

Electricity Supply Commission.

Electricity House,

82, Marshall Street,

Johannesburg,

May, 1931.

To the Honourable

The Minister of Mines and Industries,
Pretoria.

SIR,

In conformity with the provisions of Section 14 of the Electricity Act, 1922, the Commission has the honour to submit its Eighth Annual Report, covering its operations for the year ended 31st December, 1930, together with a brief review of its activities up to 30th April, 1931.

The Commission's five Electricity Undertakings have been in commercial operation throughout the year under review and the Commission is pleased to be in a position to record that the operation of its Undertakings during the year has been satisfactory and that there has again been a substantial increase in the aggregate output.

The Commission is not alone amongst electricity suppliers in South Africa in recording a steadily increasing output during recent years, and it is a matter of some significance that these increases have, on the whole, been maintained in spite of the world-wide depression which has made itself felt in South Africa during the past twelve months.

So far as the Commission's Undertakings are concerned, there has been an increase, during 1930, in the aggregate output and in the sales to each class of consumer, with the single exception of supplies for railway traction purposes. Railway electricity require-

ments for traction purposes are to a large extent dependent upon the traffic to be handled, and the decline in the railway traction supplies, both in Natal and at the Cape, is a reflex of the decreased volume of railway traffic. Increased sales to other classes of consumers have, however, more than offset the decline in railway traction supplies.

The output of most other electricity undertakings in South Africa, both Municipal and private, continues to expand and the extent of the development is exemplified in the comparatively large number of extensions in progress and under consideration at the present time. For example, during 1930, the electricity extension schemes of Urban Local Authorities reported upon by the Commission, in terms of Section 38 of the Electricity Act, 1922, involved an estimated total capital expenditure of over £750,000.

It is abundantly evident that the recognition of the advantages of electricity as a medium for the variety of purposes to which it is adaptable, in both the domestic and industrial spheres, is spreading and it is to be anticipated that the progressive increase in the demand thus created will continue. In fact, it may truthfully be said that, with one or two notable exceptions, the market for electricity supply in South Africa is only just being opened up.

Electrical
Development
Association.

During the past eighteen months, active consideration has been given to the formation in Southern Africa of an Electrical Development Association on the lines of similar associations in overseas countries, where the movement has been markedly successful. It is the intention that the Association be representative of electrical manufacturers and contractors as well as of electricity suppliers, the objective being, by co-ordinating publicity and propaganda work, to extend and intensify the campaign for bringing to the notice of existing and potential consumers the advantages and amenities afforded by electricity in the numerous uses to which it can be applied.

An Organising Committee, upon which the Commission is represented, has been formed and it is hoped that the Association will be launched in the near future and that the effect of its activities will be manifest in an accelerated rate of development in the electricity business with beneficial results to consumers as well as to those engaged in the electrical industry.

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The Commission's five Undertakings are as follows:—

Commission's
Undertakings.

| Name of Undertaking. | Capacity of Main Generating Sets, Kilowatts. | Date of Commencement of Supply. |
|----------------------|--|------------------------------------|
| Natal Central | 60,000 | March, 1926 |
| Witbank | 100,000 | May, 1926 |
| Capetown | 30,000 | May, 1926 |
| Durban | *36,000 | July, 1928 |
| Sabie | 1,350 | November, 1925 |

The figures of primary interest in connection with the operation of the Commission's Undertakings for the year 1930 are:—

1930
Results.

| | |
|---|-----------------------|
| Total Capital Expenditure at 31st December, 1930 | £8,083,558 |
| Total Revenue | £1,005,795 |
| † Total Production Costs (including Capital Charges, Reserve Fund Contributions, etc.) | £1,002,271 |
| Excess of Revenue over Production Costs | £3,524 |
| Total Capacity of Main Generating Sets | 227,350 (kilowatts) |
| Total Electricity Sales | 889,611,924 (units) |
| Average Cost per Unit Sold | 0.270d. |
| Total Coal Consumption | 765,372 (tons) |
| Number of Consumers | 1,658 |
| Total Area of Supply (approx.) | 11,000 (square miles) |

The total revenue for the year 1930 is made up as follows:—

Revenue
and
Production
Costs, 1930.

| SALES OF ELECTRICITY. | Amount. £ | % of Total. | Average Price per Unit Sold. d. |
|------------------------------------|-------------------|----------------|--|
| (a) Traction Supplies | 399,583 | 40.3% | 0.739 |
| (b) Bulk Supplies | 454,995 | 45.8% | 0.156 |
| (c) Industrial and Mining Supplies | 124,198 | 12.5% | 0.518 |
| (d) Domestic and Lighting Supplies | 13,950 | 1.4% | 3.318 |
| Total | £992,726 | 100.0% | 0.268d. |
| (e) Other Revenue | 13,069 | | |
| GRAND TOTAL | £1,005,795 | | |

* An additional 12,000 kilowatt generating set is in course of installation at the Congella (Durban) Power Station. This will bring the capacity of that station up to 48,000 kilowatts.

† For subdivision of Total Production Costs, see page 5.

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(a) Traction Supplies :

The revenue from traction supplies is derived from the Natal Central and Capetown Undertakings from which electricity is supplied to the South African Railways and Harbours Administration for railway traction purposes. The railway traction supplies are transmitted by the Commission over relatively long distances, converted from alternating to direct current and delivered by the Commission to the Railway Administration at intermediate points on the railway track. These are important factors which must be borne in mind in making any comparison of revenue and price per unit from traction supplies with revenue and prices per unit from other classes of consumers.

(b) Bulk Supplies :

The two largest bulk supplies, accounting for nearly 90 per cent. of the revenue under this heading, are the supplies to The Victoria Falls and Transvaal Power Company, Limited, and the Durban Corporation. In both cases, the supplies are delivered by the Commission at the Power Stations (Witbank and Congella respectively), no distribution costs being involved on the Commission's part. In addition, Witbank Power Station is operated as a base load station, with coal at pit-head prices from the adjoining collieries, the Victoria Falls Company taking the whole of the output available after the requirements of the Commission's other consumers have been met. These are the principal considerations accounting for the much lower average price per unit under the heading of Bulk Supplies, as compared with other classes of supplies.

(c) Industrial and Mining Supplies :

This item represents electricity sold by the Commission direct to industrial and mining consumers.

(d) Domestic and Lighting Supplies :

Supplies of electricity direct to domestic and lighting consumers are on a comparatively small scale owing to the fact that most of the larger Municipalities and Local Authorities in the Commission's areas of supply purchase electricity from the Commission in bulk and themselves undertake house-to-house distribution. The scope for direct development of this class of business by the Commission is therefore somewhat limited.

The total production costs for the year 1930 are made up as follows :—

| | Amount. £ | % of Total. | Price per Unit Sold. d. |
|----------------------------------|-------------------|----------------|-------------------------------|
| Generation | 324,045 | 32·3% | 0·087 |
| Distribution | 38,602 | 3·8% | 0·011 |
| General Expenses | 93,966 | 9·4% | 0·025 |
| Interest and Redemption | 450,694 | 45·0% | 0·121 |
| Reserve Fund | 94,964 | 9·5% | 0·026 |
| Total | £1,002,271 | 100·0% | 0·270d. |

A diagram showing the sub-division of the Commission's total production costs during the year 1930 is reproduced on the following page.

The surplus, representing the excess of total revenue over total production costs, for the year 1930, amounting to £3,524, is made up as follows :—

| Undertaking. | Surplus. £ | Deficit. £ |
|-----------------------------|---------------|---------------|
| Natal Central | — | — |
| Witbank | 251 | — |
| Capetown | 1,940 | — |
| Durban | 1,337 | — |
| Sabie | — | 4 |
| Totals | £3,528 | £4 |
| | 4 | |
| NET SURPLUS | £3,524 | |

The Electricity Act, 1922, lays down the principle that the Commission's Undertakings shall be operated, as far as possible, "neither at a profit nor at a loss." The Commission's objective is, therefore, to achieve, as nearly as practicable, a balance between the revenue and production costs of each of its Undertakings.

The Commission's total electricity sales during the year 1930, amounting to 889,611,924 units, represent an increase of 92,613,573 units, or approximately 11·6 per cent. as compared with the year 1929.

Electricity
Sales.

The total production costs for the year 1930 are made up as follows:—

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|---------------------------------|-------------------|---------------|----------------|
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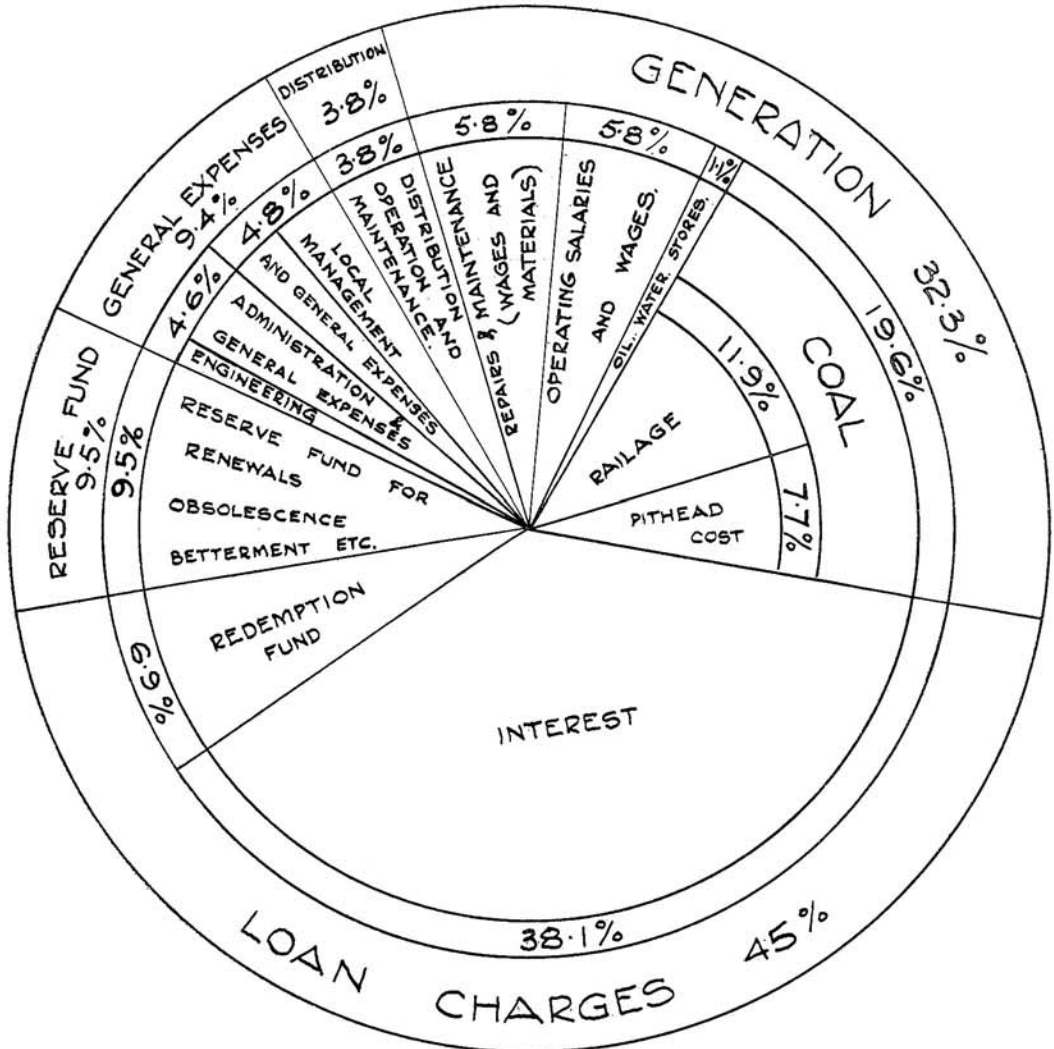
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Electricity
Sales.

Electricity Supply Commission.

DIAGRAMMATIC SUBDIVISION OF TOTAL PRODUCTION COSTS
DURING THE YEAR 1930.



NOTE.—Under the heading "General Expenses" is included miscellaneous expenditure such as maintenance of quarters, stores expenses, assessment rates, wayleaves, rents, insurance, audit expenses, pension fund contributions, legal expenses; etc.

The following statement shows the units sold to all consumers during the past five years:—

| Undertaking. | UNITS SOLD. | | | | |
|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | 1926. | 1927. | 1928. | 1929. | 1930. |
| Natal Central ... | 719,666 | 104,206,235 | 114,213,037 | 123,911,774 | 117,075,484 |
| Witbank ... | 160,031,213 | 439,061,722 | 464,267,213 | 543,091,138 | 618,951,364 |
| Capetown ... | 280,242 | 5,811,836 | 31,038,697 | 47,945,690 | 49,772,016 |
| Durban ... | — | — | 15,563,460 | 78,873,576 | 99,228,000 |
| Sabie ... | 727,401 | 1,938,940 | 2,829,888 | 3,176,173 | 4,585,060 |
| Totals ... | 161,758,522 | 551,018,733 | 627,912,295 | 796,998,351 | 889,611,924 |

The distribution of the units sold during 1930 as between the various classes of consumers, was as follows:—

| Undertaking. | UNITS SOLD, 1930. | | | | |
|-------------------|------------------------|------------------------|--------------------|--------------------|--------------------|
| | Domestic and Lighting. | Industrial and Mining. | Traction. | Bulk Supplies. | Total. |
| Natal Central ... | 243,285 | 2,893,822 | 101,518,710 | 12,419,667 | 117,075,484 |
| Witbank ... | 418,132 | 34,144,785 | — | 584,388,447 | 618,951,364 |
| Capetown ... | 347,165 | 15,902,284 | 28,273,054 | 5,249,513 | 49,772,016 |
| Durban ... | — | — | — | 99,228,000 | 99,228,000 |
| Sabie ... | 588 | 4,584,472 | — | — | 4,585,060 |
| Totals ... | 1,009,170 | 57,525,363 | 129,791,764 | 701,285,627 | 889,611,924 |

A chart showing the development of electricity sales is reproduced on the following page.

The average cost per unit sold during 1930 from all the Commission's Undertakings was 0·270d. as compared with 0·298d. in 1929. As was explained in the Commission's last Annual Report, there is very wide variation in the average cost per unit as between one Undertaking and another, due to the entirely different conditions obtaining. It will, therefore, be apparent that misunderstandings are likely to arise if comparisons are made between one Undertaking and another, unless the differences in conditions are taken into account and their significance appreciated.

