

1924.

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VICTORIA.

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STATE ELECTRICITY COMMISSION OF  
VICTORIA.

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FIFTH ANNUAL REPORT

FOR THE

FINANCIAL YEAR ENDED 30TH JUNE, 1924;

TOGETHER WITH

APPENDICES.

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PRESENTED TO PARLIAMENT PURSUANT TO SECTION 25 (b) OF STATE ELECTRICITY COMMISSION ACT No. 2996.

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# REPORT.

26th November, 1924.

Hon. Attorney-General,  
Melbourne.

SIR,

Pursuant to Section 25 (b) of the *State Electricity Commission Act* 1918, No. 2996, we have the honour to present our Report for the financial year ended 30th June, 1924, accompanied by a statement of accounts for that period.

## PART I.—ADMINISTRATION.

While Part II. of our Report deals in close detail with the progress made with the construction of the various works which the Commission has in hand, the following commentary is made at this stage on the progress made with the major schemes.

### PROGRESS OF THE MAJOR SCHEMES ENTRUSTED TO THE COMMISSION.

It is with pleasure that the Commission finds itself in a position to report to you that on the 15th June, 1924, the first generator at the Yallourn Power Station was brought into commercial operation, and since that date has assisted in meeting the ever-increasing demands for electric energy in the Metropolitan area.

The construction of the Power Station and the installation of the extensive plant is at such an advanced stage that the whole of the Station is expected to be in commission early in 1925.

As and when each of the remaining generators and the requisite boiler plant are completed they will be taken into commercial service at once, so that the situation in regard to the generation of electricity in Melbourne will be gradually relieved, and insurance against failure of supply thereby materially enhanced.

Since August of this year the open cut at Yallourn has supplied coal for the boilers in the Power Station, which have attained entirely satisfactory steaming efficiency with the use of the coal obtained from the new open cut.

Although the Briquetting Factory was well advanced at the close of the financial year, it was not possible to commence operation, because certain auxiliary plant essential for the operation of the factory had not been delivered, due to the inability of the Contractors to deliver the plant at the dates specified in the contracts.

Provided that the deliveries now anticipated are adhered to, in respect of that portion of the plant which is long overdue, it is expected that the machinery in the factory will be in a position to undergo exhaustive tests and permit the manufacture of briquettes on a commercial scale to be undertaken during January, 1925.

The failure on the part of the Contractors to adhere to the contract dates, even to a reasonable extent, has caused the Commission much concern, particularly as it had prepared tentative arrangements for placing briquettes on the market during the last winter on assurances given by the Contractors after they had revised the time of delivery for the items of plant outstanding.

*Sugarloaf-Rubicon Scheme.*—With the approval of the Government the Commission prepared a construction programme which aimed at expediting the construction of the hydraulic portion of the undertaking, and electrical works associated therewith, so as to have the scheme in full operation by the winter of 1927 instead of the middle of 1928 as formerly proposed. This additional supply is rendered necessary on account of the fact that plant, over and above the plant operating in the Metropolitan area and the Yallourn Power Station, should be provided in order to assist in meeting the winter demand in 1927.

Having regard to the comparatively limited output of energy which can be obtained from the Sugarloaf-Rubicon Scheme even under the most favorable circumstances, this forecast of the position in 1927 presages the consideration by the Commission in the very near future of the best means of meeting the position after the winter of 1927. This will be made the subject of a special report to the Government as soon after the end of 1924 as possible.

## MELBOURNE ELECTRIC SUPPLY COMPANY.

Under the provisions of Section 11 of the State Electricity Commission Act No. 2996, the duty devolves on the Commission of inquiring into and reporting to the Minister "as to the steps which, in its opinion, should be taken to secure the ultimate co-ordination or unification of all State or other electrical undertakings in Victoria . . . and to secure the amalgamation or concentration of such undertakings."

Due to the fact that the franchises under the Electric Light and Power Act held by the Melbourne Electric Supply Co. would expire in November, 1925, so far as the Metropolis of Melbourne is concerned, the Commission, practically since its inception, has had to exhaustively consider the position which would arise at that date.

Because of the necessity for directing attention to more urgent problems in connexion with the bringing into operation of the Morwell Scheme, the Commission was not able to open the matter with the Company from any point of view until October, 1921.

As the Commission viewed the problem, there were two alternatives open to the Government to consider, viz. :—

- (a) The compulsory acquisition in November, 1925, of the Melbourne portion of the Company's undertakings, leaving the Geelong portion to be dealt with later when the franchises governing the latter undertaking expire.
- (b) The extension or renewal of the franchises for a limited term on conditions which would satisfactorily safeguard the interests of the State and of the consumers of electric energy.

Not the least important aspect which the Commission had to keep before it in the negotiations with the Company was the extremely urgent work of converting the Company's system of supply from single-phase to three-phase supply, particularly in the industrial areas which it serves. The single-phase system proves to be quite inefficient and uneconomic when applied to electric motors for driving machinery, and has now been superseded in this State by the adoption of the universal standard of the three-phase system of supply.

It was therefore highly desirable that with the least possible delay the conversion of the system of the Company in the industrial areas, and in other areas in which industry is developing, should be undertaken, otherwise the whole of the territory in which the Company is supplying industrial consumers will remain without the more efficient and economical energy. Moreover, failing this conversion, the Company would be unable, except to a limited extent, to avail itself of the supply from the State-owned power stations, and since its own generating plant is already severely overtaxed, it would be unable to keep pace with the growing public demand.

It should be noted also that there was no compulsion whatever upon the Company to expend capital on these works of conversion, nor was the Government in a position to deal in some alternative way with this urgent situation unless and until the main question of the future of the Company was definitely settled.

With the knowledge of the circumstances surrounding this difficult question, the Government instructed the Commission to enter into negotiations with the Company for the granting of an extension of franchise conditionally upon the acceptance by the Company of certain stipulations which it was considered would adequately protect the public interest, and would not prove unduly burdensome to the Company.

After negotiations extending for a period of over two years, the Company, early in 1924, accepted, in principle, the fundamental conditions which the Government sought to impose.

Following this acceptance, the Government entered into an agreement with the Company upon terms which can be summarized as follows :—

1. Extension of franchise to be granted for the authorized maximum period of ten years, but with an option to the Government of acquiring the assets at the end of respectively five or seven and a half years, the Company to have the right, in certain circumstances, of demanding that the Government exercise its option at the end of five years.
2. Acquisition, when effected, to be based upon the "residual" value of assets, i.e., upon original actual cost, less a definite percentage depreciation for each year that each item of the plant still remaining in service has been in service.  
This depreciation, it has been estimated, will average 3 per cent. per annum.
3. The Company's distributable profits to be limited to 7 per cent. per annum upon its ordinary share capital and to 8 per cent. on its preference share capital.

4. The Company to carry out, when called upon, all works of "conversion" and "extension" approved by and under the supervision of the Government, and to purchase all its requirements of energy from the State scheme, as and when the same becomes available.

This involves the closing down of the Company's present "single-phase" generating plant at Richmond at a much earlier date than would otherwise be possible.

5. The Company not to issue any further shares nor to raise further capital on debentures, except with the approval of the Government, which may, however, provide any further capital required for extensions and conversions for which capital the Company is to pay interest.
6. The control arrangements and other conditions applicable to the Melbourne undertaking to apply to the Geelong undertaking, and any unexpired period of the franchises governing the Geelong undertaking at the date of the acquisition of the Company's Melbourne and Geelong undertakings, to be surrendered by the Company.

The net effect of the arrangements concluded with the Company is that, for all practical purposes, the Company will undertake the management of the undertaking on behalf of and under the control of the Government, receiving as its remuneration for such management, and for the use of its share capital, only certain prescribed interest returns.

More important still, a fair basis of ultimate acquisition has been achieved, enabling the purchase price to be determined at the date of acquisition by simple accountancy methods, instead of by arbitration; and further, it permits the urgent work of conversion in the industrial areas to be undertaken forthwith.

The Government proposed to submit to Parliament legislation to ratify this agreement with the Company.

#### EXTENSION OF THE STATE SCHEME TO SERVE THE CITIES OF BALLARAT AND BENDIGO.

The Electric Supply Company of Victoria, operating under Orders in Council issued under the Electric Light and Power Act has, since 1901, given electric service in the cities of Ballarat and Bendigo, having installed in each city direct-current generating plant of a total capacity of about 1,000 kilowatts. Owing to the limited economic range of transmission by direct-current, the development of the electric services of these communities has been confined, in greater part, to districts lying within a radius of  $\frac{3}{4}$  mile from the respective power-houses. This consideration, together with the limited power-house capacity, has, in recent years, brought about a situation which has been unsatisfactory to the municipal councils, in respect of the development both of industries desiring to establish themselves in the outer environs, and of increased service to meet the ever-growing demand for light and power. It is to be particularly noted that the mere increase in the installed amount of direct-current generating plant would, perhaps, have met, to some extent, increased requirements in the inner areas, but would have in no way economically catered for industrial requirements in the outer areas.

This being the position, the State Electricity Commission propounded, early in 1921, schemes for the construction of high-tension transmission lines from Yarraville to Ballarat and beyond, and from Yarraville to Castlemaine, Bendigo, Eaglehawk, and beyond. Such transmission could supply alternating current in practically unlimited amounts, and would be capable of extension in all directions from the power centres of Ballarat and Bendigo.

Two antecedent and indispensable conditions to the building of the two main transmission lines referred to were, however, firstly, that there should be an assured market for the electric energy to be so transmitted, to the extent of a definite minimum demand, in order that a due return of interest upon the heavy capital expenditure involved would be assured; and, secondly, that the Electric Supply Company of Victoria should be prepared to purchase alternating-current energy from the Commission, and should, in order to distribute such energy to consumers economically, change over its reticulation system from direct-current to alternating-current distribution.

A conference in January, 1922, between delegates from the municipalities of Ballarat and Bendigo, with representatives of the Company, made it quite clear that the only solution of the difficulty was the acquisition by a public authority of the whole of both undertakings, particularly as the Company definitely refused to take any ameliorating action, except upon terms unacceptable to the municipalities.

At this stage, the Government, realizing that it would be impossible for the municipalities to arrange to finance such acquisition, made the following offer to the municipalities, the substance of which was that the Government would—

- (a) Make available the services of the Electricity Commission to undertake negotiations with the Company on behalf of the councils.
- (b) Advance the whole of the funds found to be necessary for the public acquisition of the undertakings, and their subsequent conversion to three-phase supply.

The sole conditions imposed related to the responsibility of the consumers in these cities for the interest upon the capital sums advanced, and to the necessity for the councils to make their own arrangements for the subsequent operation of the tramway system.

The concurrent consent of both municipalities, which was essential before negotiations could be opened up for the acquisition of all franchises and of all assets of the Company in both cities, was not forthcoming, and the generous and comprehensive offer above referred to has not met with any response whatever from the municipalities. In fact, a discussion was raised in Ballarat as to the relative merits of Lal Lal and Morwell as a basis for the electric supply of Ballarat, and resulted in many months being lost by the consideration of this course of action.

With these delays the situation became greatly changed, for, although there was every prospect at one stage of arriving at an agreement with the Company for the acquisition of all its assets upon reasonable and equitable terms, the Company quite definitely altered the position of the whole matter by making application to the Commission, early in 1923, for authority to install new alternating-current generating plant in both Ballarat and Bendigo. This indicated an entire change in the attitude and policy of the Company, and showed that the Company was now prepared to do voluntarily the very thing that it had in previous years declined to do, except upon unacceptable conditions.

Following the receipt of this application, the Commission resolved as a first step to invite the Company to fully consider as an alternative to the installation of new plant, that the Company should shut down its present plant and purchase energy in bulk from the Commission, such energy to be supplied by transmission from Yarraville.

After many lengthy conferences between the Commission and representatives of the Company, it became evident that the Company could not be induced to purchase energy in bulk from the State scheme, except upon unacceptable conditions, and since there is no power to compel the Company to do so, it remained only for the Commission, in the interests of the consumers, to give its consent to the Company's proposal for the installation of new plant.

It is, notwithstanding, a regrettable fact that, while something has been done to better the conditions of electric service within the cities of Ballarat and Bendigo, yet these two large cities and all the smaller towns and settlements within a range of, say, 40 miles from either centre have become definitely shut out from the State Electricity Scheme for the next seven years. While the Gippsland, South-Western, Goulburn Valley, and North-Eastern districts will speedily become connected up with the State scheme, and thus be afforded the opportunity of steady industrial development, the whole of that important territory, of which Ballarat and Bendigo are the main centres, is committed, for seven years at least, to dependence on small, local, and (in many cases) expensive and unsatisfactory electric supply undertakings.

