246 8 1	—	117,531 5 8
Rand Extension Undertaking	—	—	—	9,758 15 7	760 13 8	26 15 7	10,546 4 10
Head Office	—	1,177 3 8	2,528 18 6	—	4,394 0 8	—	8,100 2 10
	£71,996 19 0	£668,860 8 0	£615,823 3 0	£103,043 13 2	£32,366 0 6	£49 15 3	£1,492,139 18 11

A. E. HARTE, C.A. (S.A.), Chief Accountant.

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 May 4th, 1938.

Johannesburg,
31st March, 1938.

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

Electricity Supply

Dr.					Cr.
					Reserve Fund Account for the
<hr/>					
To Expenditure during the Year on Replacements and Betterment	...	...	...	...	£58,275 17 2
Natal Central Undertaking	...	...	...	£6,385 15 6	
Witbank Undertaking	...	...	...	45,553 4 6	
Capetown Undertaking	...	...	...	5,049 2 8	
Durban Undertaking	...	...	...	1,287 14 6	
<hr/>					
„ Balance as per Balance Sheet	...	...	...		1,096,031 3 9
Natal Central Undertaking	...	...	...	461,902 4 6	
Witbank Undertaking	...	...	...	226,045 1 5	
Capetown Undertaking	...	...	...	224,551 2 11	
Durban Undertaking	...	...	...	123,758 5 1	
Sabie Undertaking	...	...	...	9,358 12 5	
Klip Generating Station Undertaking	...	...	...	46,240 6 7	
Rand Extension Undertaking	...	...	...	4,175 10 10	
<hr/>					
					<u>£1,154,307 0 11</u>

Johannesburg,
31st March, 1938.

Commission.

					Cr.
					Year ended 31st December, 1937.
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By Balance at 31st December, 1936, brought forward	£945,175 7 10
Natal Central Undertaking	£413,220 15 9	
Witbank Undertaking	...	...	...	216,453 6 1	
Capetown Undertaking	...	...	...	186,501 19 7	
Durban Undertaking	...	...	...	105,727 8 6	
Sabie Undertaking	...	...	...	8,450 17 9	
Klip Generating Station Undertaking	...	...	...	13,070 6 1	
Rand Extension Undertaking	...	...	...	1,750 14 1	
<hr/>					
„ Amounts set aside during the Year as per Revenue Accounts	...	...	...	...	173,805 3 11
Natal Central Undertaking	...	...	...	40,000 0 0	
Witbank Undertaking	...	...	...	47,250 0 0	
Capetown Undertaking	...	...	...	36,000 0 0	
Durban Undertaking	...	...	...	15,360 0 0	
Sabie Undertaking	...	...	...	600 0 0	
Klip Generating Station Undertaking	...	...	...	32,265 7 5	
Rand Extension Undertaking	...	...	...	2,329 16 6	
<hr/>					
„ Interest Earned on Investments	...	...	...	...	35,326 9 2
Interest earned	...	...	...	40,522 4 0	
Less—Premium on Investments written off	...	...	...	5,195 14 10	
<hr/>					
					<u>£1,154,307 0 11</u>

A. E. HARTE, C.A. (S.A.), Chief Accountant.

Electricity Supply

NATAL CENTRAL

Revenue Account for the Year

Dr.	
Generation of Electricity.	
To Operation—	
Fuel	£93,577 0 3
Water, Oil, Waste and Stores	1,461 13 5
Salaries and Wages	17,926 5 0
Other Expenses	122 19 11
„ Maintenance—	
Stores	6,237 2 4
Salaries and Wages	10,372 12 5
Other Expenses	527 3 4
„ Electricity Purchased	£130,224 16 8
	304 11 1
Distribution of Electricity.	
„ Operation and Maintenance—	
Stores	4,916 10 0
Salaries and Wages	17,524 15 6
Other Expenses	4,042 19 8
	26,484 5 2
General Expenses.	
„ Local Administration and Technical Management	7,268 0 0
„ General Expenses (including Maintenance of Quarters, Stores Expenses, Rates, Insurance, Pension Fund Contributions, Payment to Durban Undertaking under Agreement, etc.)	12,604 6 5
„ Investigations and Development Expenses	119 18 3
„ Head Office Administration and General Expenses, including Publicity	7,217 12 5
„ Engineering Expenses	3,278 12 0
	30,488 9 1
„ Interest	187,502 2 0
„ Redemption Fund	144,987 17 9
„ Repayment Volksrust Loan	77,703 17 4
„ Amount set aside to Reserve Fund	1,023 12 4
„ Balance carried down	40,000 0 0
	11,653 2 6
	£462,870 11 11
To Balance as per Balance Sheet	£27,826 8 6
	£27,826 8 6

A. E. HARTE, C.A. (S.A.), Chief Accountant.

Johannesburg,
31st March, 1938.

Commission.

UNDERTAKING.

ended 31st December, 1937.

	Cr.
By Sales of Electricity—	
Traction Supplies	£363,318 15 9
Bulk Supplies	60,789 8 8
Industrial Supplies	21,566 1 11
Domestic and Lighting Supplies	13,250 19 6
	458,925 5 10
Less—Proportion applied against Capital Cost of part of Undertaking not in commercial operation	363 10 8
	£458,561 15 2
„ Other Revenue	4,308 16 9
	£462,870 11 11
By Balance at 31st December, 1936, brought forward	£16,173 6 0
„ Balance brought down	11,653 2 6
	£27,826 8 6

Referred to in our Report of May 4th, 1938.