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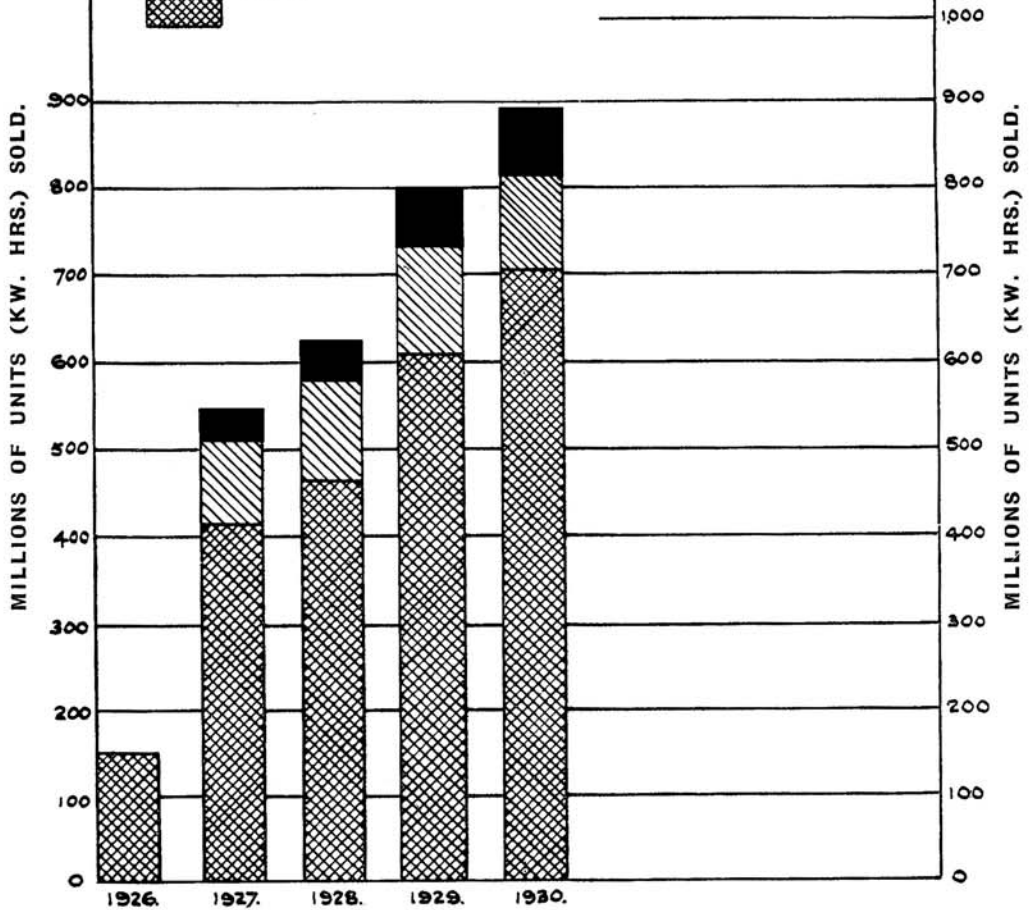
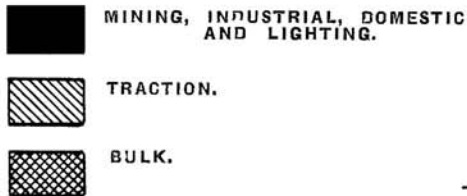
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Average
Cost per
Unit Sold.

Electricity Supply Commission.

DIAGRAM SHOWING TOTAL ELECTRICITY SALES.



The average cost per unit during 1930 on each Undertaking, and the comparative figures in respect of the more important factors accounting for the variations in cost per unit as between one Undertaking and another, are set out in the following table:—

| Undertaking. | Approximate Proportion of Capital Expenditure. | | Cost of Coal per ton (2,000 lbs.) | Ratio of Maximum Demand to Installed Capacity. | Load Factor. | Average Cost per Unit Sold. |
|-------------------|--|--|-----------------------------------|--|--------------|-----------------------------|
| | Power Station. | Transmission, Distribution & Conversion. | | | | |
| Natal Central ... | 44.4% | 55.6% | 8/- | 46% | 50.9% | 0.666d. |
| Witbank ... | 94.4% | 5.6% | 2/2 | 90% | 83.3% | 0.117d. |
| Capetown ... | 57.9% | 42.1% | 23/5 | 45% | 43.5% | 0.996d. |
| Durban ... | 100 % | — | 13/2 | 68% | 50.0% | 0.376d. |
| Sabie ... | 80.2% | 19.8% | Hydro | 74% | 54.7% | 0.717d. |

The foregoing table amply exemplifies the pitfalls open to the unwary in making comparisons of costs per unit from two or more Undertakings operating under different circumstances, and illustrates the extent to which the cost of the electrical unit is influenced by local conditions and load characteristics.

Considerations of a similar character account for the variations in cost per unit as between one class of consumer and another on the same Undertaking.

During the year 1930, the coal consumed at the Commission's four steam-using power stations, amounting to a total of 765,372 tons, was as follows:—

| Power Station. | COAL CONSUMED. | | | B.T.U.'s. | | Thermal Efficiency on Units Sent Out. |
|-----------------------------|--------------------|---------------------|--------------------|--------------------------|----------------------------|---------------------------------------|
| | Tons. (2,000 lbs.) | Per Unit Generated. | Per Unit Sent Out. | Average per lb. of Coal. | Average per Unit Sent Out. | |
| | | Lbs. | Lbs. | | | % |
| Colenso (Natal Central) ... | 98,235 | 1.50 | 1.60 | 12,500 | 20,000 | 17.1% |
| Witbank ... | 551,504 | 1.68 | 1.78 | 11,400 | 20,300 | 16.8% |
| Salt River (Capetown) ... | 43,013 | 1.61 | 1.70 | 13,150 | 22,400 | 15.2% |
| Congella (Durban) ... | 72,620 | 1.34 | 1.46 | 13,000 | 19,000 | 18.0% |

The variations in efficiency as between one power station and another, reflected in the foregoing table, are due to a number of factors which must be taken into account before making comparisons. Amongst the more important are the differences in load

The average cost per unit during 1930 on each Undertaking, and the comparative figures in respect of the more important factors accounting for the variations in cost per unit as between one Undertaking and another, are set out in the following table:—

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characteristics, physical conditions and power station design, the latter also having been influenced by the relative prices and calorific values of fuel. The ultimate object in each case is to obtain the most favourable overall result.

The cost of coal during 1930 represented 19·6 per cent. of the total production costs of the four Undertakings concerned.

Railage and Sidings charges in respect of coal consumed in 1930 amounted to approximately £120,000. Omitting Witbank, where practically no railage is involved, railage and sidings charges represent approximately 85 per cent. of the cost of coal.

Consumers

The number of consumers being supplied with electricity from the Commission's Undertakings as at 31st December, 1930, was 1,658, an increase of 641 during the year.

The following table shows the number of consumers of the various classes on each Undertaking at the end of the year 1930 :—

| Undertaking. | Domestic and Lighting. | Industrial and Mining. | Traction. | Bulk Supplies. | Total. |
|----------------------|------------------------|------------------------|-----------|----------------|--------------|
| Natal Central | 158 | 14 | 1 | 7 | 180 |
| Witbank | 386 | 30 | — | 2 | 418 |
| Capetown | 1,019 | 32 | 1 | 4 | 1,056 |
| Durban | — | — | — | 1 | 1 |
| Sabie | 1 | 2 | — | — | 3 |
| Totals | 1,564 | 78 | 2 | 14 | 1,658 |

Units Sold to Each Class of Consumer expressed as a Percentage of Total Units Sold

0·1% 6·5% 14·6% 78·8% 100%

It will be apparent from this table that the major portion of the Commission's output is supplied in large blocks of power.

Financial.

The Report of the Auditors and the Commission's Balance Sheet, as at 31st December, 1930, are embodied in Annexure "A" to this Report.

It does not appear to be generally understood how the establishment of the Commission and its Undertakings has been financed.

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characteristics, physical conditions and power station design, the latter also having been influenced by the relative prices and calorific values of fuel. The ultimate object in each case is to obtain the most favourable overall result.

The cost of coal during 1930 represented 19·6 per cent. of the total production costs of the four Undertakings concerned.

Railage and Sidings charges in respect of coal consumed in 1930 amounted to approximately £120,000. Omitting Witbank, where practically no railage is involved, railage and sidings charges represent approximately 85 per cent. of the cost of coal.

Consumers

The number of consumers being supplied with electricity from the Commission's Undertakings as at 31st December, 1930, was 1,658, an increase of 641 during the year.

The following table shows the number of consumers of the various classes on each Undertaking at the end of the year 1930 :—

| Undertaking. | Domestic and Lighting. | Industrial and Mining. | Traction. | Bulk Supplies. | Total. |
|----------------------|------------------------|------------------------|-----------|----------------|--------------|
| Natal Central | 158 | 14 | 1 | 7 | 180 |
| Witbank | 386 | 30 | — | 2 | 418 |
| Capetown | 1,019 | 32 | 1 | 4 | 1,056 |
| Durban | — | — | — | 1 | 1 |
| Sabie | 1 | 2 | — | — | 3 |
| Totals | 1,564 | 78 | 2 | 14 | 1,658 |

Units Sold to Each Class of Consumer expressed as a Percentage of Total Units Sold

0·1% 6·5% 14·6% 78·8% 100%

It will be apparent from this table that the major portion of the Commission's output is supplied in large blocks of power.

Financial.

The Report of the Auditors and the Commission's Balance Sheet, as at 31st December, 1930, are embodied in Annexure "A" to this Report.

It does not appear to be generally understood how the establishment of the Commission and its Undertakings has been financed.

Statutory provision was made for the Treasury to make advances to the Commission in the initial stages of development. These advances, which were limited to a period of seven years, were subject to cost of raising and interest charges (calculated from the date of each advance) and were repayable by the Commission in full. During construction, the cost of raising and interest charges were capitalised, but as each Undertaking reached the revenue producing stage, interest was paid to the Treasury on the capital invested therein. The position in this respect as at 31st December, 1929, was as follows:—

| | | | | | |
|--|-----|-----|-----|----------|-------------------|
| Advances received from Treasury | ... | ... | ... | ... | £7,809,965 |
| Cost of Raising Charges Capitalised | ... | ... | ... | £212,125 | |
| Interest Capitalised | ... | ... | ... | 477,910 | |
| | | | | | 690,035 |
| Total | ... | ... | ... | ... | £8,000,000 |
| Interest Paid to Treasury on Advances in respect of Capital Invested in Revenue-Producing Undertakings | ... | ... | ... | ... | £649,458 |

As will be seen from the foregoing, during the years 1923 to 1929 inclusive, the amount of interest paid to the Treasury plus interest capitalised was £1,127,368. From the year 1930 onwards, the Commission's liability for interest, as mentioned hereunder, amounts to £401,440 per annum.

Provision was made in the Electricity Act, 1922, for the raising of loans by the Commission by means of the issue of stock or debentures, redeemable within a period not exceeding thirty years. As a result, however, of negotiations between the Commission and the Treasury, arrangements were agreed upon whereby the total advances (including capitalised interest and cost of raising charges) made to the Commission, up to 31st December, 1929, were consolidated into two loans of £3,000,000 and £5,000,000 respectively, these arrangements being subsequently approved by Parliament and embodied in the Financial Adjustments Act, 1930.

This is an ordinary business transaction between the Commission and the Government, and the two loans are the equivalent of an issue of stock or debentures by the Commission to the Government, the provisions regarding interest and redemption applicable thereto being as follows: Interest at the rate of 5·018 per cent. per

annum (amounting to £401,440 per annum) is payable by the Commission to the Treasury half-yearly on 30th June and 31st December. The loan of £3,000,000 is redeemable not later than 31st December, 1954, and the loan of £5,000,000 not later than 31st December, 1979. Contributions from revenue to the Redemption Fund in respect of the loan of £5,000,000 commence in 1940.

The allocation of the two loans as between the Commission's several Undertakings is as follows:—

Loan No. 1 (£3,000,000) : Witbank, Durban and Sabie Undertakings.

Loan No. 2 (£5,000,000) : Natal Central and Capetown Undertakings.

In so far as present-day costs are concerned, the provisions governing the redemption of Loan No. 2 are more favourable, the object thereof being to afford a measure of assistance, through the medium of power costs, to the Railway Administration in respect of the Natal Main Line and Cape Suburban electrification schemes.

In paragraph (2) of their Report, the Commission's Auditors have drawn attention to the Reserve Fund in respect of the Natal Central and Capetown Undertakings as affected by the loan redemption provisions applicable to Loan No. 2 (£5,000,000), which has been allocated to these two Undertakings.

The Auditors' comments in this respect are significant, not only in relation to the particular aspect of the case to which they have invited attention but also in relation to the opinion which has been expressed in certain quarters that contributions made by the Commission to its Reserve Fund were on too liberal a scale. In the circumstances, it might be desirable for the Commission also to comment briefly on this subject.

As regards the Statutory provisions applicable to the Commission in this matter, it is important that it should be appreciated—

- (a) that the limitations imposed by Section 9 of the Electricity Act, 1922, in respect of the Reserve Fund were fixed on the basis that the redemption periods of the Commission's loans would not exceed 30 years—vide Clause 1 of the Schedule to the Electricity Act, 1922 and

- (b) that a relaxation of the provisions of that Schedule as affecting loan redemption (such as has been made in the case of the loan of £5,000,000) inevitably raises the question as to the probable adequacy of the Reserve Fund, as limited by Section 9 of the Electricity Act, 1922.

The Commission's policy in this matter is steadily to build up the Reserve Fund within the limits at present prescribed, to maintain its Undertakings at a high degree of efficiency and to carry out regular and complete overhauls of its plant and equipment so as to eliminate, as far as is practicable, breakdowns involving extensive repairs and replacements. Whilst the Reserve Fund is designed, in part, to take care of contingencies, the Commission is hopeful that, by pursuing this policy, it will not be necessary to have alterations made in the limitations imposed upon the Reserve Fund under Section 9 of the Electricity Act, 1922.

The opinions expressed by the Commission's Auditors serve, however, to draw attention to the possibility of these limitations having to be raised.

The Commission's Capital Expenditure to 31st December, 1930, was £8,083,558. Net revenue from the sale of electricity during construction and other revenue accruing prior to the commencement of commercial operation of various works, amounts, up to 31st December, 1930, to £150,441. In the case of the Natal Central and Capetown Undertakings, the amounts set aside up to 31st December, 1929, as provision for repayment of moneys borrowed, amounted to £218,751. These two items, amounting in total to £369,192, have been credited to Capital. The net expenditure on Capital Account, therefore, amounts to £7,714,366.

A schedule of expenditure on Capital Account is embodied in Annexure " A " to this Report.

Separate accounts of the Redemption Fund and Reserve Fund and Revenue and Expenditure Accounts in respect of each of the Commission's five Undertakings are also embodied in Annexure " A " to this Report.

The standard prices for the supply of electricity from the Commission's Undertakings and the conditions attaching thereto are Tariffs.

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embodied in the Licences and Permit granted to the Commission by the Electricity Control Board. These prices are subject to adjustment from time to time in terms of the Electricity Act, 1922, and the prices for the time being in force are published annually by the Commission in the Gazette and local newspapers.

Annexure " B " to this Report embodies the standard prices at present in force. In the case of the Natal Central and Witbank Undertakings, it will be observed that item (b) of the tariffs, viz., the maximum demand charge, has been altered from £5 per annum to 8s. 4d. per month for each kilowatt ampere of the maximum demand, i.e., the basis of these two tariffs has been altered from annual maximum demand to monthly maximum demand. These amendments have been granted by the Electricity Control Board with effect from the commencement of the year 1931.