The Commission furnished a full report on this matter to the Government on 23rd August, 1923.

#### ELECTRIC SUPPLY IN RURAL DISTRICTS.

Following the policy laid down by the Government, the Commission has been actively engaged in extending the State scheme within those territories capable of being served from the main transmission lines already constructed or in course of construction.

This has involved the acquisition by the Commission, at the request of the municipalities, and with the knowledge and approval of the Government, of a number of electric light undertakings previously operating either under municipal councils or private companies. With two exceptions, these acquisitions have necessitated the conversion from the obsolete direct-current system to the standard alternating-current, three-phase system of supply. In addition it has required the erection of branches from the main lines, the construction of local reticulation in centres where no electricity supply previously obtained, and the extension of the local reticulation in towns which previously had their own generating plant, with the reconstruction of the reticulation in these latter towns, where warranted, to ensure greater efficiency in the supply.

The whole of the expenditure on these works will be reproductive, but at the same time the tariffs which the Commission has adopted for the territories served are such as to encourage the use of electricity.

During the period the Commission assumed control of the local distribution in the following towns :—

*South-Western District—*

Colac, Camperdown, Terang, Warrnambool, Cobden, Mortlake, Beeac, Cororooke.

*Bellarine Shire and Point Lonsdale Peninsula—*

Queenscliff, Point Lonsdale, Drysdale, Portarlington.

*Gippsland District—*

Moe, Trafalgar, Traralgon, Yarragon, Tyers River District.

At the 30th June last, arrangements were in hand for giving supply to the following centres :—

*South-Western District—*

Winchelsea, Birregurra, Alvie, Barwon Heads, Ocean Grove.

*Gippsland District—*

Maffra, Sale, Mirboo North, Boolarra, Cowwarr, Korumburra, Drouin, Leongatha.

The supply to Drouin necessitated the erection of a 6,600-volt transmission line from Yarragon to Drouin, which will also serve other centres of demand *en route*, such as Darnum and Nilma.

The details of the works undertaken or to be undertaken for these supplies are dealt with in Part II. of the Report under the heading "Electricity Supply," and particulars of the load thus connected to the system in the first year of operation appear in Appendix No. 2.

Concerning the extension of the State scheme to supply the north and north-eastern area of the State, the Commission, with the approval of the Governments of New South Wales and Victoria, has entered into contracts with the municipal councils of Albury and Corowa, New South Wales, for the supply in bulk of the requirements of the respective electric light undertakings of the councils.

The addition of these large consumers to the system will enable the Commission to make available energy to Victorian consumers in this territory at more favorable rates than would have been otherwise possible.

*Echuca.*—The requirements of the town of Echuca have also called for the attention of the Commission during the period. This town is situated well within the economic range of the Sugarloaf-Rubicon Scheme, from which it is proposed to supply Echuca along with other neighbouring centres of demand. A situation arose with the Municipal Gasworks, which were in such a bad state of repair that it would not have been possible for the council to wait until early in 1926 before receiving energy from the State scheme. Consequently, it became necessary to consider measures for meeting the position immediately, and after close investigation, and with the concurrence of the local council, the Commission recommended that it be authorized to install a temporary generating plant and proceed with the local reticulation forthwith, the estimated cost being about £10,000.

This recommendation was adopted by the Government conditionally on the residents of the town contributing the amount of the estimate to the loan then being floated by the State. The amount was forthcoming, and the Commission then took steps to commence the work.

For the installation of the temporary plant, second-hand engines and other equipment released from other country undertakings now supplied by the Commission will be used, thus reducing considerably the amount of capital expenditure which will need to be written off for this plant when supply becomes available from the Commission's transmission system. The amount in question will constitute a charge upon the Echuca undertaking, and provision for writing off over a short term will be made in framing the tariffs for this particular supply.

## ELECTRICITY SUPPLY IN MELBOURNE AND THE EXTRA-METROPOLITAN AREA.

### ERECTION OF 22,000 VOLT FEEDER LINE TO SERVE NORTHERN AND EASTERN OUTER-SUBURBAN AREAS.

As stated in previous Reports, the Commission has been supplying Lilydale with energy purchased from the Nunawading Shire at Ringwood, and also supplying Dandenong and the Mornington Peninsula with energy purchased from the Melbourne Electric Supply Company at Mentone. These were, however, in the nature of temporary arrangements only, the intention being to utilize energy from the State scheme as soon as available. This consideration, coupled with the necessity for providing energy to meet the demand in the Extra-Metropolitan area, resulted in the planning of feeder lines from the Yarraville Terminal Station so as to deliver energy at or near Ringwood and Dandenong respectively.



Accordingly, in September, 1923, the Commission submitted proposals to the Government for a transmission scheme making provision for completely encircling with a 22,000-volt feeder line the northern and eastern outer-suburban areas from Thomastown in the north, to Dandenong in the east, in such a manner that the greater part of the rapidly growing population lying within this encirclement can in the future be served more efficiently and economically than under existing conditions.

This scheme involved the immediate erection of a line from sub-station "C" in Brunswick, to Thomastown, where the terminal station for energy supplied to the metropolis from the Sugarloaf-Rubicon Scheme is to be situated. As the line forms part of the Sugarloaf-Rubicon Scheme already authorized by Parliament, and was included in the estimates for that scheme, no fresh authority was required for this portion of the work.

From Thomastown eastward advantage was taken of the poles carrying the operating telephone line from Yallourn to Yarraville to string the conductors from Thomastown via Ringwood to Dandenong. The estimated cost of the new works which consisted of the provision of conductors and insulators and also sub-station equipment at Ringwood and Dandenong was £25,120. The comprehensive nature of this scheme can be realized from the fact that the territories which can be served include the towns and surrounding districts of Coburg, Whittlesea, Thomastown, Bundoora, Greensborough, Eltham, Heidelberg, Templestowe, Warrandyte, Preston, Nunawading, Mulgrave, Bayswater, Ferntree Gully, and Dandenong, whilst the supplies to Lilydale and the Mornington Peninsula will also, as stated above, be derived from this source.

The Commission's recommendation was adopted by the Government, and, the necessary funds having been made available, an immediate start was made with the work, the progress of which is reported fully in Part II. of this Report under the heading "Electricity Supply."

#### CONTROL OF LOCAL DISTRIBUTION.

During the period, the Commission, on the authority of the Government, acquired the undertakings of the Dandenong Shire Council and the Werribee Shire Council respectively, and assumed control of the local distribution in the towns of Dandenong and Werribee. The supply to the latter centre necessitated the transfer to the Commission from the Commonwealth Works and Railways Department of portion of the line to serve Point Cook Aviation School erected by that Department, and the construction of a short branch line to Werribee.

At the close of the financial year, steps were in hand for extending the Commission's mains to Altona and to Spring Vale and Noble Park. The possibility of supplying Ferntree Gully and district from the State scheme was also receiving close attention.

#### FOOTSCRAY CITY COUNCIL.

In view of the fact that both the Footscray City Council, operating under its Order in Council, and the Commission, by virtue of the powers conferred on it by the State Electricity Commission Acts, are authorized to deal direct with consumers of electric energy within the municipality of Footscray, a working agreement has been entered into by the Council and the Commission so as to obviate the possibility of conflict of interest. The agreement provides for close co-operation between the Council and the Commission so that the consumers, whether served by either body, will receive the most efficient service possible.

#### FINANCIAL.

##### ANNUAL ACCOUNTS.

Statements of expenditure and revenue for the period under review, duly certified by the Auditor-General, appear in Appendix No. 1 of the Report.

These statements show that the total expenditure of the Commission on capital works as at 30th June, 1924, amounted to £6,036,422 15s. 11d., excluding interest during construction, as compared with £3,993,825 12s. 1d. at the 30th June, 1923.

For the period, the combined operations of all activities show a loss of £58,461 1s. 4d. In this connexion it must be pointed out that the main Yallourn Power Station, together with the Coal Winning Plant, did not come into operation until very shortly before the close of the financial year under consideration. Consequently the main investment of the Commission had not, by 30th June, 1924, become revenue producing, and, therefore, the figures shown do not form any guide whatever to the results which will be achieved under full operating conditions, which will necessarily not be reached for some time to come so far as the supply of electricity is concerned. At the same time, the demands for electric services throughout the areas served by the Commission show very satisfactory monthly increments, and, as previously indicated in



other contexts in this Report, the average increase in demand in the metropolitan area alone is such as to justify the forecast that within two years the Commission's generating stations will be operating at their full capacity, with a corresponding influence upon the revenues of the Commission.

#### PAYMENT OF INTEREST ON CAPITAL EXPENDITURE DURING CONSTRUCTION PERIOD.

By the provisions of the State Electricity Commission Act, No. 3239, Parliament has placed upon the Commission the liability for interest on expenditure on all capital works during the construction period.

At the 30th June, 1924, this liability amounted to £356,697 13s. 3d., and it is anticipated that before the various activities can be brought into full operation an amount of at least £730,000 will have become involved. This will represent an addition to the operating expenses of the Commission of not less than £43,000 per annum. It must be emphasized that for all time this annual charge will continue as a heavy burden on the Commission's undertakings unless some other method of treatment than that provided for by Parliament is arrived at. Obviously, this burden must affect the financial results of the Commission's operations.

It must also be pointed out that this charge was not included in the preparation of the estimates of any of the schemes submitted to the Government and presented to Parliament prior to August, 1922.

On the contrary, the Commission's published reports on all these schemes specifically state in every case that in the estimates submitted no provision had been included to cover interest during construction.

Furthermore, this was, up to the date named, done consistently because there is no instance within the knowledge of the Commission in which such a burden has been placed on any State undertaking throughout Australasia.

#### INDUSTRIAL.

At the end of the period under review there were 2,727 workmen in the employ of the Commission, distributed over the following activities :—

Yallourn .. .. .	1,686
Transmission lines .. .. .	251
Metropolitan works .. .. .	293
Water power investigation .. .. .	40
District undertakings .. .. .	106
Brown coal mine (old open cut) .. .. .	351
Total .. .. .	2,727

On three occasions during the period certain of the activities of the Commission were delayed due to strikes of employees, and although none of these stoppages covered a lengthy period, they nevertheless adversely affected the progress of the works concerned.

#### LICENSING OF WIREMEN.

The following statement sets out the number of licences issued to date, and also the number issued during the period covered by this Report :—

Grade	Number issued to 30th June, 1923	Number issued from 1st July, 1923, to 30th June, 1924.	Total.
A. .. .. .	1,164	57	1,221
B. .. .. .	485	115	600
C. .. .. .	589	180	769
Special Licences .. .. .	19	8	27
Permits .. .. .	1,403	435	1,838

The Board of Examiners reports that two examinations in theory and in practice were held during the year, and although the results of the latter examination showed, on the average, a slight improvement, a considerable proportion of the candidates lack the knowledge and training called for in the examinations.

The Education Department has recently undertaken a revision of the syllabus governing the course of electric wiring as taught in its technical schools, the object being to make the course of greater service and to bring the work of the classes into line with the requirements of the Commission. In view of this, the Commission has decided to make certain concessions in regard to the issue of licences to those technical school students who satisfactorily complete the Education Department's course in the subject.

In our last Report it was recorded that a Committee had been appointed by the Commission to prepare standard Rules to govern the methods of electric wiring to be applicable to the whole State. This Committee completed its extensive work, and the provisional Rules recommended by the Committee were adopted by the Commission and brought into force on the 1st January, 1924.

The Rules have been adopted in their entirety by the Fire Underwriters Association, and since they embody in greater part the views of the Institution of Engineers, Australia, there is every prospect of the Rules becoming standard for the whole Commonwealth, which is very desirable in the interests of electricity supply generally.

In addition to Commissioner Sir Thomas Lyle, who acted as the Chairman of the Committee, and Mr. F. W. Chambers, the Electric Inspector, the Committee included Messrs. F. S. Willers, P. V. Lockey, G. Henderson, and C. Cross, and the Commission takes this opportunity of recording its appreciation of the valuable assistance rendered by these gentlemen in the compilation of the Rules.