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

Electricity Supply

WITBANK

Dr. Revenue Account for the Year

Generation of Electricity.			
To Operation—			
Fuel	£70,232	1	4
Water, Oil, Waste and Stores	6,205	13	11
Salaries and Wages	25,934	0	11
Other Expenses	1,156	10	2
„ Maintenance—			
Stores	11,664	14	11
Salaries and Wages	14,786	13	11
Other Expenses	10,475	8	6
„ Electricity Purchased	£140,455	3	8
	15,885	10	1
Distribution of Electricity.			
„ Operation and Maintenance—			
Stores	2,390	3	5
Salaries and Wages	4,728	10	3
Other Expenses	1,306	4	2
	8,424	17	10
General Expenses.			
„ Local Administration and Technical Management ...	7,302	2	9
„ General Expenses (including Maintenance of Quarters, Stores Expenses, Rates, Insurance, Pension Fund Contributions, etc.)	9,181	8	3
„ Administration, Engineering and General Expenses of Operating Party (The Victoria Falls and Transvaal Power Co., Ltd.)	7,000	0	0
„ Head Office Administration and General Expenses, including Publicity	5,934	16	1
„ Engineering Expenses	2,695	17	8
	32,114	4	9
	196,879	16	4
„ Interest	98,269	8	5
„ Redemption Fund	58,025	1	7
„ Amount set aside to Reserve Fund	47,250	0	0
„ Balance carried down	4,266	14	8
	£404,691	1	0
	£19,725	5	0
„ Balance as per Balance Sheet	£19,725	5	0
	£19,725	5	0

A. E. HARTE, C.A. (S.A.), Chief Accountant.

Johannesburg,
31st March, 1938.

Commission.

UNDERTAKING.

ended 31st December, 1937.

Cr.

By Sales of Electricity—					
Traction Supplies	£22,337	16	9		
Bulk Supplies	287,847	0	8		
Industrial Supplies	83,125	8	5		
Domestic and Lighting Supplies	6,627	15	4		
	£399,938	1	2		
„ Other Revenue				4,752	19 10
				£404,691	1 0
				£15,458	10 4
By Balance at 31st December, 1936, brought forward ...				4,266	14 8
„ Balance brought down				£19,725	5 0
				£19,725	5 0

Referred to in our Report of May 4th, 1938.

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

Electricity Supply

CAPETOWN

Dr. Revenue Account for the Year

Generation of Electricity.			
To Proportion of Pooled Costs ...	(As per attached Statement.)		£131,530 14 3
Distribution of Electricity.			
,, Operation and Maintenance—			
Stores ...	...	£3,009 8 11	
Salaries and Wages ...	...	13,595 14 7	
Other Expenses ...	...	3,322 3 1	
		19,927 6 7	
General Expenses.			
,, Local Administration and Technical Management ...			
		7,838 0 6	
,, General Expenses (including Maintenance of Quarters, Stores Expenses, Rates, Insurance, Pension Fund Contributions, etc.) ...			
		9,705 13 6	
,, Head Office Administration and General Expenses, including Publicity ...			
		5,943 18 6	
,, Engineering Expenses ...			
		2,700 0 5	
		26,187 12 11	
Less—Charged to Pooled Costs ...			
		2,701 7 1	
		23,486 5 10	
		174,944 6 8	
,, Interest ...			
		92,680 15 8	
,, Redemption Fund ...			
		55,909 8 11	
,, Amount set aside to Reserve Fund ...			
		36,000 0 0	
		184,590 4 7	
Less—Charged to Pooled Costs ...			
		49,054 1 7	
		135,536 3 0	
,, Balance carried down ...			
		1,477 18 1	
		£311,958 7 9	
,, Balance as per Balance Sheet ...			
		£16,438 8 3	
		£16,438 8 3	

A. E. HARTE, C.A. (S.A.), Chief Accountant.

Johannesburg,
31st March, 1938.

Commission.

UNDERTAKING.

ended 31st December, 1937. Cr.

By Sales of Electricity—			
Traction Supplies ...	... ..		£152,051 9 3
Bulk Supplies ...	... ..		31,884 14 2
Industrial Supplies ...	... ..		86,610 5 6
Domestic and Lighting Supplies ...	... ..		40,063 5 4
			£310,609 14 3
,, Other Revenue ...			
			2,763 8 9
Less—Credited to Pooled Costs ...			
			1,414 15 3
			1,348 13 6
£311,958 7 9			
By Balance at 31st December, 1936, brought forward ...			
			£14,960 10 2
,, Balance brought down ...			
			1,477 18 1
			£16,438 8 3

Referred to in our Report of May 4th, 1938.

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

Electricity Supply Commission

SALT RIVER AND DOCK

Dr. Statement of Pooled Costs for the Year ended

	Expenditure by Electricity Supply Commission.	Expenditure by City of Capetown.	Pooled Costs.
Pooled Generation of Electricity.			
To Operation and Maintenance—			
Fuel	£252,091 5 4	£18,528 1 1	£270,619 6 5
Water, Oil, Waste and Stores ...	11,548 2 3	1,873 16 6	13,421 18 9
Salaries, Wages and other Expenses	43,038 14 1	12,152 5 5	55,190 19 6
„ General Expenses (including Stores Expenses, Rates, Insurance, Pension Fund Contributions, etc.) ...	2,701 7 1	2,019 14 9	4,721 1 10
„ Interest	25,452 9 6	—	25,452 9 6
„ Redemption Fund	20,803 7 8	—	20,803 7 8
„ Reserve Fund	2,798 4 5	—	2,798 4 5
	£358,433 10 4	£34,573 17 9	£393,007 8 1

Capetown,
31st March, 1938.

and City of Capetown.