The standard prices are subject, where necessary, to variation in terms of Section 26 of the Electricity Act, 1922, depending upon the situation, extent and characteristics of consumers' loads and they apply (except with the approval of the Electricity Control Board) to consumers whose notified maximum demands are not less than 50 kilovolt amperes.

In the case of small consumers, such as domestic and lighting supplies, the tariffs, which are also subject to the approval of the Electricity Control Board, are based on the standard prices plus the additional costs of house-to-house reticulation.

The staff employed by the Commission as at 31st December, 1930, numbered 668, made up as follows:—

| | | | | | | |
|---------------|-----|-----|-----|-----|-----|-------------|
| Europeans | ... | ... | ... | ... | ... | 332 |
| Non-Europeans | ... | ... | ... | ... | ... | 336 |
| | | | | | | <hr/> |
| Total | ... | ... | ... | ... | ... | 668 |
| | | | | | | <hr/> <hr/> |

The foregoing figures exclude the staff employed at the Commission's Witbank Power Station, which is operated, on the Commission's behalf, by The Victoria Falls and Transvaal Power Company, Limited.

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| Non-Europeans | ... | ... | ... | ... | ... | 336 |
| Total | ... | ... | ... | ... | ... | 668 |

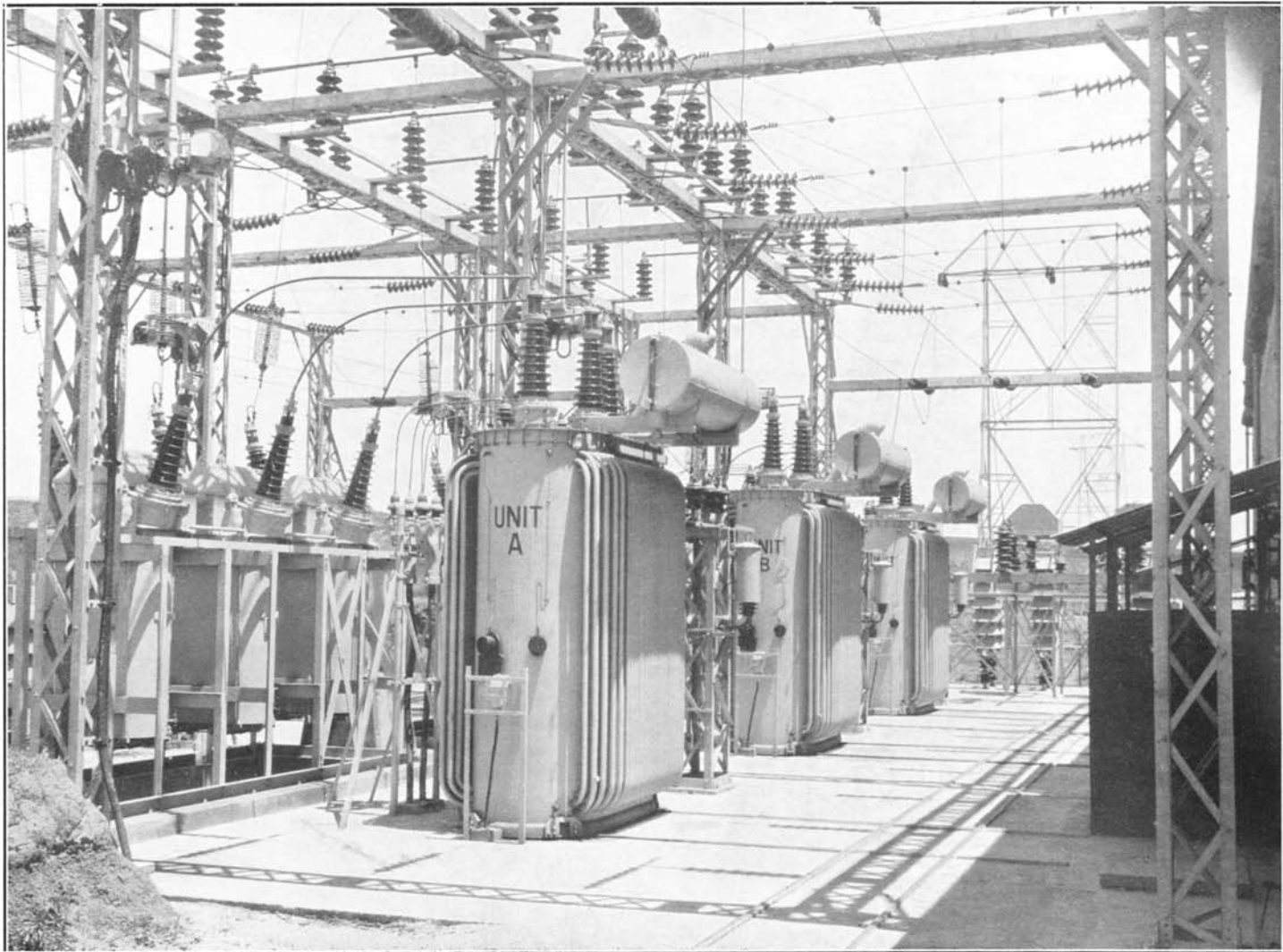
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A trial is at present being given to the employment of white labour, in place of natives, on certain classes of unskilled power station work. It is hoped that, as a result of this experiment, it may be found economically practicable gradually to extend the use of white labour on the Commission's Undertakings, and that, with the opportunities thus afforded them, the men will qualify for promotion to more responsible work.

The operations and developments of the individual Undertakings is reviewed in greater detail in the following pages. Reference is also made therein to the Commission's work, in an advisory capacity, to the Administrators of the several Provinces, in relation to Municipal electricity schemes. General.

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Natal Central Undertaking: Estcourt Sub-Station Outdoor Structure and Equipment.

NATAL CENTRAL UNDERTAKING.

The Natal Central Undertaking serves the area along the route of the Natal Main Line between Pietermaritzburg and Newcastle. Railway traction requirements, for the electrified section between Pietermaritzburg and Glencoe, absorb a large proportion of the output of this Undertaking, but electricity is also supplied therefrom to Municipalities and a number of industrial and other consumers between Pietermaritzburg and Newcastle.

The units generated at the Colenso Power Station during the year 1930 total 130,942,430. The units sent out from the power station total 122,731,155 and the maximum half-hourly demand was 27,520 kilowatts, the load factor being 50.9 per cent. The thermal efficiency of the power station on units sent out was 17.1 per cent.

Working
Results,
1930.

The units sold, during the year 1930, total 117,075,484, a decrease of 6,836,290, or $5\frac{1}{2}$ per cent. as compared with the year 1929. This decrease was due to the reduction in the Railway Administration's requirements for traction purposes, as is illustrated hereunder:—

| | Units Sold. | | Increase or Decrease. | |
|-------------------------|-------------|-------------|-----------------------|--------|
| | 1929. | 1930. | Units. | % |
| Railway Administration: | | | | |
| Traction | 110,960,117 | 101,518,710 | -9,441,407 | -8.5% |
| Railway Administration: | | | | |
| Other Purposes ... | 2,232,480 | 2,294,839 | +62,359 | +2.8% |
| Other Consumers ... | 10,719,177 | 13,261,935 | +2,542,758 | +23.7% |

The reduction in the supply for railway traction purposes reacts upon the cost per unit to the Railway Administration. Sales of electricity to consumers, other than the Railway Administration, have shown progressive increases year by year since the supplies were commenced in 1926. The sales to these consumers are shown hereunder:—

SALES TO CONSUMERS OTHER THAN S.A.R. AND H.

| Year. | | | | | Units Sold. |
|-------|-----|-----|-----|-----|-------------|
| 1926 | ... | ... | ... | ... | 719,666 |
| 1927 | ... | ... | ... | ... | 1,894,952 |
| 1928 | ... | ... | ... | ... | 5,712,004 |
| 1929 | ... | ... | ... | ... | 10,719,177 |
| 1930 | ... | ... | ... | ... | 13,261,935 |

The financial results of the operation of the Natal Central Undertaking for the year 1930 are given in Annexure "A" (Account No. 3) to this Report.

Consumers.

The principal new consumer to whom supply was commenced during the year 1930 was the Newcastle Municipality, this supply having been made available on 20th November, 1930. During December and early in January, 1931, several serious interruptions took place in the supply of electricity to Newcastle, much to the Commission's regret. The first interruption took place on 9th December, and was due to an exceptionally severe lightning storm, which passed over Northern Natal, causing a number of fatalities and considerable damage to property. Several insulators on the Commission's transmission line between Glencoe and Newcastle were shattered by direct lightning hits and subsequent interruptions were traceable mainly to the insulation damage caused by this storm. Steps were immediately taken by the Commission to rectify matters, and with a view to maintaining a satisfactory supply in the future.

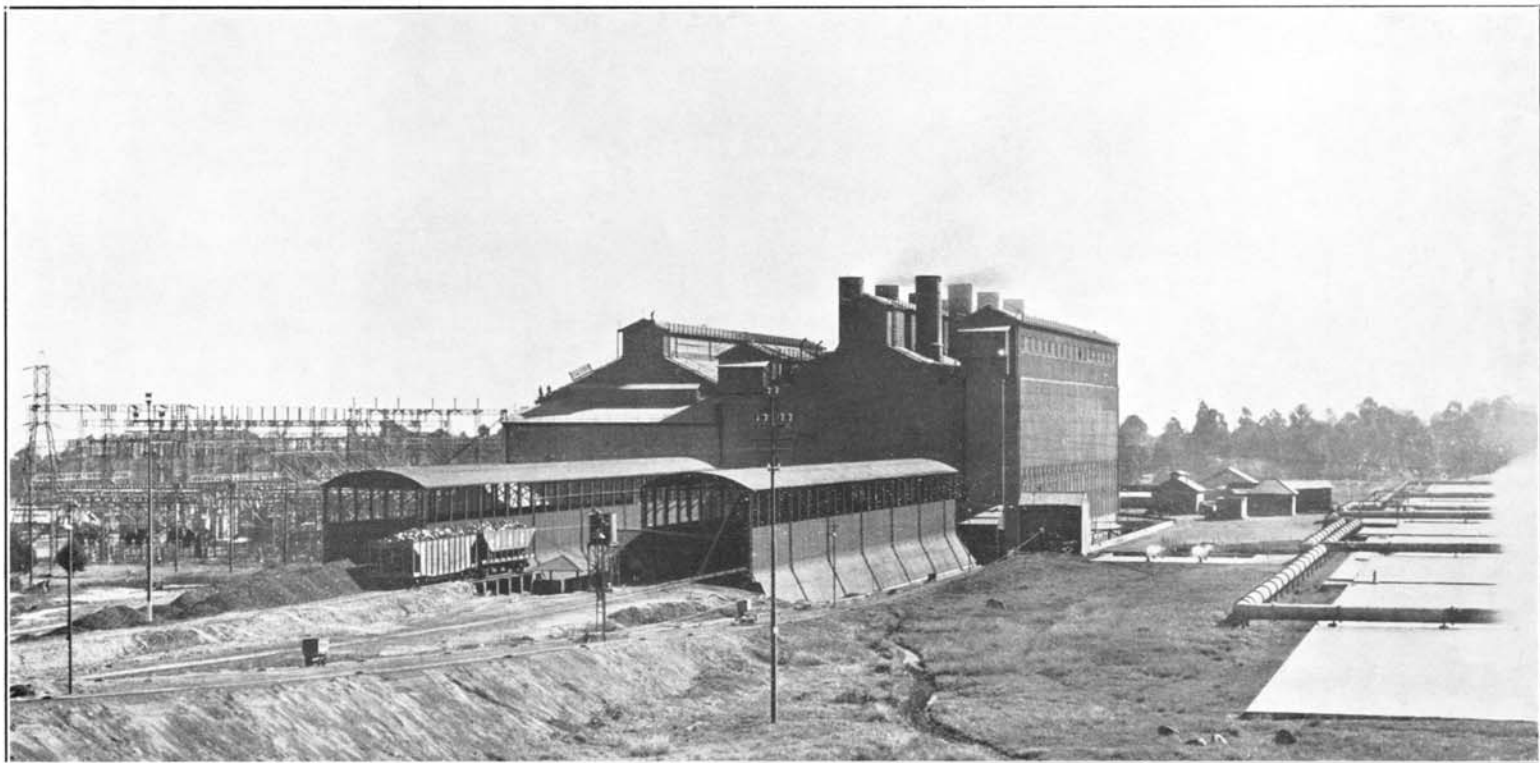
Amendment
of Licence.

On 16th February, 1931, application was made by the Commission to the Electricity Control Board for certain amendments to the standard prices set out in the Commission's Licence in respect of the Natal Central Undertaking. This application has since been granted by the Board, the amended prices, details of which are set out in Annexure "B" to this Report, taking effect from the commencement of the year 1931.

Extension
of Under-
taking.

An extension of Railway electrification in Natal from Mason's Mill, the southern terminus of the existing electrification, to Cato Ridge has been decided upon by the South African Railways and Harbours Administration, and the supply of electricity for this section involves an extension of the Commission's Undertaking, viz., the erection of a new sub-station at Thornybush with an installation of two 2,000 kilowatt motor generator sets, one of which is being transferred from the existing triple-unit sub-station at Estcourt. The supply will be transmitted to the Thornybush sub-station from Pietermaritzburg by a 33,000 volt overhead transmission line which, by arrangement between the Commission and the Administration, will be carried on railway track structures.

It is estimated that the Administration's electricity requirements for the electrified section between Mason's Mill and Cato Ridge will amount to approximately 15,000,000 units per annum.



Witbank Undertaking: Witbank Power Station.

WITBANK UNDERTAKING.

The Witbank Undertaking serves the area in and around Witbank within a radius of 25 miles, and the balance of the output of the power station after meeting the requirements of consumers in this area is taken by The Victoria Falls and Transvaal Power Company, Limited. The Witbank Power Station is, therefore, operated as a base load station, and this fact, coupled with its situation in the heart of the coalfields, results in a very cheap supply of electricity being available in the Witbank district.

The installation at Witbank of the fifth 20,000 kilowatt turbo alternator, referred to in the Commission's last Annual Report, was completed in August, 1930, the total installation being now 100,000 kilowatts.

In the Witbank district, the Commission's 21,000 volt reticulation system extends from Middelburg in the north-east to Kendal in the south-west, in addition to which there is a 2,200/380/220 volt distribution system in and adjoining the Witbank Municipal area.

The units generated at the Witbank Power Station during the year 1930 total 657,633,791. The units sent out from the Power Station total 619,498,231, and the maximum hourly demands were as follows:—

Working
Results.

| | Kilowatts. |
|---|------------|
| Prior to the Installation of the Fifth 20,000 kw. Set ... | 81,438 |
| Subsequent to Installation of the Fifth 20,000 kw. Set | 89,532 |

the mean load factor for the year being 83·3 per cent. The thermal efficiency of the Witbank Power Station on units sent out was 16·8 per cent.