#### ELECTRIC LIGHT AND POWER ACT 1915.

During the period under review several small undertakings made application for authority to increase their charges for a supply of electricity, and, after careful investigation of the circumstances in each instance, it was decided to recommend to the Governor in Council that increases be approved in the following cases :—

Supply Authority.	Ruling Price.	Proposed Price.	Decision of Commission.
Walpeup Shire Council ..	1s. per unit .. ..	1s. 3d. per unit .. ..	Recommended for approval
Karkarooc Shire Council (Hopetoun)	1s. 4d. per unit .. ..	1s. 6d. per unit .. ..	" " "
Karkarooc Shire Council (Beulah)	1s. 4d. per unit .. ..	1s. 6d. per unit .. ..	" " "

Since the passing of the Electric Light and Power Act in 1896, 175 Orders in Council authorizing the supply of electricity have been granted. Of this number 99 were issued to municipal councils and 76 to companies or persons. Thirty Orders in Council have been revoked, including five which have been revoked in consequence of the related undertakings being acquired by the Commission, several others being in process of revocation for the same reason. Seven municipal councils have transferred their powers wholly or in part to private companies for periods mostly up to 30 years.

A list of new Orders recommended by the Commission during the period under the State Electricity Commission Acts and the *Electric Light and Power Act 1915* and approved by the Governor in Council is appended :—

Undertaker.	Area.	Maximum Prices.	
		Lighting.	Power.
Frankston and Hastings Shire Council	Municipal district of Frankston and Hastings	10d.	5d.
Morwell Shire Council ..	Township of Morwell and vicinity	10d.	5d.
Chiltern Shire Council ..	Township of Chiltern ..	1s.	6d.
F. G. Edmondson ..	Township of Natimuk ..	1s. 3d.	6d.
Kerang Shire Council ..	Township of Quambatook	For any amount to 24 units per quarter 30s. and 1s. 3d. per unit thereafter	For any amount to 24 units per quarter 30s. and 9d. per unit thereafter
St. Arnaud Borough Council	Township of St. Arnaud ..	1s.	6d.

#### ELECTROLYSIS.

The Committee appointed by the Commission to determine the precautions which are to be taken against electrolysis, referred to in the last Report, continued its investigations to the point of drafting proposed regulations to deal with the conditions under which electric tramways should be operated. Some progress was also made with the preparation of draft regulations to apply to electric railways, and immediately these have been completed both sets of draft regulations will be considered by the Commission.

## PART II.—DESIGN, CONSTRUCTION, AND OPERATION.

### BRIQUETTING AND RESEARCH.

#### BRIQUETTING WORKS, YALLOURN.

The actual coal treatment portions of the Yallourn Briquette Factory, wherein the wet preparation, drying, cooling, and pressing of the coal take place, were completed and ready for operation early in 1924. It was fully anticipated that the boiler and turbine plant would be completed by about the same time, and that briquettes would be in process of manufacture by April last. Unfortunately, deliveries by the Contractors of boiler plant, back-pressure turbo-generator, and the desuperheating plant, all of which should have been completed before the end of 1923, were greatly delayed. Some of the plant referred to, which is being manufactured in the United Kingdom and in Australia, was awaiting delivery at the close of the year, but the bulk of it had been received and erected. The large concrete chimney stack, work on which was delayed for three months owing to a strike, was erected to its full height, and the brick lining completed.

The skilled erectors, who were obtained from the Zeitz Co., Germany, to assist in the erection of that portion of the equipment of the factory obtained from the firm, returned to Europe in May last, as the work at Yallourn for which they were engaged was then complete.

#### PULVERIZED COAL.

The experimental coal pulverizing plant at Newport operated continuously throughout the period. Approximately 6,750 tons of brown coal were treated, with an average moisture content, as fed to the driers, of 49 per cent. The total amount of pulverized brown coal produced was 3,790 tons, containing 13 per cent. of moisture.

The coal produced was supplied regularly to No. 23 boiler of Newport "A" Power Station, the furnace of which has been specially adapted for the combustion of pulverized fuel. Supplies were also provided for tests on "A" and "C" class locomotives with special pulverized coal equipment. Arrangements are being made by the Railway Department for tests on a "D" class locomotive, which is undergoing the necessary alterations. Experiments are also in progress on an annealing furnace at Newport workshops, which has been adapted for, and is using, pulverized brown coal.

On the whole, it can be said that the investigations on the drying and pulverizing of brown coal by the Commission's staff, on the one hand, and on the combustion of the coal in the stationary and locomotive boilers by the Railways Commissioners' staff, on the other hand, have been, from a technical stand-point, attended with a considerable measure of success. Further experimental work has to be done before the commercial use of pulverized brown coal for either of the purposes indicated can be definitely forecasted.

#### FUEL RESEARCH.

Continuing the work of the Mines Department Laboratory, the Commission commenced fuel research on brown coal in March, 1923. The initial problem chosen for investigation was the carbonization of brown coal, with the main object of exploring the possibility of producing a solid fuel of high calorific value, and a gas suited to industrial and domestic use. Several months were devoted during 1923 to preliminary laboratory investigations, which were carried out at the Geological Survey Laboratory with the consent of the Mines Department. From tests on different types of apparatus on wet and pre-dried brown coal both from the old Morwell open cut and the new Yallourn open cut, as well as on briquettes made from these coals, data have been obtained on which a much larger pilot carbonizing plant has been designed. This pilot carbonizing plant, which in size and character is intermediate between a small laboratory plant and a commercial plant, is now being erected, together with a chemical laboratory, close to the briquetting works at Yallourn, and it is hoped to have the plant in operation before the end of 1924.

The pilot carbonizing plant will have a continuous vertical type of retort, with provision for either external or internal heating. Producer gas for heating the retort will be generated from brown coal. The plant will be fully equipped with all the necessary instruments and apparatus for ascertaining quantities and character of the tar products as well as of gas and carbonized residues.

#### COAL SUPPLY.

##### YALLOURN OPEN CUT.

The steam shovels and conveyor apparatus engaged on the removal of overburden worked satisfactorily, and, operating on a two-shift basis throughout the period, removed and dumped 458,920 cubic yards place measurement. The area of the surface of the coal now exposed is 19 acres, the coal vertically under this area being estimated at 3,600,000 tons.

The programme of deep level drainage of the coal was completed, the headings being extended a distance of 6,822 feet, making a total of 11,178 feet in all. These deep workings are kept pumped out, and the amount of water draining from the mass has shown a steady decrease.

During the period a contract was placed for the supply of an electrically operated shovel to be manufactured by Messrs. Ruston and Hornsby, of Lincoln, England. The machine, which weighs over 300 tons, is to be equipped with a bucket of 9 cubic yards capacity, and its output per shift will exceed 2,000 tons. The manufacture of the machine is nearing completion, and it is anticipated that it will be erected on the site by February, 1925.

The various sections of the plant required to enable a start to be made with the coal winning operations, and which were referred to in the last report, have been installed, or are at an advanced stage of completion. These comprise :—

Coal Loader Apparatus.—Erection nearing completion.

Coal Transport from Open Cut.—Steel trestleway connecting incline bank from the open cut to the screening plant has been erected, and the tracks and driving engines of endless rope haulage have been installed.

Coal Transport and Screening House.—An endless rope haulage to take the coal from the screening plant to the Power Station has been installed. A similar rope haulage has been provided for the transport of the coal to the briquetting factory. The coal transported by these haulages is automatically loaded into, and discharged from, the trucks while they are in motion.

During the year the erection of the coal screening house over the railway sidings was completed and equipped with the necessary receiving hoppers, screens and conveyors for separating the coal into the sizes required for various services.

The erection of the coal storage bins, which are in reinforced concrete and fireproof throughout, has been carried to the underside of the vertical walls, the capacity of the section now under construction being 2,500 tons.

Coal winning operations for supply to the Power Station commenced shortly after the close of the period under review.

#### BROWN COAL MINE.

This property was transferred from the Mines Department on the 1st April, 1924, and has been operated by the Commission since that date. From 1st April to 30th June, the overburden removed amounted to 41,336 cubic yards, and the output of coal was 34,882 tons. In order to make room for the overburden dumps, it has been necessary to undertake the diversion of the course of the Latrobe River, and a new channel has been cut for the river. When the work is complete, an area of 40 acres will be available for dumps.

#### ELECTRICITY SUPPLY.

##### YALLOURN POWER STATION.

At the close of the period under review, the turbine house building was practically complete, as also was the boiler house steelwork structure.

With a few exceptions, all items of plant ordered overseas, and a large portion of the material of Australian manufacture, had been delivered to the site.

The erection of the turbo generator and condensing plant was expedited during the year, and, by the 15th June, 1924, the 600 kw. house set, and one 12,500 kw. main set were ready for service, the station commencing operation on that date. Its function at that initial stage was to assist the generating stations in the metropolis at the peak period. By the end of June, a second main set was practically ready for service, while the third set was being prepared for starting up. Work on the remaining two machines was progressing towards completion.

The first two boilers were put into service about the middle of May, and the second pair was nearing completion at the end of June. The remaining boilers are in progressive stages of erection, and some are being provided with flue-gas driers for improving the furnace efficiency.

Auxiliary plant is being brought into service section by section as required.

The erection of the main switchgear, one main bank of transformers, the whole of the outdoor auxiliary gear and control gear and the control building and equipment has been completed.

The Temporary Power Station maintained supply to the Yallourn territory and to Morwell and other Gippsland centres throughout the year. The plant was on its maximum output for some months during times of peak loading, the maximum demand being 950 kw. A total of 2,089,576 units was generated during the year.

With the commencement of operation of the Main Power Station, the need for this Temporary Power Plant no longer exists, as the requirements for the Yallourn territory and the supplies in Gippsland can be transferred to the main plant. Arrangements have been made for the dismantling of the temporary station which was installed when the Yallourn works were commenced early in 1921 and efficiently served in meeting the demand for power for construction purposes.

#### YALLOURN—YARRAVILLE 132,000 VOLT TRANSMISSION LINE.

The balance of 31 towers necessary to complete this line was erected during the period, and the remainder of the cable was strung, thus completing the line, which covers a total length of 110 miles, and involved the stringing of 660 miles of cable.

The operating telephone line which follows the route of the main transmission line has also been completed and put into service.

#### YARRAVILLE TERMINAL STATION.

Since the 15th June, 1924, this station has functioned in the manner designed, receiving energy from Yallourn at 120,000 volts, and feeding to the metropolitan system by parallel operation with Newport "A," Newport "B," and the Melbourne City Council system.

Throughout the whole of the year, the 12,500 kw. frequency changer has been in operation, enabling exchange of energy between the 25 cycle and the 50 cycle systems.

For the year ended 30th June, 1924, the output of energy from the Yarraville Terminal Station totalled 58,147,655 kw. hrs. The maximum demand on the Commission's 50 cycle system at 30th June, 1924, was 21,000 kw.

#### METROPOLITAN DISTRIBUTION.

*Sub-station "J" (Melbourne City Council's Power Station, Spencer-st.)*—In steady operation throughout the year, supplying its rated load of 10,000 kw. practically continuously to the Melbourne City Council.

*Sub-station "D" (Ascot Vale)*—In operation since October, 1923, gradually taking up the load in the Essendon-Flemington area as the change-over to alternating current from the direct current system is effected. This change-over is now practically complete, except for the tramway load, the demand on the sub-station being in the vicinity of 1,500 kw., or just over half the present installed capacity. It is expected that, during the coming year, the present 3,000 kva. bank will be fully loaded, and provision has already been made for the addition of a bank of the same size.

*Sub-station "C" (Brunswick)*—Ready for operation in February, but has so far been used only as a switching station, owing to the fact that the municipalities to which a bulk supply from this sub-station will be given are not yet ready to take the supply.

*Sub-station "B" (Collingwood)*—The whole of the apparatus for the installation, up to 18,000 kva., has been ordered. In view of the time necessary to obtain switchgear and transformers, the installation of a temporary 6,000 kva. bank has been pushed forward and supply given up to about 4,500 kva. This sub-station is of the outdoor construction type.

In addition to the work upon these main sub-stations, a considerable number of consumer and distribution sub-stations has been completed in the metropolitan area.

The work of laying the balance of the 22,000 volt underground cable and pilot cable to link the above main sub-stations was completed during the year.

#### NEWPORT "B" STATION.

The station has been in service practically since the commencement of the period under review, the maximum demand on the station for that period being 17,200 kw. instantaneous and 15,400 kw. sustained load. The total units generated during the nine months ended 30th June, 1924, amounted to 41,898,841 kw. hrs.

#### SUGARLOAF—RUBICON HYDRO-ELECTRIC SCHEME.

In October, 1923, the permanent surveys in connexion with this scheme were commenced, and four field parties are at work. Approximately 60 per cent. of the survey work has been completed, including final pegging of race lines, detail surveys of pipe line routes and the sites for power stations and dépôts.

The designs of the various races have been worked out, and the preparation of the necessary specifications for power plants, pipe lines, &c., is at an advanced stage.