ROAD POWER STATIONS.

31st December, 1937, and Allocation thereof. Cr.

By Allocation of Pooled Costs in terms of Agreement—			
Electricity Supply Commission	£131,530 14 3		
City of Capetown	259,668 11 5		
			£391,199 5 8
„ Sundry Revenue—			
Electricity Supply Commission	1,414 15 3		
City of Capetown	393 7 2		
			1,808 2 5
			£393,007 8 1

GEO. H. SWINGLER,
Manager of the Pooled Stations.

Electricity Supply

DURBAN

Dr. Revenue Account for the Year

Generation of Electricity.			
To Operation—			
Fuel	£100,860	9	3
Water, Oil, Waste and Stores	1,501	13	1
Salaries and Wages	13,390	8	2
Other Expenses	1,298	13	2
„ Maintenance—			
Stores	7,921	12	10
Salaries and Wages	13,206	9	4
Other Expenses	1,627	5	7
„ Electricity Purchased			
	£139,806	11	5
		2,202	1 5
Distribution of Electricity.			
„ Operation and Maintenance—			
Stores	256	18	2
Salaries and Wages	1,293	10	2
Other Expenses	387	0	9
		1,937	9 1
General Expenses.			
„ Local Administration and Technical Management ...	5,366	14	5
„ General Expenses (including Maintenance of Quarters, Stores Expenses, Rates, Insurance, Pension Fund Contributions, etc.)	4,687	8	10
„ Investigations and Development Expenses	19	5	7
„ Head Office Administration and General Expenses, including Publicity	4,245	13	2
„ Engineering Expenses	1,928	11	9
		16,247	13 9
		160,193	15 8
„ Interest		50,156	19 11
„ Redemption Fund		32,138	7 6
„ Sinking Fund		255	5 6
„ Amount set aside to Reserve Fund		15,360	0 0
„ Balance carried down		3,378	19 2
	£261,483	7	9
To Balance as per Balance Sheet	£13,676	8	11
	£13,676	8	11

A. E. HARTE, C.A. (S.A.), Chief Accountant.

Johannesburg,
31st March, 1938.

Commission.

UNDERTAKING.

ended 31st December 1937.

Cr.

By Sales of Electricity—			
Bulk Supplies	£252,256	18	2
Industrial Supplies	988	10	10
Domestic and Lighting Supplies	5,250	10	5
		£258,495	19 5
„ Other Revenue			
		2,987	8 4
		£261,483	7 9
By Balance at 31st December, 1936, brought forward ...	£10,297	9	9
„ Balance brought down	3,378	19	2
	£13,676	8	11

Referred to in our Report of May 4th, 1938.

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

Electricity Supply

SABIE

Dr. Revenue Account for the Year

Generation of Electricity.			
To Operation—			
Water, Oil, Waste and Stores	... ..	£56 1 11	
Salaries and Wages	... ..	1,732 1 7	
„ Maintenance—			
Stores	... ..	522 16 2	
Salaries and Wages	... ..	332 19 6	
Other Expenses	... ..	114 14 8	
			£2,758 13 10
Distribution of Electricity.			
„ Operation and Maintenance—			
Stores	... ..	169 19 8	
Salaries and Wages	... ..	309 1 9	
Other Expenses	... ..	668 7 0	
			1,147 8 5
General Expenses.			
„ Local Administration and Technical Management	... ..	331 7 1	
„ General Expenses (including Maintenance of Quarters, Insurance, Pension Fund Contributions, etc.)	... ..	212 11 2	
„ Head Office Administration and General Expenses, including Publicity	... ..	636 17 0	
„ Engineering Expenses	... ..	289 5 9	
			1,470 1 0
			5,376 3 3
„ Interest	... ..	4,248 5 9	
„ Redemption Fund	... ..	3,525 14 5	
„ Amount set aside to Reserve Fund	... ..	600 0 0	
„ Balance carried down	... ..	23 13 9	
			£13,773 17 2
To Balance as per Balance Sheet	... ..		£1,080 2 0
			£1,080 2 0

A. E. HARTE, C.A. (S.A.), Chief Accountant.

Johannesburg,
31st March, 1938.

Commission.

UNDERTAKING.

ended 31st December, 1937.

Cr.

By Sales of Electricity—			
Mining Supplies	... ..	£13,773 17 2	
			£13,773 17 2
By Balance at 31st December, 1936, brought forward	... ..		£1,056 8 3
„ Balance brought down	... ..	23 13 9	
			£1,080 2 0

Referred to in our Report of May 4th, 1938.

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

Electricity Supply

KLIP GENERATING

Dr. Revenue Account for the Year

GENERATION OF ELECTRICITY.

To Operation—							
Fuel	...	...	...	...	...	£165,714	1 4
Water, Oil, Waste and Stores	...	...	...	...	...	4,936	17 7
Salaries and Wages	...	...	...	...	...	22,416	6 0
Other Expenses	...	...	...	...	...	1,990	7 7
„ Maintenance—							
Stores	...	...	...	...	...	1,998	8 2
Salaries and Wages	...	...	...	...	...	7,634	19 2
Other Expenses	...	...	...	...	...	2,138	12 10
						£206,829	12 8

GENERAL EXPENSES.