The units sold from the Witbank Undertaking during 1930 total 618,951,364, of which 34,962,217 units were supplied to consumers in the Witbank district. The increase in sales in the Witbank district during the past five years is reflected in the following table:

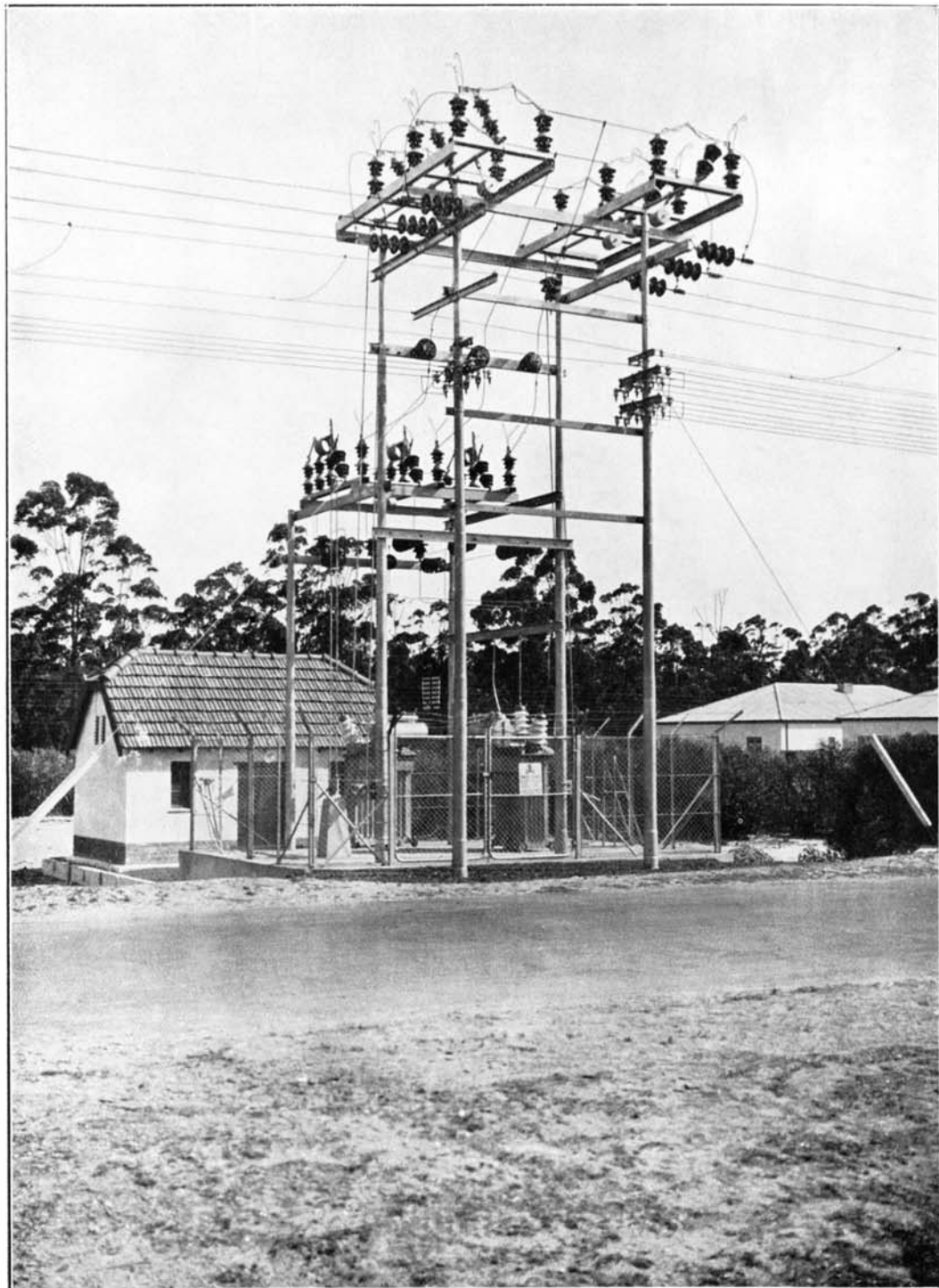
SALES TO CONSUMERS IN WITBANK DISTRICT.

| Year. | | | | | Units Sold. |
|-------|-----|-----|-----|-----|-------------|
| 1926 | ... | ... | ... | ... | 499,057 |
| 1927 | ... | ... | ... | ... | 13,389,333 |
| 1928 | ... | ... | ... | ... | 19,950,004 |
| 1929 | ... | ... | ... | ... | 29,731,115 |
| 1930 | ... | ... | ... | ... | 34,962,217 |

The financial results of the operation of the Witbank Undertaking for the year 1930 are given in Annexure " A " (Account No. 4) to this Report. A surplus of revenue over expenditure of £251 was realised on the working of the Undertaking during the year. This amount, together with the balance of £7,647 brought forward from the year 1929, has been carried forward to the year 1931.

Amendment
of Licence.

On 16th February, 1931, application was made by the Commission to the Electricity Control Board for certain amendments to the standard prices set out in the Commission's Licence in respect of the Witbank Undertaking. This application has since been granted by the Board, the amended prices, details of which are set out in Annexure " B " hereto, taking effect as from the commencement of the year 1931.



Capetown Undertaking: Typical Step-Down Sub-Station on 33,000 Volt System.

CAPETOWN UNDERTAKING.

From the Capetown Undertaking, which commenced commercial operation in June, 1929, electricity is supplied by the Commission to the South African Railways and Harbours Administration for traction purposes, to the Salt River Workshops, Table Bay Docks, and to a number of Municipalities, industries and other consumers in the rural areas eastwards of the Cape Peninsula. The Commission's Undertaking is interconnected with the Capetown Corporation's Undertaking, the power stations of the respective parties being operated, normally, in parallel.

The units generated at the Salt River Power Station in 1930 total 53,504,505. The units sent out from the power station total 50,526,667, and the maximum half-hourly demand was 13,393 kilowatts, the load factor being 43·5 per cent. The thermal efficiency of the power station on units sent out was 15·2 per cent.

Working
Results.

The units sold during the year 1930 total 49,772,016, an increase of 1,826,326, or 3·8 per cent. as compared with the year 1929. As in the case of the Natal Central Undertaking, there has been a decrease in the requirements of the Railway Administration for traction purposes but for which there would have been a larger increase in the aggregate output of the Undertaking. The position in this respect is illustrated hereunder.

| | Units Sold. | | Increase or Decrease. | |
|-------------------------|-------------|------------|-----------------------|---------|
| | 1929. | 1930. | Units. | % |
| Railway Administration: | | | | |
| Traction | 28,942,013 | 28,273,054 | - 668,959 | - 2·3% |
| Railway Administration: | | | | |
| Other Purposes ... | 7,574,970 | 8,309,950 | + 734,980 | + 9·7% |
| Cape Rural Supplies ... | 11,231,658 | 13,182,512 | + 1,950,854 | + 17·4% |

The Commission's system in the Cape Rural Areas comprises a 33,000 volt transmission system extending into Paarl, Stellenbosch and Malmesbury Districts, and low-tension distribution networks in a number of the townships in this area.

Cape Rural
System.

The development of sales on this system since the supply was made available in 1926 is shown in the following table:—

| CAPE RURAL SYSTEM. | | | | |
|--------------------|-----|-----|-----|-------------|
| Year. | | | | Units Sold. |
| 1926 | ... | ... | ... | 280,242 |
| 1927 | ... | ... | ... | 4,690,009 |
| 1928 | ... | ... | ... | 9,767,699 |
| 1929 | ... | ... | ... | 11,231,658 |
| 1930 | ... | ... | ... | 13,182,512 |

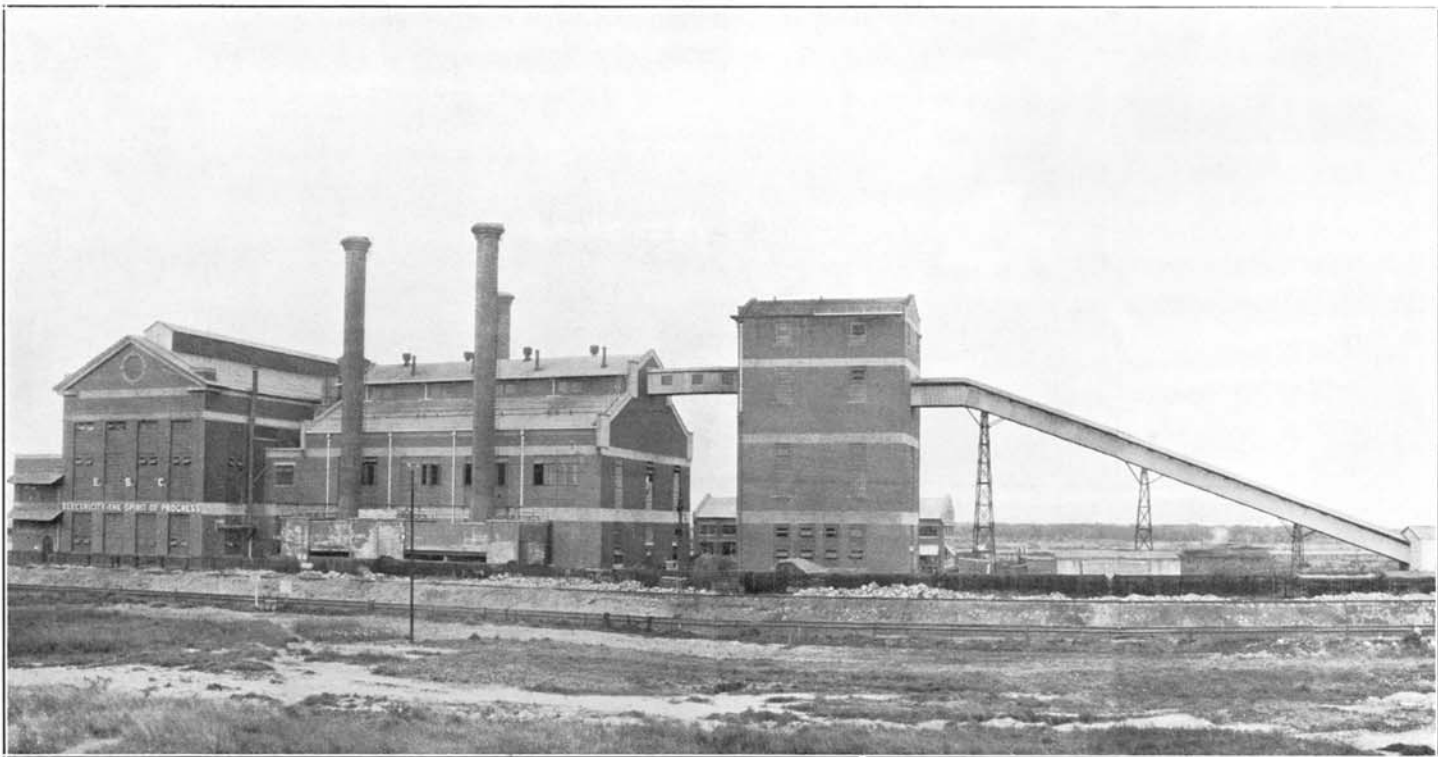
In the development of the supplies of electricity from the Capetown Undertaking, the Commission is faced with a number of difficulties, not all of which are encountered to the same extent elsewhere.

In Capetown and the Cape Peninsula itself, electricity (other than for the Administration's traction, workshops and docks requirements) is supplied by the Capetown Corporation, the Commission's activities, in the matter of development, being confined to the more sparsely populated rural districts eastwards of Capetown. In such an area the cost of transmission per consumer is high and electricity prices are necessarily higher than in the case of more densely populated and industrialised urban areas.

In addition, the comparatively high cost of coal at Capetown, viz., 23s. 5d. per ton (including 20s. per ton for railage) is an important factor, representing, as it does, approximately 0.24d. per unit sold. These considerations intensify the competition with which electricity is faced from alternative sources and mediums of power supply—for example, oil engines, the cost of imported fuel oils being at a minimum in the Cape area where the cost of coal is at a maximum.

Having regard to these circumstances, the development which has been achieved cannot be regarded as other than encouraging.

The financial results of the operation of the Capetown Undertaking for the year 1930 are given in Annexure "A" (Account No. 5) to this Report. The working of the Undertaking during the year resulted in a surplus of £1,940. Taking into account the deficit of £1,166 brought forward from the year 1929, there is a net surplus, as at 31st December, 1930, of £774, which has been carried forward to the year 1931.



Durban Undertaking: Congella Power Station.

DURBAN UNDERTAKING.

The Durban Undertaking, which was placed in commercial operation on 1st January, 1930, supplies electricity in bulk to the Durban Corporation, the Corporation being at present the Commission's only consumer.

The Congella Power Station has an installation of 36,000 kilowatts of generating plant in four generating sets, two of 12,000 kilowatts each and two of 6,000 kilowatts each. The boiler plant comprises six boilers, each of a normal capacity of 60,000 lbs. of steam per hour. The boilers are fired by pulverised coal.

The units generated at the Congella Power Station during the year 1930 total 108,781,460. The maximum half-hourly demand was 24,500 kilowatts, the load factor being 50·0 per cent. The thermal efficiency of the power station on units sent out was 18 per cent.

Working
Results

The units sent out from the Congella Power Station and supplied to the Durban Corporation during 1930 total 99,228,000, an increase of 20,354,424, or 25·8 per cent., as compared with the year 1929.

During the year under review, negotiations have been proceeding between the Commission and the Durban Corporation regarding arrangements for meeting the increasing requirements of the Corporation, based on the following output as from April, 1932, viz. :—

Extension
of Congella
Power
Station

- (a) a maximum demand of 30,000 kilowatts, and
- (b) a minimum supply of 115,000,000 units per annum.