The survey of the transmission line from Rubicon "A" sub-station to Thomastown has been completed, the structures have been designed, and all necessary poles ordered. A specification for steel strain towers has been finalized, and tenders called.

The survey of the transmission line from Sugarloaf to Benalla, carried out in the previous year, has been extended from Benalla to Shepparton, and the survey is now proceeding on the line from Benalla to Wangaratta, and thence to Albury and Corowa.

#### TRANSMISSION LINES—UNDER CONSTRUCTION.

*South-Western District.*—At the 30th June, 1923, the main 44,000 volt Geelong-Warrnambool transmission line had been completed and supply was being given to Colac. During the year the line was completed from Colac to Warrnambool—a distance of 70 miles—energy being made available at Warrnambool early in December, 1923.

The last Annual Report foreshadowed the erection of a number of 6,600 volt branch lines in the Colac, Camperdown, Terang, and Warrnambool areas, and these have been completed with the exception of the lines to give supply to Birregurra, Alvie, Allansford, and South Warrnambool. The lines to these latter centres are under construction.

Similar feeders to be erected in the Bellarine shire have been completed, with the exception of the line to Barwon Heads, which is in hand.

*Gippsland District.*—During the period a 22,000 volt transmission line, 47 miles in length, was extended from Traralgon, via Maffra and Heyfield. This extension forms part of the Commission's transmission scheme for the supply of energy to Gippsland towns.

In South Gippsland the erection of a 22,000 volt line from Yallourn to Korumburra—a distance of 50 miles—was undertaken, and, at the close of the year, was completed as far as Mirboo North. This line also forms part of the scheme referred to in the preceding paragraph.

To serve parts of West Gippsland, a 6,600 volt line was erected from Yallourn to Yarragon via Moe and Trafalgar. By a later decision, the work of extending this line a further 15 miles to Drouin has been taken in hand, and the work is well forward to completion.

The transmission line to serve groups of farms in the Tyers district (North Gippsland) has been completed.

*Extra-Metropolitan Area.*—To give a supply of 3-phase energy to Dandenong the extension of the 22,000 volt subsidiary line, which runs parallel with the main Yallourn-Yarraville line, was undertaken and required the stringing of conductors on the telephone poles from a point in the vicinity of Thomastown to Dandenong. The line was brought into operation about the close of the period.

The high tension line to Point Cook, taken over from the Commonwealth Works and Railways Department, was reconditioned for the supply to the aviation school at Point Cook from the Commission's system, and also extended to supply the town of Werribee, energy being made available at the latter centre at the beginning of April of this year.

#### SUMMARY OF DISTRIBUTION WORKS FOR ELECTRICITY SUPPLY CONSTRUCTED DURING THE YEAR.

The appended statements do not include the works involved in the erection of reticulation systems in country centres.

#### TRANSMISSION LINES.

District.	Erected as at 30th June, 1923.		Erected during year ending 30th June, 1924.		Total as at 30th June, 1924.	
	Route Miles.	Miles of Cable.	Route Miles.	Miles of Cable.	Route Miles.	Miles of Cable.
South-Western District and Bellarine Shire—						
14,000 volt line .. .. .	45	135	71	213	116	348
6,600 volt line .. .. .	1	3	81	217	82	220
Gippsland—						
22,000 volt line .. .. .	..	..	77	231	77	231
6,600 volt line .. .. .	6	18	25	67	31	85
Metropolitan and Extra Metropolitan area—						
22,000 volt line .. .. .	42	126	51	153	93	279
6,600 volt line .. .. .	0.25	0.75	11	33	11.25	33.75



## SUB-STATIONS.

District.	Installed as at 30th June, 1923.	Installed during year ended 30th June, 1924.	Total installed at 30th June, 1924.
	K.V.A.	K.V.A.	K.V.A.
South-Western District and Bellarine Shire .. ..	..	3,774	3,774
Gippsland .. ..	25	425	450
Extra Metropolitan and Metropolitan Area .. ..	1,250	5,060	6,310
Total .. ..	1,275	9,259	10,534

## UNDERGROUND CABLES (METROPOLITAN AREA).

Class of Cable.	Laid and jointed as at 30th June, 1923.	Laid and jointed during year ending 30th June, 1924.	Total laid and jointed as at 30th June, 1924
	Miles.	Miles.	Miles.
22,000 volt .. ..	31.8	12.9	44.7
6,600 volt .. ..	..	5.4	5.4
440 volt .. ..	..	0.5	0.5
Composite Telephone and Pilot .. ..	24.2	10.2	34.4

## TRANSMISSION LINES—IN OPERATION.

Apart from the transmission lines brought into operation during the year, referred to above, the following transmission lines functioned satisfactorily, these being in operation prior to the commencement of the period :—

*South-Western District*—44,000 volt line from Geelong to Colac.

*Gippsland District*—6,600 volt line from Yallourn to Morwell.

*Extra Metropolitan Area*—4,000 volt line from Mitcham to Ringwood, Croydon, and Lilydale.

*Extra Metropolitan Area*—4,000 volt line from Mentone to Dandenong, Frankston, and Mornington.

In that portion of the metropolitan area where the Commission is supplying a number of large industrial consumers, there were several large customers added to the system, necessitating the extension of high tension mains where required.

As a matter of record, and to indicate the extent of these bulk supplies by the Commission in the metropolitan area, the following statement is appended :—

	Year ended 30th June, 1923.		Year ended 30th June, 1924.	
	*25 cycle.	50 cycle.	*25 cycle.	50 cycle.
Corporations or firms supplied .. ..	10	5	8	16
Total of consumers' maximum demands .. ..	19,786 kw.	286 kw.	15,796 kw.	12,671 k.w.
Units sold .. ..	98,093,829	383,550	97,125,111	52,295,835

\* Supplied from Newport A Power Station.

## ESSENDON-FLEMINGTON UNDERTAKING.

Marked progress has attended the operations of this undertaking as revealed by the particulars for the last financial year appearing in Appendix No. 2. This has served to confirm the view expressed to the Government when the transfer of this undertaking to the Commission was projected in 1922, that by judicious expenditure, energy could be made available to portions of the territory hitherto undeveloped electrically and that the anticipated growth in the demand would more than warrant this progressive step.

The very extensive work of converting the system of supply to enable it to distribute 3-phase energy was vigorously prosecuted by the district staff and was due for completion shortly after 30th June, this year.

A commencement was made also with the erection and equipment of brick type distribution sub-stations at this undertaking, based upon standard designs.



The new offices in Young-street, Moonee Ponds, referred to in the last report, were completed and occupied in November, 1923. This enabled the affairs of the undertaking to be placed on a more efficient basis in both the technical and clerical departments, and, as was anticipated, closer co-ordination of the work than was possible under the previous conditions has resulted.

#### WATER POWER INVESTIGATIONS.

The enquiries into the water power resources of the State which the Commission has actively pursued since its appointment in 1919 were continued, and from September, 1923, the investigations were carried out directly by the Commission's staff.

Attention was again directed to the streams in the Murrindindi district to which reference was made in our last report, and further stream gauging stations were established. There appears to be some prospect of these streams proving to be a useful supplementary source of power to the Sugarloaf-Rubicon scheme.

The surveys on the Aire river in the Otway district were brought to completion, but, as stream gaugings over a period of years are necessary to provide data on which to base any scheme for the development of these resources, an automatic recording gauge has been installed. Favorable conditions appear to obtain in regard to this stream, but no definite opinion can be expressed as to the prospects until confirmation is obtained by means of the gaugings.

An investigation of the Gellibrand river in this district was also brought to completion.

Surveys were undertaken on the head waters of the Yarra river, but any project for development at some future date, even if regarded as feasible, needs to be considered in relation to the water supply schemes of the Melbourne and Metropolitan Board of Works.

Investigations and gaugings were carried out on the Delatite river.

In an attempt to locate a favorable source of hydro-electric energy for Castlemaine and the surrounding district, extensive explorations followed by surveys were made on the Coliban river near Trentham, but the results showed that there is not present in the district a source of water power capable of commercial development.

A continuance of the investigations into the possibilities of the Upper Macallister and Moroka rivers and adjacent streams indicates the desirability of surveys being undertaken in this district. A reconnaissance survey was also made of the Upper Latrobe river and its tributaries.

Systematic gaugings are being carried out on fourteen rivers in various parts of the State, and, in addition, as it is necessary that special action be taken to obtain stream flow data for the Kiewa scheme, arrangements for the installation of automatic recording gauges are in hand.

### PART III.—GENERAL.

#### YALLOURN TERRITORY.

##### ADMINISTRATION.

On the 1st September, 1923, the staff of the Coal Supply Branch was transferred to Yallourn in order that it would be in close touch with the coal winning operations, which had then reached a stage necessitating close supervision on the ground. Following this transfer the Engineer in charge Coal Supply (Mr. J. M. Bridge), was appointed as General Superintendent to take full charge of the administration of the Yallourn territory, performing this function in addition to the duties devolving on him as Engineer in charge Coal Supply.

##### OFFICE ACCOMMODATION.

Reference was made in the last report to the decision to erect administrative offices at the works. This building was brought to completion and was occupied on the 1st September, 1923.

##### TOWNSHIP OF YALLOURN.

##### *Dwellings.*

Further progress was made during the period with the scheme for providing dwellings for the permanent employees of the Commission at Yallourn. At the 30th June, 1924, a total of 143 houses had been completed, of which 83 houses were constructed during the year.

There were then 68 houses in course of erection. Although some of the houses have been built under day labour conditions, the greater part of this work was carried out under contracts which provided for the supply of labour only, materials being made available to the contractors by the Commission. The majority of the houses referred to have been built in brick and contain four, five, or six rooms.

It may be taken that the first section of the scheme for construction of the township, as authorized by the Government, and providing for the erection of 200 houses and buildings associated with the town, has practically been completed.

### *Halls and Civic Buildings.*

The Church of England hall, which is of original design permitting the hall to be used for worship or entertainment as desired, has been brought to completion. The Methodist Church hall is also at an advanced stage.

The Public Works Department has in hand on behalf of the Education Department, the erection of a state school in brick, to accommodate 350 children. The post office building and premises for the National Bank of Australasia are to be undertaken at an early date.

The cost and upkeep of these buildings is not being borne by the State scheme.

### *Fire Brigade.*

For the protection of both the works and the town, the Commission has arranged for the formation and equipment of a Volunteer Fire Brigade in accordance with the standards of the Country Fire Brigades' Board. The design of the Fire Station has been completed and erection will be put in hand shortly.

### *Parks and Gardens.*

A nursery covering an area of four acres has been established for the propagation of trees for street planting and general afforestation. Hedge plants and shrubs will also be grown for planting in the public reserves and private gardens.

The recreation reserves have been cleared and are being graded and made ready for the planting of ornamental trees.

Two tennis courts have been laid down and a pavilion erected, this work being done in accordance with the policy of the Commission to supply the materials for approved communal undertakings provided the residents furnish the necessary labour.

### *Water Supply.*

During the latter part of 1923 the water supply scheme was completed by the installation of the electrically operated pumps, enabling the high-level storage reservoirs and purification works to be brought into operation. A satisfactory supply of purified water has since been maintained at the township and to the works.

### *Roads and Streets.*

The design and construction of roads and streets, with necessary drainage and water supply reticulation to keep pace with the building construction, has been carried out.

The roads and streets in the town have now been named, and steps are in hand for the numbering of the houses. In deciding on the names, the principle was followed that they either have some local significance or be descriptive of some feature of the town or the utility of the road or street; the names of living persons have not been used.

## CONSTRUCTION WORKS.

### *Central Workshops.*

These shops which comprise machine and fitting shop, smith's shop, and woodworking shop, function for practically all Yallourn activities. During the present period of construction a considerable amount of work, particularly for the Main Power Station, is passing through the shops, and with the gradual commencement of the operating activities maintenance work is being undertaken.

### *Brickworks.*

This plant operated without interruption throughout the year and produced 6,300,000 bricks during that period.

The experiments in tile making referred to in the Fourth Annual Report proved to be successful. A process necessitating the use of an admixture of the Yallourn clay and a clay obtainable in Morwell was adopted, and a tile making plant has been installed. At the close of the period 5,300 tiles had been produced as well as the necessary hips, ridging, and angles. The manufacture on a small scale of gutter bricks, drainage, and agricultural pipes has also been undertaken, and these are in use in the township and on the works.

### *Construction Camps.*

The accommodation available for workmen engaged on the various works under construction proved adequate, the only addition being a small number of tents properly framed and floored, which were required to cope with an urgent demand arising from the engagement of additional men so as to have two shifts on certain sections of works under construction.