„ Local Administration and Technical Management	...	...	...	...	...	4,599	6 6
„ General Expenses (including Maintenance of Quarters, Stores Expenses, Rates, Insurance, Pension Fund Contributions, etc.)	...	...	...	...	...	6,443	18 8
„ Administration, Engineering and General Expenses of Operating Party (The Victoria Falls and Transvaal Power Company, Limited)	...	...	...	...	...	12,018	12 11
„ Head Office Administration and General Expenses, including Publicity	...	...	...	...	...	4,629	5 8
„ Engineering Expenses	...	...	...	...	...	2,102	16 11
						29,794	0 8
						236,623	13 4
„ Interest	...	...	...	...	...	107,032	2 6
„ Redemption Fund	...	...	...	...	...	82,838	1 11
„ Amount set aside to Reserve Fund	...	...	...	...	...	32,265	7 5
						£458,759	5 2

A. E. HARTE, C.A. (S.A.), Chief Accountant.

Johannesburg,
31st March, 1938.

Commission.

STATION UNDERTAKING.

ended 31st December, 1937. Cr.

By Sales of Electricity—							
Bulk Supplies	...	...	...	...	...	£456,180	13 8
„ Other Revenue	...	...	...	...	...	2,578	11 6

Referred to in our Report of May 4th, 1938.

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

Electricity Supply

RAND EXTENSION

Dr. **Revenue Account for the Year**

To Insurance and Legal Expenses	£38	3 11	
„ Head Office Administration and General Expenses, including Publicity	314	9 4	
„ Engineering Expenses	142	16 11	
		<u>£495</u>	10 2
„ Interest		8,375	8 3
„ Redemption Fund		5,981	12 1
„ Amount set aside to Reserve Fund		2,329	16 6
		<u>£17,182</u>	<u>7 0</u>
		<u>£17,182</u>	<u>7 0</u>

A. E. HARTE, C.A. (S.A.), Chief Accountant.

Johannesburg,
31st March, 1938.

Commission.

UNDERTAKING.

ended 31st December, 1937.

Account No. 9.

Cr.

By Amount recovered from The Victoria Falls and Transvaal Power Company, Limited											£17,182	7	0
											<u>£17,182</u>	<u>7</u>	<u>0</u>
											<u>£17,182</u>	<u>7</u>	<u>0</u>

Referred to in our Report of May 4th, 1938.

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

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Summary of principal plant and equipment in course of installation or on order at 31st December, 1937	78
Statement showing price or rent of land or rights or interests in or over land or other property acquired or hired by the Commission during 1937	79
Units sold to all consumers during the past 12 years	81
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Particulars of coal used at the Commission's Steam-raising Power Stations	82

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, 1937:—

POWER STATIONS.

Colenso (Natal Central Undertaking)	...	...	Steam.
Congella (Durban Undertaking)	...	...	Steam.
Klip	...	...	Steam.
Sabie	...	...	Hydro.
Salt River (Capetown Undertaking)	...	...	Steam.
Scottburgh	...	...	Oil.
Umkomaas	...	...	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	10	60,000	600,000	290
Congella	{ 6 2 }	{ 60,000 100,000 }	560,000	{ 270 300 }
Klip	12	180,000	2,160,000	355
Salt River	{ 2 6 }	{ 60,000 100,000 }	720,000	{ 270 425 }
Witbank	20	70,000	1,400,000	225
Totals	58		5,440,000	

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, 1937:—

POWER STATIONS.

Colenso (Natal Central Undertaking) ...	...	...	...	...	...	Steam.
Congella (Durban Undertaking) ...	...	...	...	...	...	Steam.
Klip ...	...	...	...	...	...	Steam.
Sabie ...	...	...	...	...	...	Hydro.
Salt River (Capetown Undertaking) ...	...	...	...	...	...	Steam.
Scottburgh ...	...	...	...	...	...	Oil.
Umkomaas ...	...	...	...	...	...	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 ...	10	60,000	600,000	290
Congella ...	{ 6 2 }	{ 60,000 100,000 }	560,000	{ 270 300 }
Klip ...	12	180,000	2,160,000	355
Salt River ...	{ 2 6 }	{ 60,000 100,000 }	720,000	{ 270 425 }
Witbank ...	20	70,000	1,400,000	225
Totals ...	58		5,440,000	

GENERATING PLANT (EXCLUDING HOUSE SETS).

Power Station.	No. of Generators.	Normal Rating of Each Generator.		Rating of Generator House.		Voltage of Generation
		Kilo-watts.	Kilovolt Amperes.	Kilo-watts.	Kilovolt Amperes.	
Colenso ...	5	12,000	13,500	60,000	67,500	6,600
Congella ...	2	6,000	7,500	68,000	85,000	6,600
	3	12,000	15,000			
	1	20,000	25,000			
Klip ...	6	33,000	41,250	198,000	247,500	10,500
Sabie ...	3	450	600	1,350	1,800	3,300
Salt River ...	3	10,000	11,000	90,000	108,000	12,000
	3	20,000	25,000				33,000
Scottburgh ...	1	13	15	29	35	400
	1	16	20				400
Umkomaas ...	2	32	38	164	201	400
	1	100	125				400
Witbank ...	5	20,000	23,500	100,000	117,500	6,600
Totals ...	36			517,543	627,536	

TRANSMISSION LINES AND CABLES.