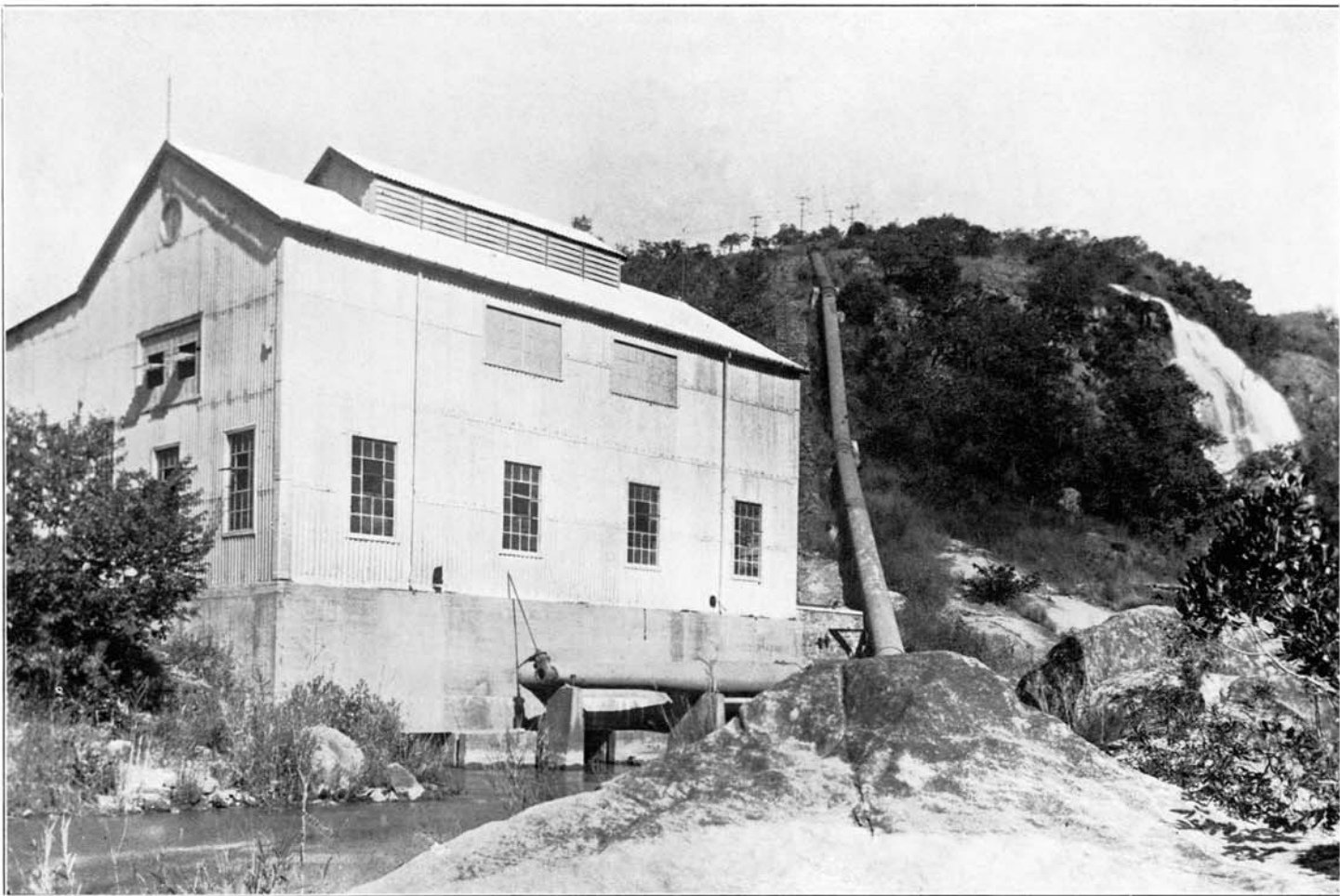
These negotiations have been completed and a revised agreement between the Commission and the Corporation was entered into on 18th December, 1930. In terms of this agreement, the Commission is proceeding with the installation of an additional 12,000 kilowatt generating set at the Congella Power Station and two additional pulverised coal-fired boilers, each with a normal rating of 120,000 lbs. of steam per hour. This additional plant will be accommodated in the existing turbine and boiler houses, in which space was provided for extensions in the original construction programme.

With effect from April, 1932, when the additional plant aforesaid is placed in commission, the tariff to the Durban Corporation, for the increased load, will be substantially reduced. On 1st February, 1931, application was made by the Commission to the Electricity Control Board for the necessary amendments to the Schedule of Standard Prices in the Durban Licence, 1927, to take effect concurrently with the availability of the increased supply, the revised standard prices being as follows:—

- (a) a charge of £4 4s. (reduced from £5 8s.) for each kilowatt of the maximum demand supplied in each year, plus
- (b) a charge of 0·175d. (reduced from 0·2d.) for each unit supplied.

These amendments have since been granted by the Electricity Control Board.

The financial results of the operation of the Durban Undertaking for the year 1930 are given in Annexure "A" (Account No. 6) to this Report. The working of the Undertaking during the year resulted in a surplus of £1,337, which has been carried forward to the year 1931.



Sabie Undertaking: Sabie Gorge Hydro-Electric Power Station.

SABIE UNDERTAKING.

The Sabie Hydro-Electric Undertaking was established primarily to meet the power requirements of the gold mining industry at Sabie, and the whole output of the Undertaking is now being supplied to two mining companies operating in this district.

The units generated at the Sabie Gorge Power Station during the year 1930 total 4,858,200. The units sent out from the Power Station total 4,788,700 and the maximum half-hourly demand was 1,000 kilowatts, the load factor being 54·7 per cent.

Working
Results.

The units sold from the Sabie Undertaking during 1930 total 4,585,060, an increase of 1,408,887 units, or 44·4 per cent., as compared with the year 1929. The average cost per unit sold during 1930 was 0·717d. as compared with 1·04d. in 1929.

During the earlier part of the year 1930, one of the three mining companies at Sabie, which obtained its electricity requirements from the Commission, discontinued mining operations and has since gone into voluntary liquidation. Coincident with the closing down of this mine, the Commission's two remaining consumers, who had previously generated a considerable portion of their electricity requirements at power stations of their own, decided to draw the whole of their requirements from the Commission's Undertaking, and to this is attributable the comparatively large increase in the output of the Sabie Undertaking during 1930, as compared with previous years, and the substantial reduction in the average cost per unit sold. The actual output of the Undertaking from July to December, 1930, inclusive was 3,151,031 units, or at the rate of 6,302,062 units per annum. The marked effect of an increase in output upon the average cost per unit, particularly in the case of hydro-electric undertakings, is exemplified by the results at Sabie.

The financial results of the operation of the Sabie Undertaking for the year 1930 are given in Annexure "A" (Account No. 8) to this Report. The working of the Undertaking during the year resulted in a deficit of £4, which has been carried forward to the year 1931.

MUNICIPAL ELECTRICITY SUPPLY SCHEMES.

Up to 31st December, 1930, 203 electricity schemes of Urban Local Authorities have been reported upon by the Commission in terms of Section 38 of the Electricity Act, 1922, and supplementary reports upon tenders have been submitted in respect of 87 schemes.

During the year 1930 the following 35 schemes, of which 10 were new schemes, were reported upon by the Commission:—

CAPE.

| | | |
|-----------------|-------------------|----------------|
| Bredasdorp. | Hermanus. | Port Alfred. |
| *Cradock. | Kingwilliamstown. | Queenstown. |
| *Fort Beaufort. | Kokstad. | Tarkastad. |
| Fransch Hoek. | Kuruman. | Tulbagh. |
| Gordon's Bay. | Montague. | Umtata. |
| *Heidelberg. | | Victoria West. |

TRANSVAAL.

| | | |
|--------------------|--------------------|---------------|
| Hartebeestfontein. | † Louis Trichardt. | Pretoria. |
| Johannesburg. | Lydenburg. | Springs. |
| Klerksdorp. | | *Ventersdorp. |

ORANGE FREE STATE.

| | | |
|--------------|------------|----------------|
| Boshof. | Ficksburg. | Koffiefontein. |
| *Clocolan. | | Marquard. |
| *Dewetsdorp. | | Parys. |

NATAL.

| | |
|---------|----------|
| Dundee. | Glencoe. |
|---------|----------|

SOUTH-WEST AFRICA.

Windhoek.

* Report on Tenders only.

† Supplementary Report.

Of the total of 203 schemes reported upon by the Commission up to the end of the year 1930, 93 were new schemes.

The following table shows the total number of Urban Local Authorities in the respective Provinces of the Union and in South-West Africa, and the numbers in each case which have established or are in course of establishing electricity supply schemes :—

LOCAL AUTHORITIES IN UNION AND SOUTH-WEST AFRICA.

| | PROVINCE. | | | | | Total |
|---------------------------------------|------------|------------|-----------|-----------|---------------|------------|
| | Cape. | Transvaal. | O.F.S. | Natal. | S.-W. Africa. | |
| No. of Municipalities | 128 | 24 | 61 | 9 | 7 | 229 |
| No. of Other Local Authorities | 127 | 63 | 7 | 29 | 9 | 235 |
| Total | 255 | 87 | 68 | 38 | 16 | 464 |

Local Authorities with Electricity Supply Schemes.

Local Authorities Generating and Distributing Electricity:

| | | | | | | |
|---------------------------|-----------|-----------|-----------|----------|----------|------------|
| Established | 59 | 15 | 26 | 7 | 2 | 09 |
| Under Construction | 2 | 2 | 1 | — | — | 5 |
| Total | 61 | 17 | 27 | 7 | 2 | 114 |

Local Authorities Purchasing Bulk Supplies and carrying out their own Distribution:

| | | | | | | |
|---------------------------|-----------|-----------|----------|----------|----------|-----------|
| Established | 14 | 23 | 2 | 9 | — | 48 |
| Under Construction | — | — | — | — | — | — |
| Total | 14 | 23 | 2 | 9 | — | 48 |

Cases in which Supply and Distribution undertaken by Third Parties:

| | | | | | | |
|---------------------------|----------|----------|----------|-----------|----------|-----------|
| Established | 9 | 4 | — | 11 | 3 | 27 |
| Under Construction | — | — | — | — | — | — |
| Total | 9 | 4 | — | 11 | 3 | 27 |

| | | | | | | |
|--|-----------|-----------|-----------|-----------|----------|------------|
| Total Schemes Established | 82 | 42 | 28 | 27 | 5 | 184 |
| Total Schemes under Construction | 2 | 2 | 1 | — | — | 5 |
| Grand Total | 84 | 44 | 29 | 27 | 5 | 189 |

ACCOUNTS.

The Commission submits for the year 1930, as Annexure " A," to this Report:—

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.

Account No. 6: Durban Undertaking.

Account No. 7: Sabie Undertaking.

TARIFFS.

Annexure " B " to this Report embodies the standard prices in force in respect of the Commission's several Undertakings.

GENERAL.

The Commission submits, for the year 1930, as Annexure " C " the following statements:—

No. 1: Summary of principal plant and equipment installed.

No. 2: Summary of principal plant and equipment in course of installation or on order.

No. 3: Statement showing the price or rent of land or rights or interest in or over land and other property acquired or hired by the Commission.

UNION STATISTICS.

By the courtesy of the Department of Census and Statistics, the Commission is able to publish some interesting information (extracted from the 1928/1929 Industrial Census) bearing upon the production and distribution of electricity in the Union. This information is embodied in Annexure " D " to this Report.

I have the honour to be,

Sir,

Your obedient servant,

A handwritten signature in black ink, reading "J. Guander Bijl". The signature is written in a cursive style with a horizontal line underneath the name.

CHAIRMAN.

ANNEXURE "A": ACCOUNTS.

The Report of the Auditors.

Balance Sheet.

Schedule of Expenditure on Capital Account.

Statement Showing Investments of 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.

Account No. 6: Durban Undertaking.

Account No. 7: Sabie Undertaking.

THE REPORT OF THE AUDITORS.

Johannesburg,
23rd May, 1931.

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 December 31st, 1930, and have to report as follows:—

NEW LOAN ARRANGEMENTS.

(1) In terms of Section 3 of the Financial Adjustments Act 1930 the advances by the Treasury to the Commission amounting to £8,000,000 were consolidated into two loans of £3,000,000 and £5,000,000 respectively.

These two loans are redeemable as follows:—

- (1) The £3,000,000 Loan in not more than 25 years from January 1st, 1930.
- (2) The £5,000,000 in not more than 50 years from January 1st, 1930, provided that no provision shall be made for redemption before the year 1940.

The Financial Adjustments Act makes no stipulation with regard to the way in which the £3,000,000 and the £5,000,000 loans are to be allocated between the Commission's Undertakings but it was understood between the Commission and the Treasury that the £3,000,000 loan should be allocated to the Witbank, Durban and Sabie Undertakings and the £5,000,000 loan to the Natal Central and Capetown Undertakings.

In view of the fact that in the case of the latter loan there are no redemption obligations before the year 1940, the Natal Central and Capetown Undertakings are relieved of any charge towards repayment of the capital invested therein until the beginning of 1940 and the cost of production of Power at these Undertakings has consequently been reduced.

DEPRECIATION AND OBSOLESCENCE OF PLANT AT NATAL CENTRAL AND CAPETOWN UNDERTAKINGS.

(2) As pointed out above in the case of the Natal Central and Capetown Undertakings the obligation to provide for repayment of loan funds has been deferred until the beginning of 1940. Up to the end of 1929 provision on a thirty years' redemption period basis was made for the repayment of the money invested in these Undertakings. While there is a divergence of opinion as to the effective life of an Electrical Power Plant we considered that the formation of a redemption fund to repay the cost of the Plant over thirty years constituted reasonable protection for obsolescence.

Now, however, that complete redemption is not necessary before the end of 1979 and that no redemption is to be provided before 1940, the position is changed and the same protection against obsolescence is not available.

It is true that a reserve fund is provided for by section 9 of the Act which is available for the replacement of obsolete machinery or plant and generally for the betterment of the plant or for exceptional repairs or emergencies; but the amount to be contributed to the fund shall not exceed 3 per cent. per annum or 15 per cent. in all at any one time on the loan moneys invested in each Undertaking.

In view of the fact that the amount of the fund is subject to these limitations and is available for purposes additional to the replacement of losses caused by depreciation or obsolescence, we have grave doubts whether the Reserve Fund will be adequate to compensate for the decreased amortisation provision due to the lengthened period of redemption of the loan. In the year under review, only slightly over 1 per cent. has been set aside to the Reserve Fund for these Undertakings.

CHARGES TO CONSUMERS AT NATAL CENTRAL AND CAPETOWN UNDERTAKINGS.

(3) At these Undertakings, of which the South African Railways and Harbours Administration is the principal consumer, special arrangements with the Administration exist.

In the case of the Natal Central Undertaking the Administration is charged the cost of running the Undertaking after deducting the revenue derived from sale of electricity to other consumers. The Revenue and Expenditure Account of the Undertaking therefore shews no balance of profit or loss. The arrangement was approved by the Electricity Control Board up to the end of 1929 and application has been made for the approval of the Board to an extension of the arrangement to the end of 1931. The matter is still under consideration by the Board.

In the case of the Capetown Undertaking a similar arrangement exists, under which the Administration has been charged a fixed price which has been subject to periodical revision. The effect of this is that any profit or loss on the Undertaking is ultimately absorbed in alteration of price charged to the Administration alone. This arrangement constitutes a variation of the Standard Tariff in the Licence of the Undertaking, and application has been made to the Electricity Control Board for its approval and the matter is still under the consideration of the Board.

The arrangements referred to above are, we are informed, of a temporary character but so long as they continue it is impossible for the Commission to comply strictly with the terms of the Electricity Act.

WITBANK UNDERTAKING.

(4) In view of the terms of the Agreement between the Commission and The Victoria Falls and Transvaal Power Company, Limited, this Undertaking really divides itself into two portions, viz:—

- (1) The Power Station and the interest of the Victoria Falls Company therein . . . and
- (2) The Local and Municipal consumers including their interest in the Power Station and the distribution of the power taken by them.

The first section makes no profit or loss because the cost of operating the Power Station is, in terms of the Agreement, divided between the Victoria Falls Company and the second section of the Undertaking.

The balance shown on the Witbank Revenue and Expenditure Account therefore represents the surplus of working the second section. Similarly, the Reserve Fund of the Undertaking has been divided in the Commission's Books into two sections.

REDEMPTION FUND.

(5) In view of the consolidation of advances by the Treasury into two loans of £3,000,000 and £5,000,000 as set out in paragraph (1) of this Report, the provisions of the Schedule to the Electricity Act 1922 have now come into operation.