*Railways.*

The Railways Construction Branch constructed a short line to connect the Commission's coal siding system with the line running to the Old Open Cut on the North bank of the Latrobe river.

The railway traffic from the Old Open Cut now passes through the Commission's works, and that portion of the line from Herne's Oak constructed to serve the Old Open Cut traffic has been taken out of commission, as it is now no longer required.

*Provision Stores.*

The general store established at Yallourn, to supply the requirements of the permanent residents of the town and also the branch stores at the Eastern and Western Construction Camps, were called upon to deal with an increased turnover. In the case of the town stores, extensions of the store buildings were rendered necessary by the expansion of the business, coupled with a decision to supply further additional lines required by the householders.

As the construction work diminishes during the next financial year, the volume of business at the camp stores will decrease, but the growth of the population of the town, due to the permanent officers and employees taking up residence following the completion of the erection of the various works, will call for further extensions in the store operations.

## STAFF.

Mr. A. D. Murdoch, who occupied the post of Public Supply Engineer on the Commission's staff, resigned on the 31st October, 1923, in order to take up the position of Manager to the Melbourne and Metropolitan Tramways Board.

The Commission desires to place on record its appreciation of the loyal and efficient service rendered by its staff and employees during the year.

We have the honour to be,

Sir,

Your obedient servants,

JOHN MONASH, Chairman.

THOMAS R. LYLE, Commissioner.

ROBERT GIBSON, Commissioner.

GEO. SWINBURNE, Commissioner.

R. LIDDELOW,  
Secretary.

## APPENDICES.

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APPENDIX No. 1.

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The Auditor-General, Victoria.  
Melbourne.

AUDITOR-GENERAL'S CERTIFICATE.

I certify that the accounts have been examined with the books and vouchers, and I am of opinion the Balance-sheet fairly exhibits a true and correct view of the undertaking at the 30th June, 1924. The values of the stores have been accepted on the certificates of the storckeeper, and adjustments have yet to be made in the allocation of stores to several works to agree with the balanees in the ledgers of the Department.

(Sgd.) J. A. NORRIS,  
Auditor-General.  
21st October, 1924.

## STATE ELECTRICITY COMMISSION OF VICTORIA.

GENERAL REVENUE ACCOUNT FOR YEAR ENDING 30TH JUNE, 1924.

	£	s.	d.
To Rents and Specification Charges written off to Capital Accounts	7,211	0	2
By Balance carried forward	23	9	2
	7,234	9	4
To Net Loss Western District Revenue Account	4,500	8	10
By Essendon-Flemington Revenue Account	404	15	8
By Bulk Supply Revenue Account	53,708	14	10
	58,613	19	4
By Balance brought forward	58,461	1	4
	58,613	19	4

(GENERAL BALANCE SHEET FOR YEAR ENDING 30TH JUNE, 1924.

<i>Liabilities.</i>			<i>£</i>	<i>s.</i>	<i>d.</i>	<i>Assets.</i>			<i>£</i>	<i>s.</i>	<i>d.</i>
Capital authorized by Parliament under—											
Loan Act No. 3029	..	£355,000				Land	..	..	267,788	17	8
" 3101	..	1,430,000				Buildings	..	..	958,866	18	10
" 3160	..	2,006,000				Machinery and Plant	..	..	..	..	..
" 3234	..	1,576,000				Horses, Vehicles, and Harness	..	..	6,367	13	2
" 3306	..	1,447,000				Motor Vehicles	..	..	23,391	2	3
						Implements and Appliances	..	..	33,050	13	7
						Tools	..	..	15,469	5	6
						Office and Factory Furniture and Fittings	..	..	21,606	10	5
						Scientific Instruments	..	..	3,018	11	5
Expenditure under above Acts	..	4,217,311	8	8		Roads and Bridges	..	..	75,808	11	0
Add Expenditure under Treasury Act 3274/3200	8	2,047,199	8	7		Railways and Sidings	..	..	63,777	8	10
Liability on account Loan Funds as per Treasury Books	..	6,264,510	17	3		Water and Fire Service	..	..	55,484	6	11
Add Amount in Commission's books not in Treasury	..	19,586	0	7		Telephone Service	..	..	2,513	16	3
Liability on account of Loan as per Commission's books Advanced by Treasury from Public Account (Secs. 5 and 6, Act 3239)	..	6,284,096	17	10		Township Electric Services	..	..	5,929	18	5
Reserve for Essendon-Flemington Undertaking—		238,385	0	4		" Sewerage Services	..	..	8,387	0	3
Depreciation	..	7,951	0	0		" Drainage Services	..	..	7,893	4	8
General	..	296	16	11		Deposit on purchase of Shepparton Undertaking Sale Undertaking	..	..	500	0	0
						" " Heyfield Undertaking	..	..	1,425	5	7
Reserve for Depreciation of Stations and Lines operating under Bulk Supply	..	14,283	13	4		Conversion from direct to alternating current Intangible Property	..	..	250	0	0
Interest—Reserve Account	..	72,643	17	0					2,175	5	7
									24,004	2	1
									20,399	17	10



[illegible]

There is a contingent asset and liability in respect of securities lodged as *bona fides* under Contracts to the extent of £43,432 7s. 3d., and held by the Bank on the Commission's behalf.

8th September, 1924.

**Certified correct—**

R. LIDDELOW, Secretary.

## STATEMENT OF EXPENSES ON PRELIMINARY WORKS TO 30TH JUNE, 1924.

ELECTRICAL.							£	s.	d.
Estimates, Reports, &c., Preliminary Surveys	..	..	..	..	..	..	1,767	8	8
Experiments, &c.	..	..	..	..	..	..	2,080	5	10
Experiments, Tests on Coal, &c., at Temporary Power Plant, Yallourn	..	..	..	..	..	..	5,700	11	0
Experiments, Tests on Coal, &c., at Newport "B"	..	..	..	..	..	..	450	10	11
Newport "B" Surveys, Inspections, &c.	..	..	..	..	..	..	1,041	11	2
Country and Bulk Supplies, Investigations and Preliminary Expenditure	..	..	..	..	..	..	2,360	9	7
							13,400	17	2
COAL SUPPLY.									
Flood Prevention	..	..	..	..	..	..	14,490	7	11
Overburden Removal Disposal, Yallourn	..	..	..	..	..	..	93,029	7	6
Deep Drainage of Coal	..	..	..	..	..	..	18,628	14	5
Opening up the Coal	..	..	..	..	..	..	224	15	10
Metropolitan Distribution	..	..	..	..	..	..	280	1	10
Preliminary Boring Survey Estimates, &c.	..	..	..	..	..	..	5,165	17	7
Overburden Removal.—Old Open cut	..	..	..	..	..	..	9,673	13	5
							141,492	18	6
TOWNSHIP.									
Surveys and Clearing	..	..	..	..	..	..	4,426	8	2
Fire Breaks	..	..	..	..	..	..	3,460	18	6
House Drainage	..	..	..	..	..	..	775	5	5
Nursery and Plantations	..	..	..	..	..	..	1,237	14	10
Recreation Area and Town Square	..	..	..	..	..	..	828	15	8
							10,729	2	7
BRIQUETTING.									
Shaft-sinking	..	..	..	..	..	..	5,665	17	9
Estimates, Reports, Experiments, &c.	..	..	..	..	..	..	5,896	10	0
							11,562	7	9
GENERAL.									
Brick Making Plant and Tile Making Plant, Shaft-sinking and Experimental Work	..	..	..	..	..	..	1,275	16	5
							178,461	2	5

## REVENUE ACCOUNT OF BROWN COAL MINE HILL OPEN CUT FOR THE PERIOD OF THREE MONTHS ENDING 30TH JUNE, 1924.

					£	s.	d.						£	s.	d.
To Operating Expenses	..	..	18,887	17	5				By Sales	..	..	19,727	6	10	
„ Interest on Capital at 5½ per cent.	..	..	111	5	0				„ Revenue earned from Rents	..	..	71	3	6	
„ Profit transferred to Overburden Removal Account	..	..	799	7	11										
			<hr/>									<hr/>			
			19,798			10	4				19,798			10	4

## EXPENDITURE OUT OF CONSOLIDATED REVENUE, 1st JULY, 1923, to 30th JUNE, 1924.

				£	s.	d.					£	s.	d.
To Expenditure—							By Treasury Account—						
Salaries	..	..	..	1,876	10	0	Division 70/1	..	..	..	4,673	4	5
Power Invest-							„ 70/2	..	..	..	6,952	19	3
gations—							„ 70/3	..	..	..	1,952	4	11
Surveys	..	£5,480	5 0				„ 70/6	..	..	..	1,247	4	8
Power require-													
ments—													
Country Centres		152	14 8										
				5,632	19	8							
Licensing of Wiremen	..	..	..	1,047	13	9							
Electric Inspection	..	..	..	3,069	0	3							
Briquetting Research	..	..	..	1,952	4	11							
Experimental Coal Pulverizing													
Plant	..	..	..	1,247	4	8							
				14,825	13	3					14,825	13	3

APPENDIX No 2.

STATISTICAL INFORMATION RELATING TO THE COMMISSION'S ELECTRIC SUPPLY UNDERTAKINGS FOR LOCAL DISTRIBUTION FOR YEAR ENDED,  
30th JUNE, 1924.

Particulars.	Gippsland District.											
	Grand Total.	Metropolitan District.	Outer Metropolitan District.	South Western District.					Bellarine Shire.	Gippsland District.		
		Essendon-Donnington Area.	Dandenong and Werribee.	Colac Centre.	Camperdown Centre.	Terang Centre.	Warmanbool.	South Western District. Total.		Narracan Shire.	Trafalgon Shire.	Gippsland District. Total.
No. of Consumers	12,792	8,461	1,088	699	538	505	458	2,200	382	327	334	661
Units sold—												
Lighting		1,408,397		80,881	30,829	20,306	36,417	168,433	24,419	21,739	22,585	44,324
Heating		1,524,603	130,251	11,691	3,045	1,578	1,974	18,288	1,617	2,787	2,450	5,237
Industrial Power				80,157	13,542	6,965	13,544	114,208	2,238	22,357	9,501	31,858
Public Lighting		235,424	16,963	9,820	7,570	3,828	14,051	35,269	6,009	6,507	4,255	10,762
Bulk Supplies		1,003,102										
Total	4,781,402	4,171,526	147,214	182,549	51,986	32,677	65,986	336,198	34,283	53,390	38,791	92,181
Maximum Demand of District in k.w.												
No. of Motors	2,568	1,726	178	140	88	94	153	546	54	66	69	135
Total h.p. of Motors connected	599	386	48	26	40	58	17	141	5	14	5	19
No. of Street Lights connected	3,322	2,045	326	168	112	169	130	579	26	86	60	146
Total c.p. of Street Lights	2,095	1,267	159	127	118	75	125	445	74	93	57	150
	198,068	91,707	16,860	13,571	8,790	7,350	35,800	65,511	9,750	6,680	7,560	14,240

NOTE.—South Western District.—Colac Centre includes Colac, Cororooke and Beeac.  
Camperdown Centre includes Camperdown and Golden.  
Terang Centre includes Terang and Mortlake.  
Bellarine Shire.—Includes Queenscliff, Point Lonsdale, Drysdale and Portarlington.  
Gippsland District.—Narracan Shire includes Moc, Trafalgar and Yarragon.  
Trafalgon Shire includes Trafalgon and Tyers River Scheme.

## APPENDIX No. 3.

ELECTRIC SUPPLY UNDERTAKINGS OPERATING IN VICTORIA UNDER THE "ELECTRIC LIGHT AND POWER ACT 1915," No. 2645, OR THE STATE ELECTRICITY COMMISSION ACTS, AT 30TH JUNE, 1924.