Undertaking.	88,000 volts. Route Miles.	40,000 volts. Route Miles.	33,000 volts. Route Miles.	21,000 volts. Route Miles.	12,000 volts. Route Miles.	6,000, 3,300 volts. Route Miles.	380/220 volts. Route Miles.	Total Route Miles.
Capetown ...	—	—	210	—	36	105	113	464
Durban (South Coast)	—	—	19	—	—	10	15	44
Natal Central ...	546	—	33	—	17	117	27	740
Rand Extension ...	123	48	—	27	—	4	1	203
Sabie ...	—	—	—	7	—	1	—	8
Witbank ...	—	—	—	105	—	16	24	145
Totals ...	669	48	262	139	53	253	180	1,604

STATIC TRANSFORMERS AT POWER STATIONS AND SUB-STATIONS.

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

Undertaking.						Capacity. Kilovolt Amperes.
Capetown ... ..	...	...	...	...	...	77,400
Durban ... ..	...	...	...	...	...	8,625
Klip ... ..	...	...	...	...	...	289,333
Natal Central ... ..	...	...	...	...	...	189,685
Reef ... ..	...	...	...	...	...	40,825
Sabie ... ..	...	...	...	...	...	3,140
Witbank ... ..	...	...	...	...	...	179,801
Total ... ..	...	...	...	...	...	<u>788,809</u>

CONVERTING SUB-STATIONS.

Type			Number of Sub-stations.	Number of Units.	Rating.
Motor Generators ... ..	...	...	13	23	46,000 kW.
Rotary Converters ... ..	...	...	6	12	24,000 kW.
Rectifiers ... ..	...	...	22	33	75,460 kVA.
Totals ... ..	...	...	41	68	—

GENERATING PLANT (EXCLUDING HOUSE SETS).

Power Station.	No. of Generators.	Normal Rating of Each Generator.		Rating of Generator House.		Voltage of Generation
		Kilo-watts.	Kilovolt Amperes.	Kilo-watts.	Kilovolt Amperes.	
Colenso ...	5	12,000	13,500	60,000	67,500	6,600
Congella ...	2	6,000	7,500	68,000	85,000	6,600
	3	12,000	15,000			
	1	20,000	25,000			
Klip ...	6	33,000	41,250	198,000	247,500	10,500
Sabie ...	3	450	600	1,350	1,800	3,300
Salt River ...	3	10,000	11,000	90,000	108,000	12,000
	3	20,000	25,000				33,000
Scottburgh ...	1	13	15	29	35	400
	1	16	20				400
Umkomaas ...	2	32	38	164	201	400
	1	100	125				400
Witbank ...	5	20,000	23,500	100,000	117,500	6,600
Totals ...	36			517,543	627,536	

TRANSMISSION LINES AND CABLES.

Undertaking.	88,000 volts. Route Miles.	40,000 volts. Route Miles.	33,000 volts. Route Miles.	21,000 volts. Route Miles.	12,000 volts. Route Miles.	6,000, 3,300 volts. Route Miles.	380/220 volts. Route Miles.	Total Route Miles.
Capetown ...	—	—	210	—	36	105	113	464
Durban (South Coast)	—	—	19	—	—	10	15	44
Natal Central ...	546	—	33	—	17	117	27	740
Rand Extension ...	123	48	—	27	—	4	1	203
Sabie ...	—	—	—	7	—	1	—	8
Witbank ...	—	—	—	105	—	16	24	145
Totals ...	669	48	262	139	53	253	180	1,604

STATIC TRANSFORMERS AT POWER STATIONS AND SUB-STATIONS.

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

Undertaking.						Capacity. Kilovolt Amperes.
Capetown ... ..	...	...	...	...	...	77,400
Durban ... ..	...	...	...	...	...	8,625
Klip ... ..	...	...	...	...	...	289,333
Natal Central ... ..	...	...	...	...	...	189,685
Reef ... ..	...	...	...	...	...	40,825
Sabie ... ..	...	...	...	...	...	3,140
Witbank ... ..	...	...	...	...	...	179,801
Total ... ..	...	...	...	...	...	<u>788,809</u>

CONVERTING SUB-STATIONS.

Type			Number of Sub-stations.	Number of Units.	Rating.
Motor Generators ... ..	...	...	13	23	46,000 kW.
Rotary Converters ... ..	...	...	6	12	24,000 kW.
Rectifiers ... ..	...	...	22	33	75,460 kVA.
Totals ... ..	...	...	41	68	—

Electricity Supply Commission.

STATEMENT No. 2.

Summary of principal plant and equipment in course of installation or on order as at 31st December, 1937:—

BOILER PLANT.

Power Station.	Number of Boilers.		Capacity in lbs. of steam per hour (normal rating).		Pressure. lbs. sq. inch.	
			Each.	Total.		
Colenso ...	2	...	60,000	...	120,000	290
Congella ...	2	...	100,000	...	200,000	300
Klip ...	10	...	180,000	...	1,800,000	355
Totals ...	14	...	—	...	2,120,000	—

GENERATING PLANT (EXCLUDING HOUSE SETS).

Power Station.			Number of Sets.	Capacity each. Kilowatts.		Total Capacity. Kilowatts.
Congella ...	...	...	1	...	30,000	30,000
Klip ...	...	...	6	...	33,000	198,000
Volkstrust ...	...	...	2	...	250	500
Totals ...	...	...	9	...		228,500

TRANSMISSION LINE AND CABLES.

	40,000 Volts. Route Miles.	33,000 Volts. Route Miles.	11,000 Volts. Route Miles.	6,600 Volts. Route Miles.	Totals.
Overhead Lines	15	8	18	9	50

TRANSFORMERS (Step-up and Step-down).