Up to the end of 1929 amounts had been provided for the repayment of moneys borrowed as follows:—

- | | | |
|-----|---|----------------|
| (1) | For the Natal Central and Capetown Undertakings to which the £5,000,000 loan has been allocated ... | £218,750 12 10 |
| (2) | For the Witbank and Sabie Undertakings to which (together with Durban) the £3,000,000 has been allocated | £109,667 1 5 |

In the case of the Natal Central and Capetown Undertakings, as there are no statutory obligations to make any provision for redemption until 1940, the amount of £218,750 12 10 has been appropriated in reduction of the capital expenditure of these two Undertakings respectively and is shewn in the Balance Sheet as a deduction from the expenditure on Capital Account.

In the case of the other Undertakings the sum of £109,667 1 5 has been transferred to the Redemption Fund of the £3,000,000 loan.

This latter Fund has been increased during the year under review by adequate further provision and as required by Clause 16 (3) of the schedule to the Electricity Act we have certified an account of this Fund.

PENSION FUND.

(6) During the year the provision for the above Fund has been increased by a sum equal to 6 per cent. of the pensionable emoluments together with interest on the amount standing to the credit of the Fund which now amounts to £20,400 18s 2d. as shewn in the Balance Sheet. No separate investment of this amount has been made but a pension scheme is, we are informed, under the consideration of the Commission and will shortly be put into operation.

HEAD OFFICE ADMINISTRATION AND ENGINEERING EXPENSES.

(7) As contemplated in Section 11 (2) of the Electricity Act the Commission has, as previously, made an allocation of overhead and administration charges as between the various Undertakings.

GENERAL.

(8) As the result of our Audit of the Books and Accounts of the Commission for the year 1930 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 results of trading.
- (c) Due provision has been made for the redemption and repayment of moneys borrowed in view of the circumstances as explained in this report.
- (d) The value of the 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,

(Sgd.) ALEX. AIKEN & CARTER,

„ B. HALSEY.

Electricity Supply

Incorporated under the

BALANCE SHEET at

| | |
|--|----------------|
| Loan Capital | £8,000,000 0 0 |
| Treasury of the Union of South Africa: | |
| Loan No. 1, Redeemable not later than 31st December, 1954 | £3,000,000 0 0 |
| Loan No. 2, Redeemable not later than 31st December, 1979 | 5,000,000 0 0 |
| Sundry Creditors and Credit Balances | 91,559 7 6 |
| Provision for Pensions | 20,400 18 2 |
| Redemption Fund (Loan No. 1) | 184,918 4 9 |
| Reserve Fund | 247,700 15 0 |
| Balance on Revenue Accounts | 10,004 12 6 |
| Witbank Undertaking | 7,897 19 0 |
| Capetown Undertaking | 773 12 3 |
| Durban Undertaking | 1,337 3 0 |
| | <hr/> |
| | £10,008 14 3 |
| <i>Less</i> —Sabie Undertaking | 4 1 9 |
| | <hr/> |

NOTE.—In addition to the Liabilities shown above, the Commission has approved of expenditure amounting to approximately £122,255 in connection with the completion and extension of its undertakings. Also £6,210 chargeable against Reserve Fund.

£8,554,583 17 11

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

Johannesburg,
24th April, 1931.

Commission.

Electricity Act, 1922.

31st DECEMBER, 1930.

| | |
|--|------------------------------|
| Expenditure on Capital Account— | |
| Land and Rights | £77,657 16 1 |
| Buildings and Civil Works | 2,348,800 16 1 |
| Machinery and Plant | 5,541,142 4 3 |
| Miscellaneous Equipment | 115,956 16 0 |
| | <hr/> |
| | £8,083,557 12 5 |
| <i>Less</i> —Net Revenue during Construction | 150 441 10 5 |
| Provision made prior to Financial Adjustments Act, 1930, for repayment of Advances, appropriated in reduction of Capital Expenditure | 218,750 12 10 |
| | <hr/> |
| | 369,192 3 3 |
| | <hr/> |
| | 7,714,365 9 2 |
| Stores and Materials | 97,842 2 5 |
| Sundry Debtors and Debit Balances | 95,988 5 6 |
| Investments | 242,857 6 4 |
| Union of South Africa Treasury Bills | 107,932 10 0 |
| Cash on Deposit at Interest | 133,000 0 0 |
| Interest Accrued | 1,924 16 4 |
| | <hr/> |
| Cash on Current Account and on Hand | 19,884 7 1 |
| Investment of Redemption Fund (Loan No. 1) | 152,198 10 5 |
| Investment of Reserve Fund | 231,447 17 0 |
| Amount invested in Municipal and Union of South Africa Local Stocks | 230,270 5 3 |
| Interest Accrued | 1,177 11 9 |
| | <hr/> |
| | £8,554,583 17 11 <hr/> <hr/> |

Referred to in our Report of 23rd May, 1931.

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

Electricity Supply Commission.

SCHEDULE OF EXPENDITURE ON CAPITAL ACCOUNT to 31st December, 1930

| Expenditure in connection with Electricity Undertakings. | Total to 31st December, 1929. | Year ended 31st December, 1930. | Total to 31st December, 1930. |
|--|-------------------------------------|---------------------------------------|-------------------------------------|
| NATAL CENTRAL UNDERTAKING: | | | |
| Land and Rights | £17,065 15 9 | £476 17 9 | £17,542 13 6 |
| Buildings and Civil Works | 750,558 2 3 | 30,868 19 2 | 781,427 1 5 |
| Machinery and Plant | 2,480,424 16 4 | 106,762 12 8 | 2,587,187 9 0 |
| Miscellaneous Equipment | 6,713 12 10 | 14,922 16 11 | 21,636 9 9 |
| General Expenditure | 18,913 2 10 | Cr. 18,913 2 10 | — |
| Interest during Construction and Cost of Raising Money | 109,484 18 9 | Cr. 109,484 18 9 | — |
| <i>Less—</i> | | | |
| Net Revenue during Construction | £3,383,160 8 9 | £24,633 4 11 | £3,407,793 13 8 |
| Provision made prior to Financial Adjustments Act, 1930, for repayment of advances, appropriated in reduction of Capital Expenditure | 2,279 10 6 | 116 16 6 | 2,396 7 0 |
| | — | 200,767 19 10 | 200,767 19 10 |
| | £3,380,880 18 3 | Cr. £176,251 11 5 | £3,204,629 6 10 |
| WITBANK UNDERTAKING: | | | |
| Land and Rights | £7,064 15 7 | £1,831 13 2 | £8,896 8 9 |
| Buildings and Civil Works | 433,699 1 0 | 129,677 3 8 | 563,376 4 8 |
| Machinery and Plant | 1,125,351 4 6 | 345,338 2 4 | 1,470,689 6 10 |
| Miscellaneous Equipment | 14,197 6 7 | 30,397 16 3 | 44,595 2 10 |
| General Expenditure | 168,676 7 6 | Cr. 168,676 7 6 | — |
| Interest during Construction and Cost of Raising Money | 182,102 17 10 | Cr. 182,102 17 10 | — |
| <i>Less—</i> | | | |
| Net Revenue during Construction | £1,931,091 13 0 | £156,465 10 1 | £2,087,557 3 1 |
| | 103,448 14 11 | 11 5 0 | 103,459 19 11 |
| | £1,827,642 18 1 | £156,454 5 1 | £1,984,097 3 2 |
| CAPETOWN UNDERTAKING: | | | |
| Land and Rights | £19,986 8 0 | £1,039 7 10 | £21,025 15 10 |
| Buildings and Civil Works | 498,266 6 3 | 125,187 14 7 | 623,454 0 10 |
| Machinery and Plant | 774,111 8 5 | 197,179 9 8 | 971,290 18 1 |
| Miscellaneous Equipment | 7,348 5 1 | 27,585 5 5 | 34,933 10 6 |
| General Expenditure | 169,017 12 6 | Cr. 169,017 12 6 | — |
| Interest during Construction and Cost of Raising Money | 127,487 7 1 | Cr. 127,487 7 1 | — |
| <i>Less—</i> | | | |
| Net Revenue during Construction | £1,596,217 7 4 | £54,486 17 11 | £1,650,704 5 3 |
| Provision made prior to Financial Adjustments Act, 1930, for repayment of advances, appropriated in reduction of Capital Expenditure | 19,695 16 10 | — | 19,695 16 10 |
| | — | 17,982 13 0 | 17,982 13 0 |
| | £1,576,521 10 6 | £36,504 4 11 | £1,613,025 15 5 |
| DURBAN UNDERTAKING: | | | |
| Land and Rights | £29,650 10 6 | £32 7 6 | £29,682 18 0 |
| Buildings and Civil Works | 236,876 17 5 | 77,866 19 2 | 314,743 16 7 |
| Machinery and Plant | 377,319 4 9 | 96,869 11 10 | 474,188 16 7 |
| Miscellaneous Equipment | 3,889 19 4 | 2,437 0 7 | 6,326 19 11 |
| General Expenditure | 86,152 4 2 | Cr. 86,152 4 2 | — |
| Interest during Construction and Cost of Raising Money | 53,857 11 8 | Cr. 53,857 11 8 | — |
| <i>Less—</i> | | | |
| Net Revenue during Construction | £787,746 7 10 | £37,196 3 3 | £824,942 11 1 |
| | 15,764 10 10 | — | 15,764 10 10 |
| | £771,981 17 0 | £37,196 3 3 | £809,178 0 3 |
| SABIE UNDERTAKING: | | | |
| Land and Rights | £510 0 0 | — | £510 0 0 |
| Buildings and Civil Works | 65,952 8 5 | Cr. £152 15 10 | 65,799 12 7 |
| Machinery and Plant | 38,157 19 3 | Cr. 372 5 6 | 37,785 13 9 |
| Miscellaneous Equipment | 2,517 0 11 | Cr. 12 15 4 | 2,504 5 7 |
| <i>Less—</i> | | | |
| Net Revenue during Construction | £107,137 8 7 | Cr. £537 16 8 | £106,599 11 11 |
| | 9,124 15 10 | — | 9,124 15 10 |
| | £98,012 12 9 | Cr. £537 16 8 | £97,474 16 1 |
| HEAD OFFICE: | | | |
| Furniture and Office Equipment | | £5,960 7 5 | £5,960 7 5 |
| SUMMARY: | | | |
| Land and Rights | £74,277 9 10 | £3,380 6 3 | £77,657 16 1 |
| Buildings and Civil Works | 1,985,352 15 4 | 363,448 0 9 | 2,348,800 16 1 |
| Machinery and Plant | 4,795,364 13 3 | 745,777 11 0 | 5,541,142 4 3 |
| Miscellaneous Equipment | 34,666 4 9 | 81,290 11 3 | 115,956 16 0 |
| General Expenditure | 442,759 7 0 | Cr. 442,759 7 0 | — |
| Interest during Construction and Cost of Raising Money | 472,932 15 4 | Cr. 472,932 15 4 | — |
| <i>Less—</i> | | | |
| Net Revenue during Construction | £7,805,353 5 6 | £278,204 6 11 | £8,083,557 12 5 |
| Provision made prior to Financial Adjustments Act, 1930, for repayment of advances, appropriated in reduction of Capital Expenditure | 150,313 8 11 | 128 1 6 | 150,441 10 5 |
| | — | 218,750 12 10 | 218,750 12 10 |
| | £7,655,039 16 7 | £59,325 12 7 | £7,714,365 9 2 |

Electricity Supply Commission.

STATEMENT SHOWING DETAILS OF INVESTMENTS ON BEHALF OF THE
REDEMPTION FUND IN RESPECT OF THE £3,000,000 TREASURY
LOAN (LOAN No. 1) AS AT 31st DECEMBER, 1930.

| | | | | | | | | | |
|------------------|--|-----|-----|-----|-----|---------|----------|---|--|
| £78,710 | Union of South Africa 5% Loan, 1935 | ... | ... | ... | ... | £78,611 | 12 | 3 | |
| £76,000 | Union of South Africa 4½% Local Registered Stock, 1953 | ... | ... | ... | ... | 71,345 | 0 | 0 | |
| Interest Accrued | ... | ... | ... | ... | ... | 2,241 | 18 | 2 | |
| | | | | | | | <hr/> | | |
| | | | | | | | £152,198 | | |
| | | | | | | | <hr/> | | |
| | | | | | | | 10 | | |
| | | | | | | | <hr/> | | |
| | | | | | | | 5 | | |

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

Johannesburg,
24th April, 1931.

Electricity Supply Commission.

Account No. 1.

Dr.

Redemption Fund Account for the Year ended 31st December, 1930

Cr.

in respect of £3,000,000 Treasury Loan (Loan No. 1) redeemable not later than the 31st December, 1954.