Undertaking.	Population.	Supply Authority.	System of Generation and Distribution.	Consumers.		Price per kw. hour.	
				Lighting.	Power.	Lighting.	Power.
Alexandra ..	700	Alexandra Shire Council ..	D.C., 230 volts ..	170	..	1s. ..	6d.
Ararat ..	4,657	Ararat Borough Council ..	A.C., 3-phase, 50 cycles, 240/415 volts	511	76	1s. ..	6d.
Bacchus Marsh	1,400	Bacchus Marsh Shire Council ..	A.C., 3-phase, 50 cycles, 230/400 volts	200	11	1s. ..	6d.
Bairnsdale ..	4,000	A. H. Wood Pty. Ltd. ..	D.C., 230/460 volts ..	405	33	9d. ..	4d. to 3d.
Ballarat ..	39,000	Electric Supply Co. of Victoria Ltd.	D.C., 220/440 volts ..	3,834	331	Flat rate, 9d.; M.D., 9d. to 5d.	M.D., 3½d. to 1½d.
Beeac ..	300	State Electricity Commission of Victoria	A.C., single phase, 50 cycles, 230/460 volts	45	..	1s. ..	6d. to 3d.
Benalla ..	3,000	Benalla Shire Council ..	A.C., 3-phase, 50 cycles, 230/400 volts	330	100	1s. ..	6d.
Bendigo ..	26,000	Electric Supply Co. of Victoria	D.C., 220/440 volts ..	3,419	225	Flat rate, 9d.; M.D., 9d. to 5d.	M.D., 4d. to 1½d.
Beulah ..	550	Karkaroc Shire Council ..	D.C., 230/460 volts ..	102	11	1s. 4d. ..	9d.
Birchip ..	945	Birchip Electric Supply Co. ..	D.C., 230 volts ..	180	20	1s. ..	6d.
Boort ..	650	Boort Co-operative Butter and Ice Co.	D.C., 230 volts ..	150	5	1s. ..	4½d.
Brunswick ..	47,162	Brunswick City Council ..	A.C., 3-phase, 50 cycles, 230/400 volts. (Bulk supply)	7,240	260	6d. ..	2d.
Camperdown	3,300	State Electricity Commission of Victoria	A.C., 3-phase, 50 cycles, 230/400 volts	331	119	1s. ..	5d. to 2d.
Carrum ..	6,000	Carrum Electric Supply Co. Ltd.	A.C., single-phase, 50 cycles, 230/460 volts. (Bulk supply)	1,100	..	8d. ..	2d.
Casterton ..	1,500	Casterton Electric Supply Co. ..	D.C., 230 volts ..	300	15	10½d. ..	7½d.
Castlemaine ..	5,330	Castlemaine Electric Supply Co.	D.C., 230/460 volts ..	450	45	1s. ..	5d.
Charlton ..	1,031	Charlton Electric Light and Power Co.	D.C., 230 volts ..	245	63	1s. to 9d.	4½d.
Cobram ..	850	Tungamah Shire Council ..	D.C., 230 volts ..	140	10	1s. ..	8d.
Cohden ..	650	State Electricity Commission of Victoria	A.C., 3-phase, 50 cycles, 230/400 volts	70	..	1s. 3d. ..	6d. to 2d.
Coburg ..	25,808	Coburg City Council ..	A.C., 3-phase, 50 cycles, 230/400 volts. (Bulk supply)	4,317	Total	Flat rate, 6d. Sliding Scale.—First 500, 6½d.; all over, 4d.	Flat rate, 2½d. Sliding scale—2½d. to 1½d.
Cohuna ..	..	Federal Milk Pty. Ltd. ..	D.C., 230 volts ..	160	4	9d. ..	6d.
Colac ..	4,800	State Electricity Commission of Victoria	A.C., 3-phase, 50 cycles, 230/400 volts	450	100	8d. ..	4d., 3d., and 2d.
Coleraine ..	840	Coleraine and Western District Butter Factory Co.	D.C., 230 volts ..	142	6	1s. ..	1s.
Cororooke ..	150	State Electricity Commission of Victoria	A.C., single phase, 50 cycles, 230/460 volts	20	..	1s. ..	5d. to 2d.
Dandenong ..	4,000	" " "	A.C., 3-phase, 50 cycles, 230/400 volts.	686	24	9d. ..	4d. to 2d.
Dimboola ..	1,500	Dimboola Shire Council ..	D.C., 230/460 volts ..	169	..	1s. 2d. ..	7d.
Donald ..	1,500	Donald Shire Council ..	D.C., 230 volts ..	348	12	1s. ..	6d.
Doncaster ..	2,000	Doncaster Shire Council ..	A.C., single phase, 50 cycles, 200/400 volts. (Bulk supply)	210	52	Templestowe 9d., Doncaster 7d.	Templestowe, 4d.; Doncaster, 3d.
Drouin ..	850	Drouin Co-operative Butter Factory Co.	D.C., 230 volts ..	120	10	9d. ..	4½d.
Drysdale ..	800	State Electricity Commission of Victoria	A.C., single phase, 50 cycles, 230/460 volts	50	1	1s. ..	6d. to 2d.
Eaglehawk ..	4,719	Eaglehawk Borough Council ..	D.C., 230/460 volts ..	620	Total	9d. ..	Domestic power, 5½d.; Commercial power, M.D., 4½d. to 1½d.
Elmore ..	700	Elmore Electric Light and Power Co.	D.C., 230 volts ..	160	..	1s. ..	..
Essendon ..	31,000	State Electricity Commission of Victoria	A.C., 3-phase, 50 cycles, 230/400 volts	5,685	803	5½d. ..	3½d. to 1½d.
Enroa ..	2,000	Enroa Shire Council ..	D.C., 230 volts ..	307	23	9d. ..	6d.
Ferntree Gully	2,000	J. A. Newton ..	A.C., single phase, 50 cycles, 230 volts. (Primary voltage, 2,000)	280	Total	10d. ..	6d.
Footscray ..	37,470	Footscray City Council ..	A.C., single phase, 50 cycles, 200/400 volts. (Bulk supply)	6,098	825	5d. ..	Flat rate, 2d.; sliding scale, 2d. to 1d.

## APPENDIX No. 3—continued.

## ELECTRIC SUPPLY UNDERTAKINGS OPERATING IN VICTORIA, ETC.—continued.

Undertaking.	Popula- tion.	Supply Authority.	System of Generation and Distribution.	No. of Consumers.		Price per kw. hour.	
				Light.	Power.	Light.	Power.
Foster ..	450	Toora-Foster Electric Co. ..	A.C., 3-phase, 50 cycles, 240/415 volts. (Primary 6,000 volts)	150 including Toora		10d. ..	4d. to 1d.
Frankston ..	792	Frankston Shire Council ..	A.C., single phase, 50 cycles, 230/460 volts. (Bulk supply)	200	10	10d. ..	7d.
Geelong ..	32,000	Melbourne Electric Supply Co. Ltd.	D.C., 230/460 volts. A.C., 3-phase, 50 cycles.	5,601	Total	Flat rate, 8½d.; M.D. 10d. to 4d.	4½d. to 1d. with fuel clause
Gisborne ..	600	Gisborne Shire Council ..	D.C., 230 volts ..	120	..	1s. ..	6d.
Hamilton ..	5,098	Hamilton Electric Supply Co. Ltd.	D.C., 230 volts ..	658	59	10d. to 8d.	6d. to 2½d.
Healesville ..	2,400	Healesville Shire Council ..	A.C., 3-phase, 50 cycles, 230/460 volts	295	75	10d. to 6d.	4d. to 2d.
Heathcote ..	1,200	Melvor Shire Council ..	D.C., 230 volts ..	200	10	1s. ..	6d.
Heidelberg ..	14,000	Heidelberg Shire Council ..	A.C., single phase, 50 cycles, 200/400 volts. (Bulk supply)	3,095	45	5½d. and 4d.	2½d. and 2d.
Heyfield ..	600	Heyfield Butter Factory Co. ..	D.C., 230 volts ..	150	..	9d. ..	5d.
Hopetoun ..	500	Karkaroo Shire Council ..	D.C., 230 volts ..	101	17	1s. 4d. ..	9d.
Horsham ..	4,025	Horsham Electric Supply ..	D.C., 230/460 volts ..	700	50	10d. ..	5d.
Inglewood ..	1,100	Inglewood Borough Council ..	D.C., 230 volts ..	100	40	1s. ..	6d.
Jeparit ..	800	H. J. W. Block ..	D.C., 230 volts ..	140	..	1s. ..	6d.
Kerang ..	2,400	Kerang Shire Council ..	D.C., 230 volts ..	330	100	10d. ..	5d. to 4d.
Kilmore ..	1,773	Kilmore Shire Council ..	D.C., 230 volts ..	167	8	1s. to 6d. ..	7d.
Koroit ..	2,221	Koroit Borough Council ..	D.C., 230 volts ..	140	7	10d. ..	6d. to 3d.
Korumburra ..	2,500	Korumburra Shire Council ..	D.C., 230 volts ..	360	69	10d. ..	5d.
Kyabram ..	1,613	Kyabram Butter Factory Co., Ltd.	D.C., 230/460 volts ..	276	81	10d. ..	7d.
Kyneton ..	3,062	Kyneton Shire Council ..	A.C., 3-phase, 50 cycles, 230/400 volts	398	20	1s. ..	6d. to 4d.
Leongatha ..	2,250	Leongatha Butter and Cheese Factory Co.	D.C., 230 volts ..	207	113	10d. ..	4d.
Lilydale ..	4,000	Lillydale Shire Council ..	A.C., 3-phase, 50 cycles, 230/400 volts. (Bulk supply)	150	24	1s. and 7d.	4d. and 3d. to 2d.
Lorne ..	250	Winchelsea Shire Council ..	D.C., 110 volts ..	80	..	1s. 3d.	1s.
Maffra ..	1,500	Maffra Shire Council ..	D.C., 230 volts ..	250	50	1s. ..	5d.
Mansfield ..	650	Mansfield Shire Council ..	D.C., 230 volts ..	180	6	11d. ..	8d.
Maryborough ..	4,778	Maryborough Borough Council	A.C., 3-phase, 50 cycles, 230/400 volts	400	..	1s. ..	5d.
Melbourne City	105,200	Melbourne City Council ..	(a) A.C., 3-phase, 50 cycles, 230/400 volts; (b) A.C., 50 cycles, single phase, 200/400 volts; (c) D.C., 230/460 volts	17,758	Total	Flat rate, 3½d. to 2d.; M.D., 6d. and 1½d.	Flat rate, 1½d. to 0·6d.; M.D., 2d. to 0·35d.; combined domestic tariff, 1½d.
*Metropolitan Suburbs (See below).	469,000	Melbourne Electric Supply Co. Ltd.	A.C., single phase, 50 cycles, 200/400 volts. Primary 4,000 volts.	78,000	2,600	5½d. down-wards	A sliding scale of 2½d. to 0·8d. per unit, with fuel clause
Mildura ..	5,500	Mildura Town Council ..	D.C., 230/460 volts ..	800	Total	1s. ..	6d. to 5½d.
Minyip ..	700	Dunmunkle Shire Council ..	D.C., 230 volts ..	140	4	1s. 2d. ..	8d.
Moe ..	400	State Electricity Commission of Victoria	A.C., 3-phase, 50 cycles, 230/400 volts	70	..	1s. ..	4d. to 2d.
Mooroopna ..	1,432	Rodney Shire Council ..	D.C., 230 volts ..	121	..	11d. ..	7d.
Mornington ..	1,350	Mornington Shire Council ..	A.C., single phase, 50 cycles, 230/460 volts. (Bulk supply)	183	83	1s. ..	6d.
Mortlake ..	800	State Electricity Commission of Victoria	A.C., 3-phase, 50 cycles, 230/400 volts	175	60	1s. ..	6d. to 2d.
Morwell ..	1,365	Morwell Shire Council ..	A.C., 3-phase, 50 cycles, 230/400 volts. (Bulk supply)	150	..	10d. ..	5d.
Murrayville ..	..	Siemering's Pty. Ltd.	D.C., 32 volts ..	5	..	1s. per 25 watt lamp per annum	
Murtoa ..	1,148	Dunmunkle Shire Council ..	D.C., 230 volts ..	190	5	1s. ..	7d.
Nagambie ..	750	Coulburn Shire Council ..	D.C., 230 volts ..	113	37	10d. ..	6d. and 5d.
Nathalia ..	860	Numurkah Shire Council ..	D.C. 230/460 volts ..	182	20	1s. 4d. ..	8d.
Nhill ..	1,500	Lowan Shire Council ..	D.C., 230/460 volts ..	170	25	1s. 3d. ..	9d.
Northcote ..	33,872	Northcote City Council ..	A.C., single phase, 50 cycles, 200/400 volts. (Bulk supply)	6,167	751	4½d. ..	2d. to 1½d.
Numurkah ..	1,350	Numurkah Shire Council ..	D.C., 230 volts ..	290	86	8d. ..	4d.
Nunawading ..	14,000	Nunawading Shire Council ..	A.C., single phase, 50 cycles, 200/400 volts. (Bulk supply)	2,785	849	6d. ..	2½d., 2d., and 1½d.
Orbost ..	2,000	Orbost Butter and Produce Co.	D.C., 230 volts ..	210	75	9d. ..	5d.
Ouyen ..	..	Walpeup Shire Council ..	D.C., 110 volts ..	67	..	1s. ..	
Point Lonsdale ..	..	State Electricity Commission of Victoria	A.C., single phase, 50 cycles, 230/460 volts	100	..	10d. ..	5d. to 2d.
Portarlington ..	600	State Electricity Commission of Victoria	A.C., single phase, 50 cycles, 230/460 volts.	50	..	10d. ..	5d. to 2d.