Total capacity in course of installation or on order	Kilovolt Amperes.	314,245
--	-----	-------------------	---------

CONVERTING SUB-STATIONS.

Type.	Number of Sub-stations.		Number of Sets.
Mercury Arc Rectifiers	4	5

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 1937.

(See previous Annual Reports for Rights or Interests in or over Land Acquired prior to 1937.)

Area.		Farm or Lot.	District.	Title.	Purchase Price or Rental.	Acquired From	Purpose for Which Required.
Morgen.	Sq. Rds. Sq. Ft.						
NATAL CENTRAL UNDERTAKING.							
		Remainder of Underwood of Salt River	Durban	Servitude of Right-of-Way in Perpetuity	£15 0 0	Estate J. W. Zeeman	Power Conductors
		Certain Subdivisions of Vaalkop and Dadelfontein No. 885	Pietermaritzburg	Servitude of Right-of-Way in Perpetuity	25 0 0	C. W. Hardman	Power Conductors
		Lots 9B and 10B of Vaalkop and Dadelfontein No. 885	Pietermaritzburg	Servitude of Right-of-Way in Perpetuity	10 0 0	C. H. Keel	Power Conductors
		Remainder of Camperdown No. 1330	Pietermaritzburg	Servitude of Right-of-Way in Perpetuity	15 0 0	A. A. van der Plank	Power Conductors
		Hilton	Pietermaritzburg	Servitude of Right-of-Way in Perpetuity	—	W. M. Henderson	Power Conductors
		Lot 49 of Townlands and Lot BB of Ordinance Land No. 1686	Pietermaritzburg	Servitudes of Right-of-Way in Perpetuity	—	Government of Union of South Africa	Power Conductors
		Subdivision 6 of Leliefontein No. 1175	Pietermaritzburg	Servitude of Right-of-Way in Perpetuity	5 0 0	Ramparsad and others	Power Conductors
		Subdivision Flaxland of Allemans Drift No. 950	Pietermaritzburg	Servitude of Right-of-Way in Perpetuity	23 10 0	The Rand Mining Timber Co., Ltd.	Power Conductors
		Remainder of Sub. A of Samsons Klip No. 3312	Pietermaritzburg	Servitude of Right-of-Way in Perpetuity	5 0 0	H. L. O'Neil	Power Conductors
		Certain Lots of Uitzoek No. 1104	Pietermaritzburg	Servitude of Right-of-Way in Perpetuity	—	R. P. Martell	Power Conductors
WITBANK UNDERTAKING.							
		A of Heuvelfontein No. 48	Witbank	Servitude of Right-of-Way in Perpetuity	60 0 0	S. J. van Molendorf	Power Conductors
		C of Heuvelfontein No. 48	Witbank	Servitude of Right-of-Way in Perpetuity	40 0 0	P. Shill	Power Conductors
		B of Heuvelfontein No. 517	Middelburg	Servitude of Right-of-Way in Perpetuity	12 0 0	S. Meyer	Power Conductors
		D of Van Dyksput No. 88	Witbank	Servitude of Right-of-Way in Perpetuity	25 0 0	C. Pierneef	Power Conductors
		Portion 1 of Vlakkfontein No. 101	Witbank	Servitude of Right-of-Way in Perpetuity	45 0 0	J. H. Duvenhage	Power Conductors
		Certain portions of Heuvelfontein No. 48	Witbank	Servitude of Right-of-Way for 10 years	50 0 0	E. M. A. S. Visage	Power Conductors
		Kromdraai No. 30	Witbank	Servitudes of Right-of-Way in Perpetuity	60 0 0	Estate P. Henwood	Power Conductors
CAPETOWN UNDERTAKING.							
		Remainder of Kylemore A	Stellenbosch	Servitude of Right-of-Way in Perpetuity	—	B. Douglas	Power Conductors
		Portion of De Hoop	Stellenbosch	Servitude of Right-of-Way in Perpetuity	—	C. A. James	Power Conductors
		Amoi	Stellenbosch	Servitude of Right-of-Way in Perpetuity	—	Estate A. F. S. Maasdorp	Power Conductors
		Groot Drakenstein	Stellenbosch	Servitude of Right-of-Way in Perpetuity	£150 plus £5 per annum	Rhodes Fruit Farms Ltd.	Power Conductors
34	104	Lot 475 Vasco, Goodwood	Cape	Purchase	120 0 0	Joyce and McGregor	Substation Site
34	104	Lot No. 711, Block K, Parow	Cape	Purchase	120 0 0	N. Berold	Substation Site
		Lot MS of Lot 8, Stellenbosch	Stellenbosch	Servitude of Right-of-Way in Perpetuity	—	Government of Union of South Africa and M. E. S. van Lobensels	Power Conductors
RAND EXTENSION UNDERTAKING.							
		Spaarwater 154	Heidelberg	Surface Right Permits	—	Government of Union of South Africa	Power Conductors
		Noycedale 71	Heidelberg	Surface Right Permits	—	Government of Union of South Africa	Power Conductors
		Draaikraal 296	Heidelberg	Surface Right Permits	—	Government of Union of South Africa	Power Conductors
		Houtpoort 309	Heidelberg	Surface Right Permits	—	Government of Union of South Africa	Power Conductors
		Bothaskraal 207	Heidelberg	Surface Right Permits	—	Government of Union of South Africa	Power Conductors
		Vlakkfontein 8	Heidelberg	Surface Right Permits	—	Government of Union of South Africa	Power Conductors
		Rietfontein 78	Klerksdorp	Servitude of Right-of-Way in Perpetuity	£9 16 6 per annum	F. Bezuidenhout	Power Conductors
		Rhenosterspruit 16	Klerksdorp	Surface Right Permits	—	Government of Union of South Africa	Power Conductors
		Townlands 44	Klerksdorp	Surface Right Permits	—	Government of Union of South Africa	Power Conductors
		Eleazar 18	Klerksdorp	Surface Right Permits	—	Government of Union of South Africa	Power Conductors

STATEMENT No. 4.