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------------------------------|----------|----|------------|--|-------------------------|----------|---|---|--|------------------------|--------|----|---|--|-----------------------|--------|---|----|--|--|----------|---|---|--|--|---|--|----------|---|---|--|-------------------------|----------|---|---|--|-----------------------|-------|----|---|--|--|--|--|--|------------|-------------------------|--------|----|---|--|------------------------|--------|----|----|--|-----------------------|-------|----|---|--|--------------------------------------|--|--|--|------------|-------------------------|-------|----|---|--|------------------------|-----|---|----|--|-----------------------|-----|---|---|--|--|----------|---|---|--|
| <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">To Balance as per Balance Sheet ...</td> <td style="width: 10%; text-align: right;">£184,918</td> <td style="width: 10%; text-align: right;">4</td> <td style="width: 10%; text-align: right;">9</td> <td style="width: 30%;"></td> </tr> <tr> <td> Witbank Undertaking ...</td> <td style="text-align: right;">£154,520</td> <td style="text-align: right;">6</td> <td style="text-align: right;">1</td> <td></td> </tr> <tr> <td> Durban Undertaking ...</td> <td style="text-align: right;">20,327</td> <td style="text-align: right;">16</td> <td style="text-align: right;">9</td> <td></td> </tr> <tr> <td> Sabie Undertaking ...</td> <td style="text-align: right;">10,070</td> <td style="text-align: right;">1</td> <td style="text-align: right;">11</td> <td></td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">£184,918</td> <td style="text-align: right; border-top: 1px solid black;">4</td> <td style="text-align: right; border-top: 1px solid black;">9</td> <td></td> </tr> </table> | To Balance as per Balance Sheet ... | £184,918 | 4 | 9 | | Witbank Undertaking ... | £154,520 | 6 | 1 | | Durban Undertaking ... | 20,327 | 16 | 9 | | Sabie Undertaking ... | 10,070 | 1 | 11 | | | £184,918 | 4 | 9 | | | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">By Amount transferred from " Provision for Repayment of Moneys Borrowed " at 1st January, 1930 ...</td> <td style="width: 10%; text-align: right;">£109,667</td> <td style="width: 10%; text-align: right;">1</td> <td style="width: 10%; text-align: right;">5</td> <td style="width: 30%;"></td> </tr> <tr> <td> Witbank Undertaking ...</td> <td style="text-align: right;">£108,308</td> <td style="text-align: right;">1</td> <td style="text-align: right;">9</td> <td></td> </tr> <tr> <td> Sabie Undertaking ...</td> <td style="text-align: right;">6,358</td> <td style="text-align: right;">19</td> <td style="text-align: right;">8</td> <td></td> </tr> <tr> <td> „ Amounts Contributed out of Revenue ...</td> <td></td> <td></td> <td></td> <td style="text-align: right;">68,343 5 2</td> </tr> <tr> <td> Witbank Undertaking ...</td> <td style="text-align: right;">45,091</td> <td style="text-align: right;">11</td> <td style="text-align: right;">4</td> <td></td> </tr> <tr> <td> Durban Undertaking ...</td> <td style="text-align: right;">19,933</td> <td style="text-align: right;">15</td> <td style="text-align: right;">10</td> <td></td> </tr> <tr> <td> Sabie Undertaking ...</td> <td style="text-align: right;">3,317</td> <td style="text-align: right;">18</td> <td style="text-align: right;">0</td> <td></td> </tr> <tr> <td> „ Interest Earned on Investments ...</td> <td></td> <td></td> <td></td> <td style="text-align: right;">6,907 18 2</td> </tr> <tr> <td> Witbank Undertaking ...</td> <td style="text-align: right;">6,120</td> <td style="text-align: right;">13</td> <td style="text-align: right;">0</td> <td></td> </tr> <tr> <td> Durban Undertaking ...</td> <td style="text-align: right;">394</td> <td style="text-align: right;">0</td> <td style="text-align: right;">11</td> <td></td> </tr> <tr> <td> Sabie Undertaking ...</td> <td style="text-align: right;">393</td> <td style="text-align: right;">4</td> <td style="text-align: right;">3</td> <td></td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">£184,918</td> <td style="text-align: right; border-top: 1px solid black;">4</td> <td style="text-align: right; border-top: 1px solid black;">9</td> <td></td> </tr> </table> | By Amount transferred from " Provision for Repayment of Moneys Borrowed " at 1st January, 1930 ... | £109,667 | 1 | 5 | | Witbank Undertaking ... | £108,308 | 1 | 9 | | Sabie Undertaking ... | 6,358 | 19 | 8 | | „ Amounts Contributed out of Revenue ... | | | | 68,343 5 2 | Witbank Undertaking ... | 45,091 | 11 | 4 | | Durban Undertaking ... | 19,933 | 15 | 10 | | Sabie Undertaking ... | 3,317 | 18 | 0 | | „ Interest Earned on Investments ... | | | | 6,907 18 2 | Witbank Undertaking ... | 6,120 | 13 | 0 | | Durban Undertaking ... | 394 | 0 | 11 | | Sabie Undertaking ... | 393 | 4 | 3 | | | £184,918 | 4 | 9 | |
| To Balance as per Balance Sheet ... | £184,918 | 4 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Witbank Undertaking ... | £154,520 | 6 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Durban Undertaking ... | 20,327 | 16 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sabie Undertaking ... | 10,070 | 1 | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | £184,918 | 4 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| By Amount transferred from " Provision for Repayment of Moneys Borrowed " at 1st January, 1930 ... | £109,667 | 1 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Witbank Undertaking ... | £108,308 | 1 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sabie Undertaking ... | 6,358 | 19 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| „ Amounts Contributed out of Revenue ... | | | | 68,343 5 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Witbank Undertaking ... | 45,091 | 11 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Durban Undertaking ... | 19,933 | 15 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sabie Undertaking ... | 3,317 | 18 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| „ Interest Earned on Investments ... | | | | 6,907 18 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Witbank Undertaking ... | 6,120 | 13 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Durban Undertaking ... | 394 | 0 | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sabie Undertaking ... | 393 | 4 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | £184,918 | 4 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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

We 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, as amended by Section 3 of the Financial Adjustments Act, 1930.

Johannesburg,
24th April, 1931.

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

Electricity Supply Commission.

Account No. 2.

Dr. Reserve Fund Account for the

Year ended 31st December, 1930.

Cr.

| | | |
|---|---------|---------------|
| To Expenditure during the Year on Replacements and Betterment | £2,937 | 17 5 |
| Natal Central Undertaking | £538 | 8 3 |
| Witbank Undertaking | 1,970 | 18 0 |
| Capetown Undertaking | 195 | 5 11 |
| Durban Undertaking | 9 | 0 10 |
| Sabie Undertaking | 224 | 4 5 |
| | | |
| „ Balance as per Balance Sheet | | 247,700 15 0 |
| Natal Central Undertaking | 121,600 | 15 8 |
| Witbank Undertaking | 70,818 | 2 2 |
| Capetown Undertaking | 42,018 | 11 7 |
| Durban Undertaking | 9,163 | 9 8 |
| Sabie Undertaking | 4,099 | 15 11 |
| | | £250,638 12 5 |

| | | |
|---|----------|---------------|
| By Balance at 31st December, 1929, brought forward | £145,517 | 19 3 |
| Natal Central Undertaking | £76,811 | 6 1 |
| Witbank Undertaking | 45,157 | 13 11 |
| Capetown Undertaking | 21,092 | 1 9 |
| Sabie Undertaking | 2,956 | 17 6 |
| | | 94,964 7 4 |
| „ Contributions during the Year as per Revenue Accounts | | 94,964 7 4 |
| Natal Central Undertaking | 40,881 | 9 1 |
| Witbank Undertaking | 24,282 | 19 6 |
| Capetown Undertaking | 19,649 | 18 9 |
| Durban Undertaking | 9,000 | 0 0 |
| Sabie Undertaking | 1,200 | 0 0 |
| | | 1,006 11 4 |
| „ Other Contributions | | 1,006 11 4 |
| „ Interest Earned on Investments | | 9,149 14 6 |
| | | £250,638 12 5 |

Johannesburg,
24th April, 1931.

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

Electricity Supply Commission.

NATAL CENTRAL UNDERTAKING.

Dr. Revenue Account for the Year ended 31st December, 1930.

Cr.

Generation of Electricity.

| | | | |
|------------------------------|--------|---------|------|
| To Operation- | | | |
| Fuel | ... .. | £39,332 | 1 7 |
| Water, Oil, Waste and Stores | ... .. | 1,391 | 7 4 |
| Salaries and Wages | ... .. | 15,227 | 8 2 |
| Other Expenses | ... .. | 94 | 10 5 |
| „ Maintenance— | | | |
| Stores | ... .. | 6,204 | 3 3 |
| Salaries and Wages | ... .. | 10,523 | 6 1 |
| Other Expenses | ... .. | 249 | 18 8 |
| | | £73,022 | 15 6 |

By Sales of Electricity—

| | | | |
|--------------------------------|--------|----------|------------|
| Traction Supplies | ... .. | £280,292 | 2 2 |
| Bulk Supplies | ... .. | 29,508 | 16 3 |
| Industrial Supplies | ... .. | 9,388 | 7 3 |
| Domestic and Lighting Supplies | ... .. | 1,917 | 10 9 |
| | | £321,106 | 16 5 |
| „ Other Revenue | ... .. |  | 3,551 14 8 |

Distribution of Electricity.

| | | | |
|------------------------------|--------|--------|------|
| „ Operation and Maintenance— | | | |
| Stores | ... .. | 2,464 | 1 5 |
| Salaries and Wages | ... .. | 15,222 | 12 3 |
| Other Expenses | ... .. | 1,670 | 0 8 |
| | | 19,356 | 14 4 |

General Expenses.

| | | | |
|---|--------|----------|-------|
| „ Local Management and General Expenses | ... .. | 15,546 | 10 10 |
| „ Head Office Administration and General Expenses | ... .. | 8,310 | 9 5 |
| „ Engineering Expenses | ... .. | 4,194 | 14 11 |
| | | 28,051 | 15 2 |
| | | 120,431 | 5 0 |
| „ Interest | ... .. | 162,327 | 13 6 |
| „ Provision for Repayment of Moneys Borrowed | ... .. | 1,068 | 3 6 |
| „ Reserve Fund | ... .. | 40,831 | 9 1 |
| | | £324,658 | 11 1 |

£324,658 11 1

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

Referred to in our Report of 23rd May, 1931.

Johannesburg,
24th April, 1931.

ALEX. AIKEN & CARTER, }
D. HATCHER } Auditors.

Electricity Supply Commission.

Account No. 4.

WITBANK UNDERTAKING.

Dr. Revenue Account for the Year ended 31st December, 1930.

Cr.

Generation of Electricity.

| | | | |
|-------------------------------------|----------|----|---|
| To Operation— | | | |
| Fuel | £59,115 | 8 | 4 |
| Water, Oil, Waste and Stores | 5,200 | 17 | 8 |
| Salaries and Wages | 21,161 | 4 | 9 |
| Other Expenses | 1,203 | 6 | 0 |
| ,, Maintenance— | | | |
| Stores | 7,060 | 8 | 6 |
| Salaries and Wages | 10,759 | 19 | 4 |
| Other Expenses | 3,393 | 15 | 9 |
| | £107,894 | 15 | 4 |

Distribution of Electricity.

| | | | |
|-------------------------------|-------|----|----|
| ,, Operation and Maintenance— | | | |
| Stores | 1,075 | 0 | 10 |
| Salaries and Wages | 3,242 | 11 | 8 |
| Other Expenses | 2,457 | 15 | 6 |
| | 6,775 | 7 | 7 |

General Expenses.

| | | | |
|---|----------|----|----|
| ,, Local Management and General Expenses | 11,325 | 6 | 7 |
| ,, Administration, Engineering and General Expenses of operating party (The Victoria Falls and Transvaal Power Company, Limited) | 6,568 | 12 | 3 |
| ,, Head Office Administration and General Expenses | 3,862 | 9 | 1 |
| ,, Engineering Expenses | 1,949 | 11 | 11 |
| | 23,700 | 19 | 10 |
| | 138,371 | 2 | 9 |
| ,, Interest | 94,063 | 16 | 4 |
| ,, Redemption Fund | 45,091 | 11 | 4 |
| ,, Reserve Fund | 24,282 | 19 | 6 |
| ,, Balance, being Excess of Revenue over Expenditure for the year carried down | 250 | 19 | 11 |
| | £302,060 | 9 | 10 |

| | | | |
|--|--------|----|---|
| To Balance as per Balance Sheet | £7,897 | 19 | 0 |
| | £7,897 | 19 | 0 |

By Sales of Electricity—

| | | | |
|---------------------------------------|----------|----|------------|
| Bulk Supplies | £248,585 | 14 | 10 |
| Industrial and Mining Supplies | 45,594 | 12 | 11 |
| Domestic and Lighting Supplies | 3,484 | 7 | 7 |
| | £297,664 | 15 | 4 |
| ,, Other Revenue | | | 4,895 14 6 |

| | | | |
|--|--------|----|-----------|
| By Balance at 31st December, 1929, brought forward ... | £7,646 | 19 | 1 |
| ,, Balance, being Excess of Revenue over Expenditure for the year, brought down | | | 250 19 11 |
| | £7,897 | 19 | 0 |

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

Referred to in our Report of 23rd May, 1931.

Johannesburg,
24th April, 1931.

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

Electricity Supply Commission.

Account No. 5

CAPETOWN UNDERTAKING.

Dr.

Revenue Account for the Year ended 31st December, 1930.

Cr.

Generation of Electricity.

| | | | |
|---|--------------|--|--|
| To Operation— | | | |
| Fuel | £50,359 12 4 | | |
| Water, Oil, Waste and Stores | 1,272 4 0 | | |
| Salaries and Wages | 8,755 12 4 | | |
| Other Expenses | 139 8 8 | | |
| „ Maintenance— | | | |
| Stores | 2,332 3 2 | | |
| Salaries and Wages | 6,506 15 6 | | |
| Other Expenses | 371 5 0 | | |
| | £69,737 1 0 | | |
| „ Electricity Interchanged (balance) | 171 2 1 | | |

Distribution of Electricity.

| | | | |
|------------------------------|-------------|--|--|
| „ Operation and Maintenance— | | | |
| Stores | 1,115 4 3 | | |
| Salaries and Wages | 9,697 1 0 | | |
| Other Expenses | 1,145 18 7 | | |
| | 11,958 3 10 | | |

General Expenses.

| | | | |
|---|--------------|--|--|
| „ Local Management and General Expenses | 13,980 12 10 | | |
| „ Head Office Administration and General Expenses | 6,908 4 0 | | |
| „ Engineering Expenses | 3,486 19 0 | | |
| | 24,375 15 10 | | |
| | 106,242 2 9 | | |
| „ Interest | 80,627 18 8 | | |
| „ Reserve Fund | 19,649 18 9 | | |
| „ Balance, being Excess of Revenue over Expenditure for the year, carried down | 1,940 3 5 | | |
| | £208,460 3 7 | | |
| To Balance at 31st December, 1929, brought forward | £1,166 11 2 | | |
| „ Balance as per Balance Sheet | 778 12 3 | | |
| | £1,940 3 5 | | |

By Sales of Electricity—

| | | | |
|--|---------------|------------|--|
| Traction Supplies | £119,290 17 7 | | |
| Bulk Supplies | 20,260 12 9 | | |
| Industrial Supplies | 55,580 0 8 | | |
| Domestic and Lighting Supplies | 8,542 6 2 | | |
| | £208,628 17 2 | | |
| „ Amount recovered from the South African Railways and Harbours Administration, being interest on Capital rendered idle consequent upon the closing of the Sea Point Line | | 2,609 7 2 | |
| „ Other Revenue | | 2,226 19 2 | |

To Balance at 31st December, 1929, brought forward ...

„ Balance as per Balance Sheet

By Balance, being Excess of Revenue over Expenditure for the year, brought down ..

£208,460 3 7

£1,940 3 5

£1,940 3 5

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

Referred to in our Report of 23rd May, 1931.

Johannesburg,
24th April, 1931.

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

Electricity Supply Commission.

DURBAN UNDERTAKING.

Dr. Revenue Account for the Year ended 31st December, 1930. Cr.

| Generation of Electricity. | | |
|---|----------|-------|
| To Operation— | | |
| Fuel | £47,846 | 4 3 |
| Water, Oil, Waste and Stores | 1,359 | 5 3 |
| Salaries and Wages | 11,535 | 14 2 |
| Other Expenses | 480 | 1 3 |
| „ Maintenance— | | |
| Stores | 3,185 | 12 6 |
| Salaries and Wages | 6,266 | 11 10 |
| Other Expenses | 769 | 19 0 |
| | £71,443 | 8 3 |
| General Expenses. | | |
| „ Local Management and General Expenses | 6,619 | 19 5 |
| „ Head Office Administration and General Expenses | 6,187 | 6 11 |
| „ Engineering Expenses | 3,123 | 1 10 |
| | 15,930 | 8 2 |
| | 87,373 | 16 5 |
| „ Interest | 39,280 | 14 2 |
| „ Redemption Fund | 19,933 | 15 10 |
| „ Reserve Fund | 9,000 | 0 0 |
| „ Balance, being Excess of Revenue over Expenditure for the year as per Balance Sheet | 1,337 | 3 0 |
| | £156,925 | 9 5 |
| | £156,925 | 9 5 |

| | | |
|--------------------------|----------|------|
| By Sales of Electricity— | | |
| Bulk Supplies | £156,640 | 6 10 |
| „ Other Revenue | 285 | 2 7 |

Johannesburg,
24th April, 1931.