\* Brighton, Camberwell, Caulfield, Collingwood, Fitzroy, Hawthorn, Kew, Malvern, Melbourne Harbour Trust Territory (south of River Yarra), Moorabbin, Mordialloc, Oakleigh, Prahran, Richmond, Sandringham, South Melbourne and St. Kilda.

APPENDIX No. 3—*continued.*ELECTRIC SUPPLY UNDERTAKINGS OPERATING IN VICTORIA, ETC.—*continued.*

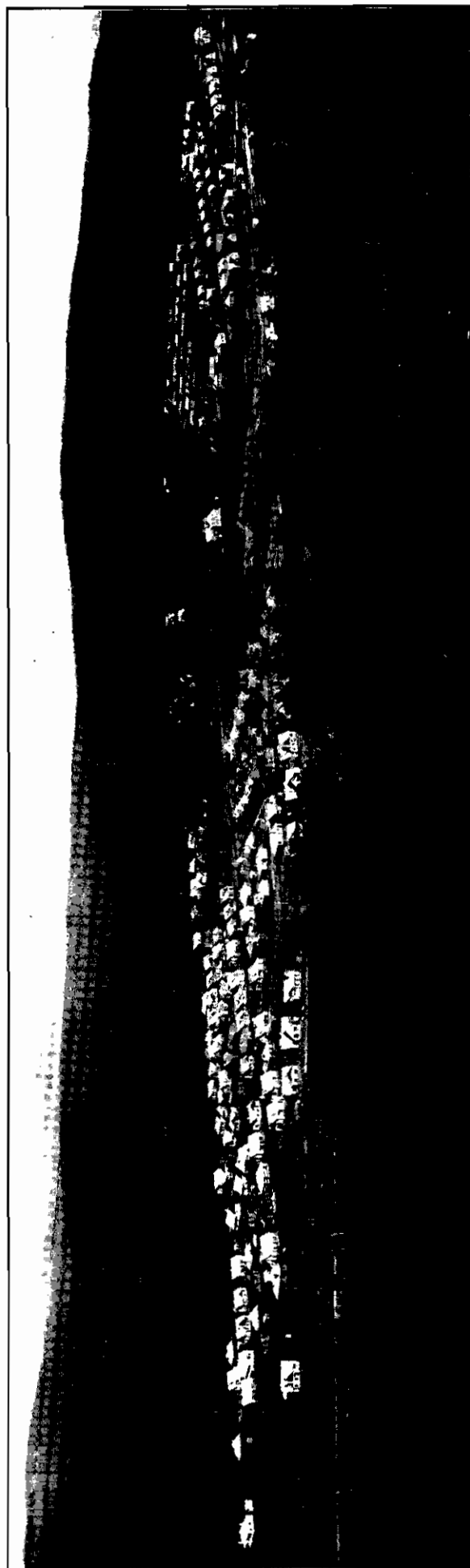
Undertaking.	Population.	Supply Authority.	System of Generation and Distribution.	No. of Consumers.		Price per kw. hour.	
				Light.	Power.	Light.	Power.
Port Melbourne	13,100	Port Melbourne City Council ..	A.C., 3-phase, 50 cycles, 230/400 volts. (Bulk supply)	1,300	200	5d. ..	2d. to 1½d.
Portsea ..	150	Flinders Shire Council ..	D.C., 230/460 volts ..	30	..	20s. per ann. per 32 c.p. lamp	1s.
Preston ..	12,885	Preston Town Council ..	A.C., single phase, 50 cycles, 200/400 volts. (Bulk supply)	2,429	325	6d. ..	3d. to 1½d.
Queenscliff ..	2,500	State Electricity Commission of Victoria	A.C., 3-phase, 50 cycles, 230/400 volts	130	4	10d. ..	4d. to 2d.
Rainbow ..	900	Rainbow Electric Light Co. ..	D.C., 230 volts ..	140	..	1s. ..	1s. to 8d.
Rochester ..	1,487	Commonwealth Electric Co. Ltd.	D.C., 230 volts ..	390	..	10d. to 6d.	6d. to 4d.
Rupanyup ..	700	Dunmunkle Shire Council ..	D.C., 230 volts ..	120	..	1s. ..	..
Rushworth ..	1,200	Waranga Shire Council ..	D.C., 230 volts ..	250	10	11d. ..	6d.
Rutherglen ..	1,160	Rutherglen Shire Council ..	D.C., 230/460 volts ..	160	60	10d. ..	6d.
Sale ..	3,782	State Electricity Commission of Victoria	A.C., 3-phase, 50 cycles, 230/400 volts	420	20	9d. ..	7½d. to 4d.
Sea Lake ..	550	Wycheproof Shire Council ..	D.C., 230 volts ..	92	38	1s. 4d. ..	6d.
Seymour ..	2,000	Seymour Shire Council ..	A.C., 3-phase, 50 cycles, 230/400 volts	305	40	10d. ..	5d. to 3½d.
Shepparton ..	4,000	India Rubber G.P. and T. Works Co.	D.C., 230/460 volts ..	525 Total		10½d. ..	5½d.
Sorrento ..	300	Flinders Shire Council ..	D.C., 230 volts ..	200	4	20s. per ann. per 32 c.p. lamp	1s.
Stawell ..	5,020	Stawell Borough Council ..	A.C., 3-phase, 50 cycles, 230/400 volts	350	..	10d. ..	5d.
Sunbury ..	1,500	Bulla Shire Council ..	D.C., 230 volts ..	106	50	1s. 3d. and 10d.	6d. to 4d. and 5d.
Sunshine ..	..	H. V. McKay ..	D.C., 230 volts ..	580	16	6d. ..	3d.
Swan Hill ..	2,531	Swan Hill Shire Council ..	A.C., 3-phase, 50 cycles, 230/400 volts	450	170	1s. ..	5d.
Tatura ..	1,230	Tatura Butter Factory Co. ..	D.C., 230 volts ..	200	60	10d. ..	6d.
Terang ..	2,255	State Electricity Commission of Victoria	A.C., 3-phase, 50 cycles, 230/400 volts	250	140	1s. 2d. ..	5d. to 2d.
Toora ..	350	Toora-Foster Electric Co. ..	A.C., 3-phase, 50 cycles, 240/415 volts. (Primary 6,000 volts)	Included in Foster		10d. ..	4d. to 1d.
Trafalgar ..	700	State Electricity Commission of Victoria	A.C., 3-phase, 50 cycles, 230/400 volts	60	..	1s. ..	4d. to 2d.
Traralgon ..	2,700	State Electricity Commission of Victoria	A.C., 3-phase, 50 cycles, 230/400 volts	180	..	8d. ..	4d. to 2d.
Trentham ..	750	Kyneton Shire Council ..	A.C., 3-phase, 50 cycles, 230/400 volts	110	12	1s. 3d. ..	6d.
Wabgunyah ..	400	Rutherglen Shire Council ..	D.C., 240 volts ..	50	10	9d. ..	6d.
Wangaratta ..	3,800	Wangaratta Borough Council ..	A.C., 3-phase, 50 cycles, 230/400 volts. (Bulk supply)	353	116	9d. ..	5d.
Warburton ..	1,000	Upper Yarra Shire Council ..	D.C., 230 volts ..	140	..	9d. ..	..
Warragul ..	1,800	River Latrobe Hydro-Electric Co.	A.C., 3-phase, 50 cycles, 230/400 volts. (Primary 23,000 volts)	159	9	8d. ..	4d. to ½d.
Warrnambool	7,739	State Electricity Commission of Victoria	A.C., 3-phase, 50 cycles, 230/400 volts	300	..	9d. to 6d.	4d. to 2d.
Werribee ..	1,700	State Electricity Commission of Victoria	A.C., 3-phase, 50 cycles, 230/400 volts	191	28	1s. ..	4d. to 2d.
Williamstown	21,000	Williamstown City Council ..	A.C., 3-phase, 50 cycles, 230/400 volts. (Bulk supply)	3,300	52	5½d. ..	4d. to 1½d.
Wodonga ..	2,250	Wodonga Shire Council ..	D.C., 230 volts, ..	180	6	9d. ..	7d.
Woodend ..	1,000	Newham and Woodend Shire Council	D.C., 230 volts, and A.C., single phase, 110 volts	130	..	1s. ..	6d.
Wycheproof	760	Wycheproof Shire Council ..	D.C., 230 volts ..	118	67	1s. 3d. ..	6d.
Yarragon ..	400	State Electricity Commission of Victoria	A.C., 3-phase, 50 cycles, 230/400 volts	50	..	1s. ..	4d. to 2d.
Yarram ..	366	Yarram Hydro-Electric Co. ..	A.C., 3-phase, 50 cycles, 230/400 volts	215	15	9d. and 8d.	5d. and 4d.
Yarrawonga	1,650	Yarrawonga Shire Council ..	D.C., 230 volts ..	290	12	1s. 2d. ..	6d.