Units sold to all consumers during the past twelve years.

Year.	Capetown Under- taking.	Durban Under- taking.	Klip. Under- taking.	Natal Cent. Under- taking.	Sabie Under- taking.	Witbank Under- taking.	Total.
1926	280,242	—	—	719,666	727,401	160,031,213	161,758,522
1927	5,811,836	—	—	104,206,235	1,938,940	439,061,722	551,018,733
1928	31,038,697	15,563,460	—	114,213,037	2,829,888	464,267,213	627,912,295
1929	47,945,690	78,873,576	—	123,911,774	3,176,173	543,091,138	796,998,351
1930	49,772,016	99,228,000	—	117,075,484	4,585,060	618,951,364	889,611,924
1931	52,109,958	103,899,765	—	101,131,880	6,585,553	603,359,113	867,086,269
1932	64,268,873	109,808,223	—	100,292,933	6,080,010	610,285,123	890,735,162
1933	100,685,629	118,538,312	—	109,186,538	6,349,651	639,368,114	974,128,244
1934	73,583,974	131,104,182	—	124,898,129	7,329,679	648,245,530	985,161,494
1935	80,020,511	149,874,024	—	154,278,600	7,181,282	727,888,529	1,119,242,946
1936	85,840,383	170,493,987	556,997,155	171,476,131	6,863,253	696,376,199	1,688,047,108
1937	94,033,449	189,412,691	1,349,853,464	210,632,827	7,166,684	684,516,633	2,535,620,748

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

STATEMENT No. 5.

Distribution of the units sold during 1937 as between the various classes of consumers:—

UNITS SOLD 1937.

Undertaking.	Traction.	Bulk.	Industrial and Mining.	Domestic and Lighting.	Total.
Natal Central	174,831,231	27,576,943	6,678,268	1,546,385	210,632,827
Witbank	10,886,293	605,215,862	67,049,694	1,364,784	684,516,633
Cape Town	50,244,014	10,998,397	27,925,618	4,870,420	94,038,449
Durban	—	188,701,851	159,859	550,981	189,412,691
Sabie	—	—	7,166,684	—	7,166,684
Klip	—	1,349,853,464	—	—	1,349,853,464
Totals	235,961,538	2,182,346,517	108,980,123	8,332,570	2,535,620,748

STATEMENT No. 4.

Units sold to all consumers during the past twelve years.

Year.	Capetown Under- taking.	Durban Under- taking.	Klip Under- taking.	Natal Cent. Under- taking.	Sabie Under- taking.	Witbank Under- taking.	Total.
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1927	5,811,836	—	—	104,206,235	1,938,940	439,061,722	551,018,733
1928	31,038,697	15,563,460	—	114,213,037	2,829,888	464,267,213	627,912,295
1929	47,945,690	78,873,576	—	123,911,774	3,176,173	543,091,138	796,998,351
1930	49,772,016	99,228,000	—	117,075,484	4,585,060	618,951,364	889,611,924
1931	52,109,958	103,899,765	—	101,131,880	6,585,553	603,359,113	867,086,269
1932	64,268,873	109,808,223	—	100,292,933	6,080,010	610,285,123	890,735,162
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1936	85,840,383	170,493,987	556,997,155	171,476,131	6,863,253	696,376,199	1,688,047,108
1937	94,033,449	139,412,691	1,349,853,464	210,632,827	7,166,684	684,516,633	2,535,620,748

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Sabie ...	—	—	7,166,684	—	7,166,684
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Totals ...	235,961,538	2,182,346,517	108,980,123	8,332,570	2,535,620,748

STATEMENT No. 6.**Power Station Statistics—1937.**

Power Station	Units Generated.	Maximum Half-hourly Demand.		Load Factor on Units Sent Out.
		Kilowatts (Sent Out).		
Colenso	238,297,530	45,300	...	56.6
Congella	199,611,520	45,600	...	47.2
Klip	1,445,496,361	198,990	(Hour)	85.1
Salt River	321,533,269	68,200	...	50.4
Sabie	7,645,800	1,180	...	73.3
Witbank	720,941,291	98,657	(Hour)	78.0
	<u>2,933,525,771</u>			

STATEMENT No. 7.

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

Power Station.	COAL CONSUMED.			B.T.U.'s.		Thermal Efficiency on Units Sent Out.
	Tons. (2,000 lbs.)	Per Unit Generated. Lbs.	Per Unit Sent Out. Lbs.	Average per lb. of Coal.	Average per Unit Sent Out.	
Colenso	171,773	1.44	1.53	12,320	18,800	18.1%
Congella	133,098	1.33	1.41	12,540	17,700	19.3%
Klip	1,098,196	1.52	1.63	9,640	15,690	21.7%
Salt River	204,179	1.27	1.34	12,630	17,000	20.2%
Witbank	655,818	1.82	1.94	11,120	21,620	15.8%
	<u>2,263,064</u>					

Average Cost per Ton (2,000 lbs.).