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

Referred to in our Report of 23rd May, 1931.

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

Electricity Supply Commission.

SABIE UNDERTAKING.

Dr. Revenue Account for the Year ended 31st December, 1930. Cr.

Generation of Electricity.

| | | | | | |
|------------------------------|-----|-----|-----|--------|------|
| To Operation— | | | | | |
| Water, Oil, Waste and Stores | ... | ... | ... | £63 | 9 6 |
| Salaries and Wages | ... | ... | ... | 1,227 | 6 3 |
| ,, Maintenance— | | | | | |
| Stores | ... | ... | ... | 377 | 2 5 |
| Salaries and Wages | ... | ... | ... | 99 | 19 0 |
| Other Expenses | ... | ... | ... | 8 | 11 2 |
| | | | | £1,776 | 8 4 |

Distribution of Electricity.

| | | | | | |
|-------------------------------|-----|-----|-----|-----|------|
| ,, Operation and Maintenance— | | | | | |
| Stores | ... | ... | ... | 89 | 12 3 |
| Salaries and Wages | ... | ... | ... | 405 | 7 8 |
| Other Expenses | ... | ... | ... | 16 | 4 8 |
| | | | | 511 | 4 7 |

General Expenses.

| | | | | | |
|---|-----|-----|-----|---------|-------|
| Local Management and General Expenses | ... | ... | ... | 794 | 14 8 |
| Head Office Administration and General Expenses | ... | ... | ... | 738 | 18 11 |
| Engineering Expenses | ... | ... | ... | 372 | 19 8 |
| | | | | 1,906 | 13 3 |
| | | | | 4,194 | 6 2 |
| Interest | ... | ... | ... | 4,982 | 9 9 |
| Redemption Fund | ... | ... | ... | 3,317 | 18 0 |
| Reserve Fund | ... | ... | ... | 1,200 | 0 0 |
| | | | | £13,694 | 13 11 |
| | | | | £13,694 | 13 11 |

By Sales of Electricity—

| | | | | | |
|---|-----|-----|-----|---------|-------|
| Mining Supplies | ... | ... | ... | £13,684 | 17 10 |
| Domestic and Lighting Supplies | ... | ... | ... | 5 | 14 4 |
| | | | | £13,690 | 12 2 |
| ,, Balance, being Excess of Expenditure over Revenue for the year, as per Balance Sheet | | | | | 4 1 9 |

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

Referred to in our Report of 23rd May, 1931.

Johannesburg,
24th April, 1931.

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

ANNEXURE “B”: TARIFFS.

EMBODYING—

The standard prices in force in respect of the Commission's several Undertakings.

ANNEXURE " B " : TARIFFS.

The standard prices in force on the Commission's several Undertakings are subjoined. These prices and the conditions attaching thereto are more fully set out in the Licences and Permit granted to the Commission by the Electricity Control Board, and are subject to alteration in terms of the Electricity Act, 1922.

Generally speaking, the standard prices are applicable to the supply of three-phase alternating current at standard pressures to consumers whose notified maximum demand is not less than 50 kilovolt amperes, and are subject to variation, in terms of Section 26 of the Electricity Act, 1922, having regard to the situation, extent and conditions of load.

NATAL CENTRAL UNDERTAKING.

- (a) A charge of £25 per annum, plus
- (b) a charge of 8s. 4d. for each kilovolt ampere of the maximum demand supplied in each month, plus
- (c) a charge of 0·3d. for the first million units supplied in each year, a charge of 0·2d. for the next two million units supplied in each year, a charge of 0·15d. for all additional units supplied in each year.

WITBANK UNDERTAKING.

- (a) A charge of £25 per annum, plus
- (b) a charge of 8s. 4d. for each kilovolt ampere of the maximum demand supplied in each month, plus
- (c) a charge of 0·045d. for each unit supplied.

CAPE TOWN UNDERTAKING.

- (1) In respect of generation:
 - (a) a charge of £25 per annum, plus
 - (b) a charge of £4 10s. for each kilovolt ampere of the maximum demand supplied in each year, plus
 - (c) a charge of 0·3d. for each unit supplied, plus
- (2) In respect of distribution:
 - (d) a charge to cover the costs of distribution, such charge being subject to the approval of the Electricity Control Board.

DURBAN UNDERTAKING.

- (a) A charge of £5 8s. for each kilowatt of the maximum demand supplied in each year, plus
- (b) a charge of 0·2d. for each unit supplied.

SABIE UNDERTAKING.

By arrangement with the consumers, the total production costs of this Undertaking are apportioned between consumers in proportion to the number of units supplied to each consumer month by month, the average cost during 1930 being 0·717d. per unit.

ANNEXURE "C."

EMBODYING—

Statement No.

1. Summary of principal plant and equipment installed as at 31st December, 1930.
2. Summary of principal plant and equipment in course of installation or on order at 31st December, 1930.
3. Statement showing the price or rent of any land or rights or interest in or over land or any other property acquired or hired by the Commission.

Electricity Supply Commission.

STATEMENT No. 1.

Summary of principal plant and equipment installed at the Commission's several Undertakings as at 31st December, 1930:—

GENERATING PLANT.

| No. of Sets. | ... | Capacity each, Kilowatts. | ... | Total Capacity, Kilowatts. |
|-----------------|-----|------------------------------|-----|-------------------------------|
| 5 | ... | 20,000 | ... | 100,000 |
| 7 | ... | 12,000 | ... | 84,000 |
| 3 | ... | 10,000 | ... | 30,000 |
| 2 | ... | 6,000 | ... | 12,000 |
| 1 | ... | 1,000 | ... | 1,000 (House Turbine) |
| 3 | ... | 450 | ... | 1,350 |
| 1 | ... | 300 | ... | 300 (House Turbine) |
| Total 22 | | | | 228,650 |

BOILER PLANT.

| No. of Boilers. | ... | Capacity in lbs. of steam per hour (normal rating). | |
|-----------------|-----|--|------------------|
| | | Each. | Total. |
| 16 | ... | 70,000 | 1,120,000 |
| 20 | ... | 60,000 | 1,200,000 |
| Total 36 | | | 2,320,000 |

TRANSMISSION LINES AND CABLES.

| | 6,600, 3,300 and 2,200, 380/220 | | | | | | Total Route Miles. |
|---------------------|---------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|------------------------------------|--------------------------------------|--------------------------|
| | 88,000 volts. Route Miles. | 33,000 volts. Route Miles. | 21,000 volts. Route Miles. | 12,000 volts. Route Miles. | 2,200 volts. Route Miles. | 380/220 volts. Route Miles. | |
| Overhead Lines . | 275 | 171 | 74 | — | 12 | 58 | 590 |
| Cables | — | 30 | 10 | 8 | 7 | 1 | 56 |
| Total | 275 | 201 | 84 | 8 | 19 | 59 | 646 |

TRANSFORMERS.

(Step-up and Step-down.)

| | | | | |
|--------------------------|-----|-----|-----|-------------------------------------|
| Total capacity installed | ... | ... | ... | Kilovolt Amperes. 370,851 |
|--------------------------|-----|-----|-----|-------------------------------------|

CONVERTING SUB-STATIONS.

| MOTOR GENERATOR SETS. | | | ROTARY CONVERTERS. | | | TOTALS. | | |
|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|
| No. of Sub- Stations. | No. of Sets. | Rating Kilowatts. | No. of Sub- Stations. | No. of Sets. | Rating Kilowatts. | No. of Sub- Stations. | No. of Sets. | Rating Kilowatts. |
| 12 | 22 | 44,000 | 5 | 10 | 20,000 | 17 | 32 | 64,000 |

Note.—Two rotary converters removed from Three Anchor Bay Sub-station, following the closing down of the Sea Point Line, are stored and are not included in this figure.

STAFF QUARTERS.

| | | | | | Brick Buildings. | Wood and Iron Buildings. | Total. |
|------------------------|-----|-----|-----|-----|---------------------|-----------------------------|------------|
| Married Staff Quarters | ... | ... | ... | ... | 81 | 16 | 97 |
| Single Staff Quarters | ... | ... | ... | ... | 9 | 1 | 10 |
| Total | ... | ... | ... | ... | 90 | 17 | 107 |

Electricity Supply Commission.

STATEMENT No. 2.

Summary of principal plant and equipment in course of installation or on order as at 31st December, 1930:—

GENERATING PLANT.

| No. of Sets. | Capacity each, Kilowatts. | Total Capacity, Kilowatts. |
|--------------|------------------------------|-------------------------------|
| 1 | 12,000 | 12,000 |

BOILER PLANT.

| No. of Boilers. | Capacity in lbs. of steam per hour (normal rating). | Total. |
|-----------------|--|----------------|
| | Each. | Total. |
| 2 | 120,000 | 240,000 |

TRANSMISSION LINE AND CABLES.

| | 33,000 volts. Route Miles. | 380/220 volts. Route Miles. | Total Route Miles. |
|----------------|-------------------------------------|--------------------------------------|--------------------------|
| Overhead Lines | 31 | 1 | 32 |
| Cables | — | — | — |
| Total | 31 | 1 | 32 |

TRANSFORMERS

(Step-up and Step-down).

| | |
|--|------------------------------|
| Total capacity in course of installation or on order | Kilovolt Amperes. ... 900 |
|--|------------------------------|

Electricity Supply Commission.

STATEMENT No. 2.

STATEMENT SHOWING THE PRICE OR RENT OF ANY LAND OR RIGHTS OR INTERESTS IN OR OVER LAND OR ANY OTHER PROPERTY ACQUIRED OR HIRED BY THE COMMISSION AT 31st DECEMBER, 1920.

Main table with columns: Appn. No., Appn. Date, Farm or Lot, District, Title, Purchase Price or Rental, Acquired From, Purpose for Which Required. Includes sections for NATAL CENTRAL UNDERTAKING, WITBANK UNDERTAKING, CAPETOWN UNDERTAKING, and DURBAN UNDERTAKING.

ANNEXURE “ D. ”

EMBODYING—

Statistics relating to the production and supply of electricity
in the Union of South Africa.

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

Extracted from the 1928/29 Industrial Census and Published by courtesy
of the Department of Census and Statistics.

UNITS GENERATED.

| Province. | Local Authorities. | Other Producers. | Total. |
|----------------------|--------------------|----------------------|----------------------|
| Cape | 109,599,720 | 59,728,543 | 169,328,263 |
| Transvaal | 121,417,735 | 1,698,885,378 | 1,820,303,113 |
| O.F.S. | 16,117,776 | 22,484,678 | 38,602,454 |
| Natal | 89,712,098 | 182,463,709 | 272,175,807 |
| Totals | 336,847,329 | 1,963,562,308 | 2,300,409,637 |

CONSUMERS AND SALES.

| | PROVINCE. | | | | Total. |
|--|-------------|---------------|------------|-------------|----------------------|
| | Cape. | Transvaal. | O.F.S. | Natal. | |
| Total No. of Consumers ... | 65,036 | 68,018 | 9,661 | 27,800 | 170,515 |
| Total Units consumed ... | 142,091,070 | 1,583,552,177 | 36,210,572 | 228,366,667 | 1,990,220,486 |
| Domestic Consumers | 60,608 | 60,646 | 8,712 | 26,091 | 156,057 |
| Units sold to Domestic Consumers | 31,421,668 | 47,679,726 | 4,870,104 | 35,275,107 | 119,246,605 |
| Average Units sold per Domestic Consumer ... | 518 | 786 | 559 | 1,352 | 764 |

INSTALLED CAPACITY OF PLANTS.

| Capacity. | No. of Power Stations. | Total Installed Capacity. Kilowatts. |
|---|------------------------|--------------------------------------|
| 50,000 kw. and over | 4 | 232,700 |
| 20,000 kw. and over and below 50,000 kw. | 9 | 259,600 |
| 10,000 kw. and over and below 20,000 kw. | 3 | 40,000 |
| 5,000 kw. and over and below 10,000 kw. | 4 | 27,050 |
| 1,000 kw. and over and below 5,000 kw. | 27 | 48,380 |
| Below 1,000 kw. | 157 | 33,663 |
| Total | 204 | 641,393 |

SIZE AND TYPE OF GENERATING UNITS.

| Size of Sets. | Steam Turbines. | Steam Reciprocating Engines. | Oil Engines. | Gas Engines. | Water Wheels and Turbines. | Total No. of Sets. |
|---|-----------------|------------------------------|--------------|--------------|----------------------------|--------------------|
| (1) AC Plants : | | | | | | |
| Below 250 kw. | — | 68 | 9 | 23 | 16 | 116 |
| 250 kw. and over, but below 1,000 kw. | 13 | 50 | — | — | 8 | 71 |
| 1,000 kw. and over, but below 10,000 kw. | 53 | 4 | — | — | — | 57 |
| 10,000 kw. and over | 45 | — | — | — | — | 45 |
| (2) DC Plants : | | | | | | |
| Below 250 kw. | 2 | 103 | 83 | 57 | 11 | 250 |
| 250 kw. and over, but below 1,000 kw. | 3 | 29 | — | — | 1 | 33 |
| 1,000 kw. and over | — | 2 | — | — | — | 2 |

FUEL CONSUMED.

| Type of Fuel. | Quantity (Tons=2,000 lbs.) | Cost £ |
|-------------------|-------------------------------|-----------|
| Coal | 2,843,780 | 1,184,648 |
| Other Fuel | 2,063 | 68,727 |

COAL CONSUMPTION.

| Average Coal Consumption per Unit Generated. | No. of Undertakings. |
|--|----------------------|
| Under 2 lbs. | 9 |
| 2 lbs. and over, but under 3 lbs. | 18 |
| 3 lbs. and over, but under 4 lbs. | 12 |
| 4 lbs. and over, but under 6 lbs. | 22 |
| 6 lbs. and over, but under 8 lbs. | 14 |
| 8 lbs. and over | 63 |

TRANSMISSION AND DISTRIBUTION LINES.

| System. | Overhead Lines. | Route Miles. Cables. | Total. |
|--------------------------------|-----------------|-------------------------|--------------|
| D.C.—All voltages | 908 | 673 | 1,581 |
| A.C.—Below 2,000 volts | 2,107 | 1,156 | 3,263 |
| 2,000 volts to 11,000 volts .. | 375 | 849 | 1,224 |
| Above 11,000 volts | 1,253 | 110 | 1,363 |
| | <u>4,643</u> | <u>2,788</u> | <u>7,431</u> |

TRANSFORMERS.

| | |
|---|------------------|
| Total installed capacity | 1,592,006 K.V.A. |
| Total number of persons employed in the electricity industry (generation and distribution) | 8,597 |
| Total salaries and wages paid for the year | £1,250,851 |

MEMBERS OF THE
Electricity Supply Commission.

DR. HENDRIK JOHANNES VAN DER BIJL (Chairman).

ALBERT MICHAEL JACOBS.

KARL GUNDELFINGER.

GEORGE GOODBAN ELLIOTT.

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