## APPENDIX No. 4,

## PHOTOGRAPHS OF THE COMMISSION'S OPERATIONS.

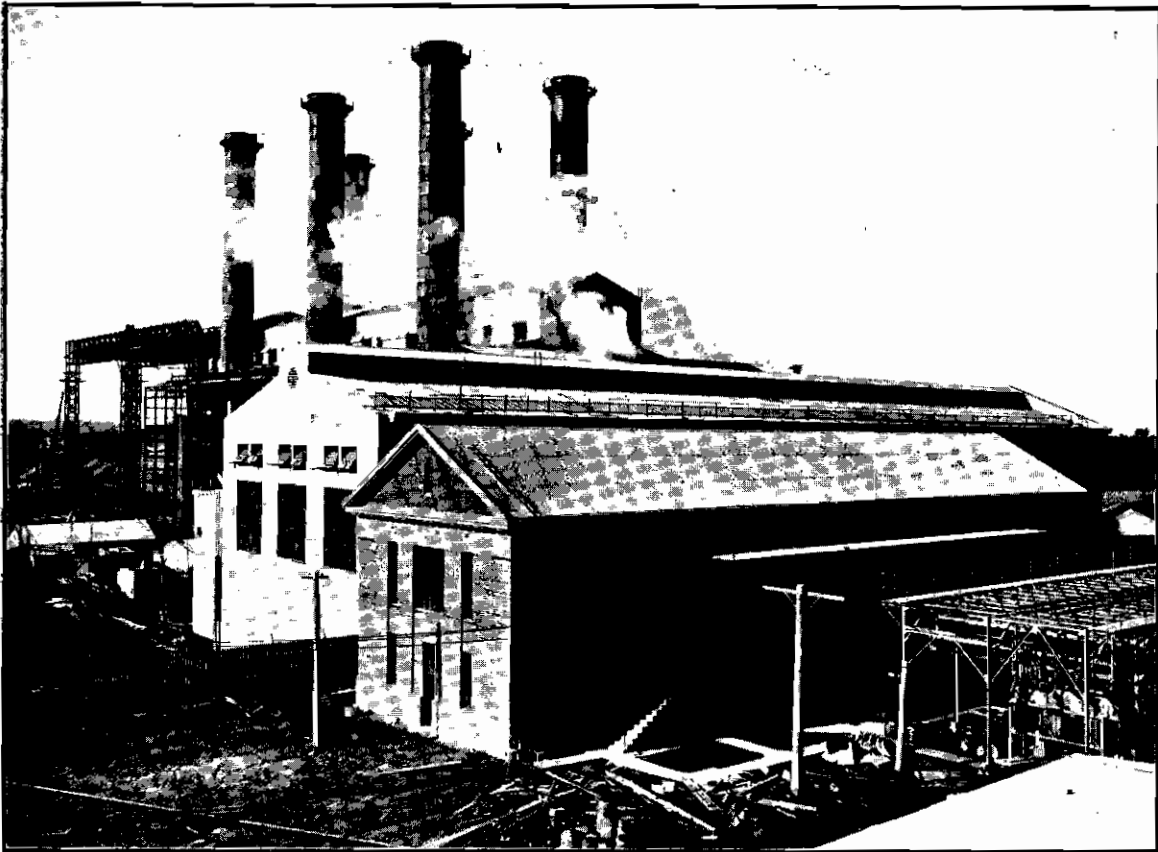


1. The Power Station and the Open Cut, Yallourn.

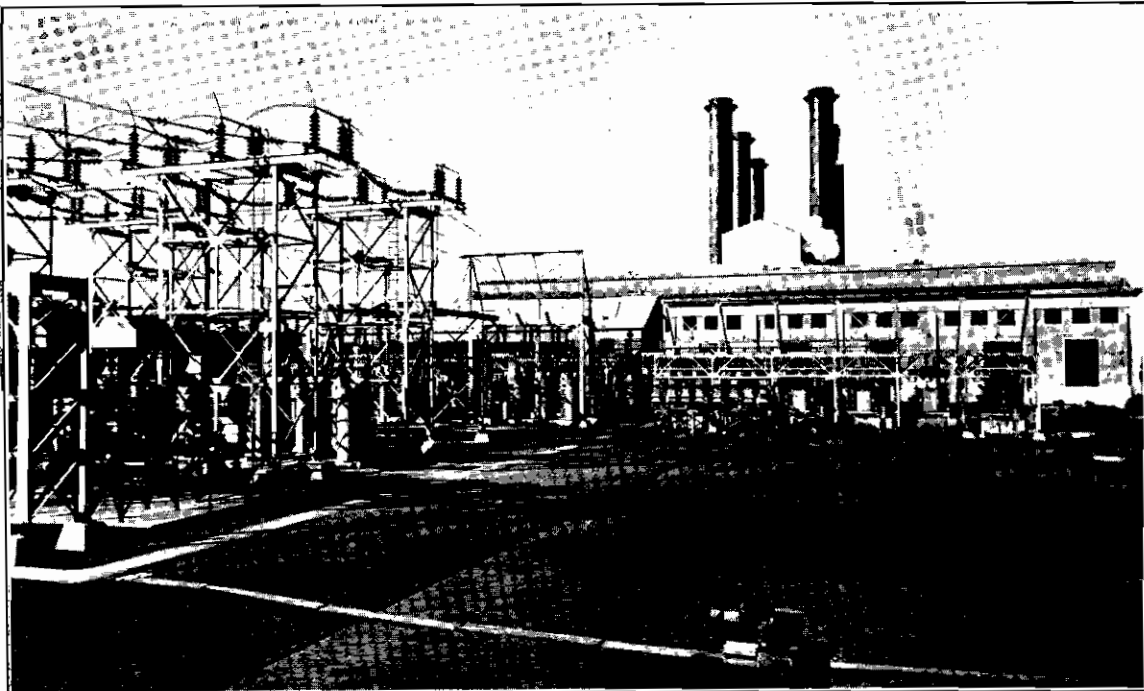


2. The Town of Yallourn.

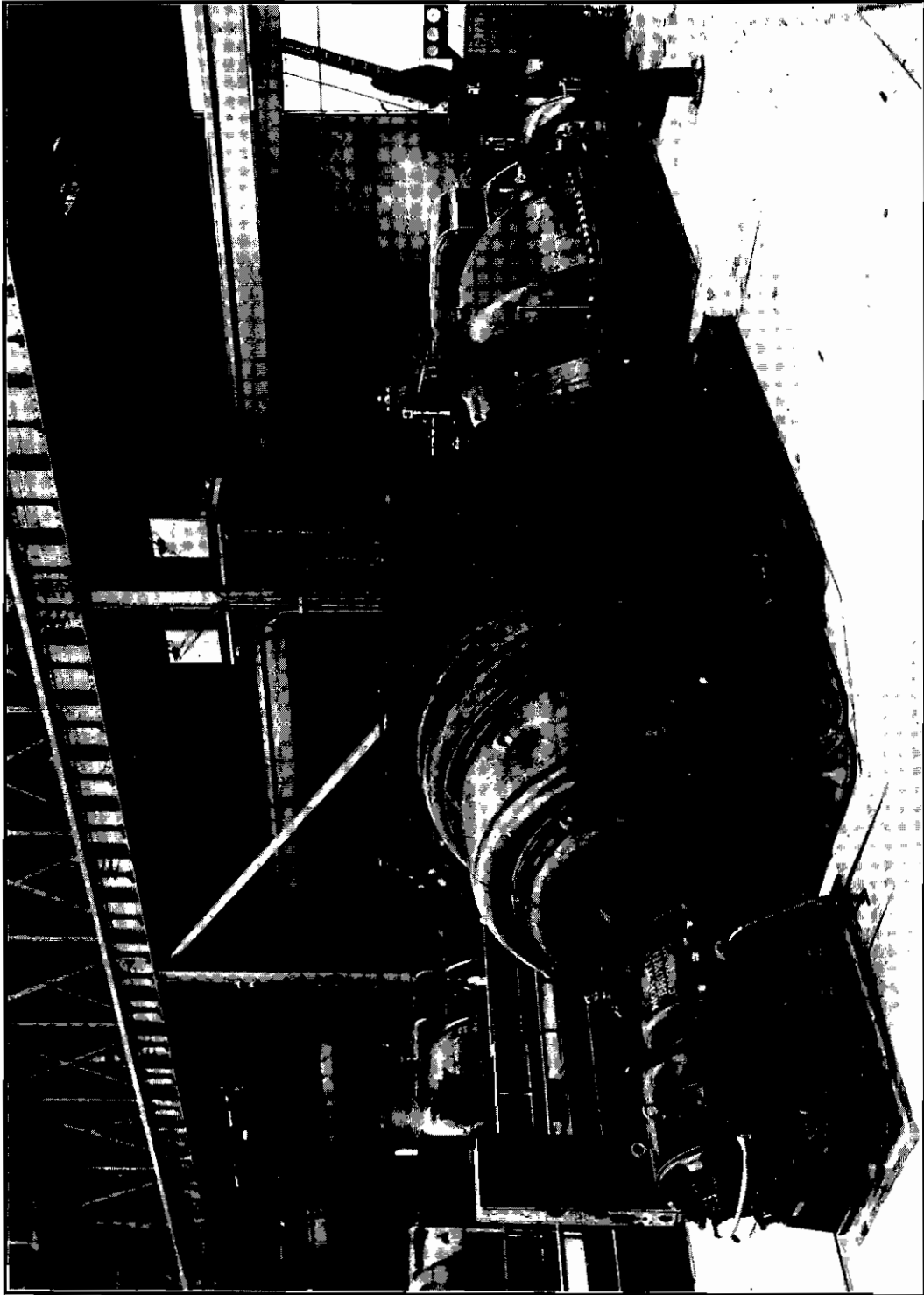




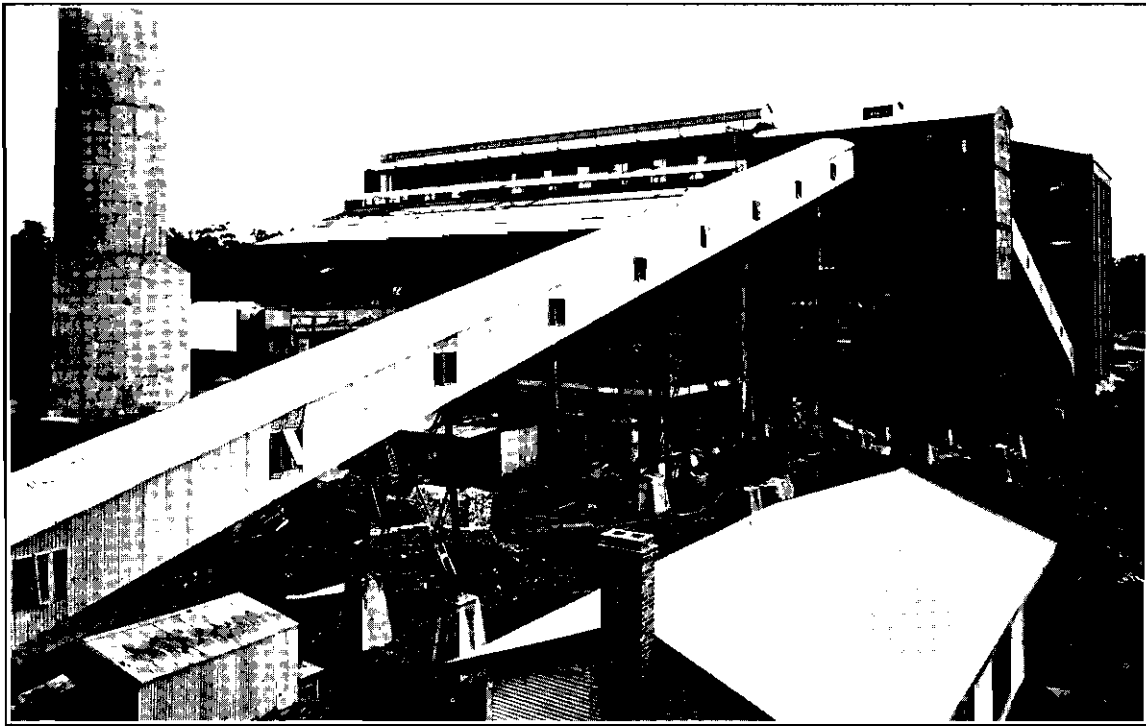
3. Yallourn Power Station.  
(Showing Telpher Coal Handling Plant, Boiler House, Turbine House and Control Room.)



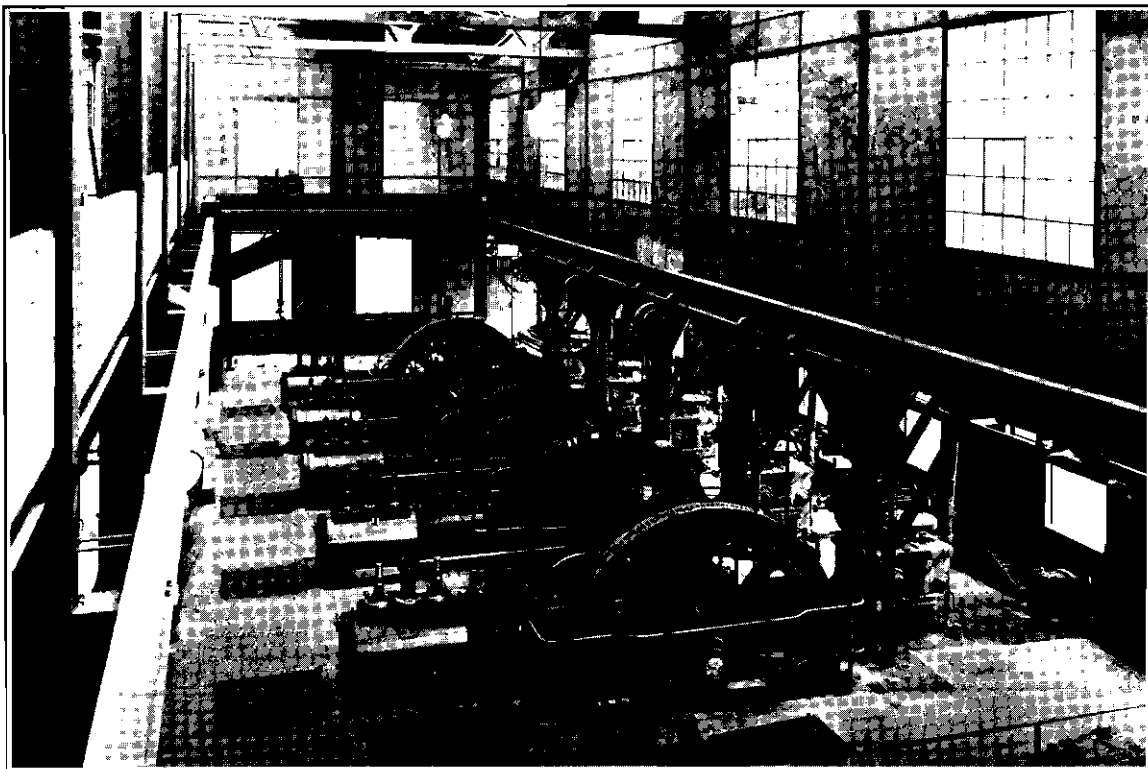
4. Switch Yard at Yallourn Power Station.



5. Yallourn Power Station.—The first turbo-generator which was brought into commercial operation on 15th June, 1924. The machine was manufactured by Metropolitan Vickers Electrical Co. Ltd. (Manchester), and has a capacity of 12,500 k.w.



6. Briquetting Factory, Yallourn.



7. An Interior View of the Press House at the Briquetting Factory, showing the five Presses which have been installed.

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# ELECTRICALLY SUPPLIED AREAS IN VICTORIA

State Electricity Commission of Victoria.

## ELECTRICALLY SUPPLIED AREAS

— MELBOURNE, MELBOURNE SUBURBS &amp; LILLYDALE —