	1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.
Colenso	8/-	8/3	9/10	10/7	10/9	10/9	11/-	10/10
Congella	13/2	14/2	15/4	15/6	15/4	15/-	15/5	15/2
Klip	—	—	—	—	—	—	3/2	3/-
Salt River	23/5	23/4	24/11	25/4	25/6	25/4	25/4	24/8
Witbank	2/2	2/2	2/4	2/4	2/3	2/3	2/2	2/2

STATEMENT No. 6.

Power Station Statistics—1937.

Power Station	Units Generated.	Maximum Half-hourly Demand. Kilowatts (Sent Out).	Load Factor on Units Sent Out. %
Colenso	238,297,530	45,300	56·6
Congella	199,611,520	45,600	47·2
Klip	1,445,496,361	198,990 (Hour)	85·1
Salt River	321,533,269	68,200	50·4
Sabie	7,645,800	1,180	73·3
Witbank	720,941,291	98,657 (Hour)	78·0
	<hr/>		
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Power Station.				COAL CONSUMED.			B.T.U.'s.		Thermal Efficiency on Units Sent Out.
				Tons. (2,000 lbs.)	Per Unit Generated. Lbs.	Per Unit Sent Out. Lbs.	Average per lb. of Coal.	Average per Unit Sent Out.	
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Average Cost per Ton (2,000 lbs.).

		1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.
Colenso	...	8/-	8/3	9/10	10/7	10/9	10/9	11/-	10/10
Congella	...	13/2	14/2	15/4	15/6	15/4	15/-	15/5	15/2
Klip	...	—	—	—	—	—	—	3/2	3/-
Salt River	...	23/5	23/4	24/11	25/4	25/6	25/4	25/4	24/8
Witbank	...	2/2	2/2	2/4	2/4	2/3	2/3	2/2	2/2

ANNEXURE " C. "

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

Extracted from the 1935/36 Industrial Census, and published by courtesy of the Department
of Census and Statistics (Pretoria).

UNITS GENERATED.

Province.	Local Authorities.	Other Producers.
Cape	127,606,208	311,039,955
Transvaal	297,153,052	3,349,863,438
O.F.S.	32,890,446	16,860,182
Natal	12,368,846	455,125,160
Totals	470,018,552	4,132,888,735
	4,602,907,287	

CONSUMERS AND SALES.

	PROVINCE.					Total.
	Cape.	Transvaal.	O.F.S.	Natal.		
Total Number of Consumers ...	109,293	104,771	12,048	42,610		268,722
Total Units Consumed ...	378,105,022	2,950,203,753	43,264,377	396,287,336		3,767,860,488
Number of Domestic Consumers	99,367	89,707	10,484	33,268		232,826
Units Sold to Domestic Consumers	162,032,672	114,109,280	7,286,191	80,779,506		394,207,649
Average Units Sold per Domestic Consumer	1,631	1,606	695	2,428		1,693

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Average Units Sold per Domestic Consumer	1,631	1,606	695	2,428	1,693

INSTALLED CAPACITY OF PLANTS.

Capacity.	Number of Power Stations.	Total Installed Capacity—Kilowatts.
50,000 kilowatts and over	8	730,383
20,000 kilowatts and over and below 50,000 kilowatts	8	300,350
10,000 kilowatts and over and below 20,000 kilowatts	3	35,000
5,000 kilowatts and over and below 10,000 kilowatts	7	56,530
1,000 kilowatts and over and below 5,000 kilowatts	28	61,592
Below 1,000 kilowatts	213	46,018
	<u>267</u>	<u>1,229,873</u>

SIZE AND TYPE OF GENERATING UNITS.

Size of Sets.	Steam Turbines.	Steam Recip- rocating Engines.	Oil Engines.	Gas Engines.	Water Wheels and Turbines.	Total Number of Sets.
(1) A.C. Plants—						
Below 250 kilowatts	3	76	149	17	22	267
250 kilowatts and over, but below 1,000 kilowatts	20	57	3	2	10	92
1,000 kilowatts and over, but below 5,000 kilowatts	67	—	—	—	—	67
5,000 kilowatts and over	71	—	—	—	—	71
(2) D.C. Plants—						
Below 250 kilowatts	2	63	141	19	5	230
250 kilowatts and over, but below 1,000 kilowatts	1	14	—	—	—	15
1,000 kilowatts and over, but below 5,000 kilowatts	5	—	—	—	—	5

FUEL CONSUMED.

Type of Fuel.	Quantity. (Tons=2,000 lbs.).	Cost.
Coal	4,579,484	£1,697,441
Other Fuel	—	£94,579

COAL CONSUMPTION.

Average Coal Consumption per Unit Generated.	Number of Undertakings.
Under 2 lbs.	13
2 lbs. and over, but under 3 lbs.	19
3 lbs. and over, but under 4 lbs.	16
4 lbs. and over, but under 6 lbs.	22
6 lbs. and over, but under 8 lbs.	15
8 lbs. and over	36

TRANSMISSION AND DISTRIBUTION LINES.

System.	Overhead Lines.	Route Miles: Cables.
D.C.—All voltage	604	434
A.C.—Below 2,000 volts	4,505	2,723
2,000 volts to 11,000 volts	1,087	2,451
Above 11,000 volts	2,013	214

TRANSFORMERS.

Total installed capacity 4,415,383 K.V.A.

Total value of land, buildings, machinery, plant and tools ... ..	£34,352,033

Total number of persons employed in the electricity industry (generation and distribution) 13,096

Total salaries and wages paid for the year £1,939,911

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