

1923.

VICTORIA.

STATE ELECTRICITY COMMISSION OF
VICTORIA.

FOURTH ANNUAL REPORT

FOR THE

FINANCIAL YEAR ENDED 30TH JUNE, 1923;

TOGETHER WITH

APPENDICES.

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

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REPORT.

14th November, 1923.

*Sir Arthur Robinson,
Attorney-General,
Melbourne.*

SIR,

As directed by Section 25 (b) of the *State Electricity Commission Act* 1918, No. 2996, we have the honour to submit our Report for the financial year ended 30th June, 1923, together with statement of accounts for that period.

PART I.—ADMINISTRATION.

INVESTIGATION BY SELECT COMMITTEE OF PARLIAMENT.

In October, 1922, Parliament decided to appoint a Select Committee of the House to inquire into and report on the following questions relating to the operations of this Commission :—

- (a) The proposals contained in the State Electricity Commission Bill dealing primarily with legislation essential for the control by the Commission of supply from its transmission lines in areas situated outside a radius of 25 miles from the City of Melbourne.
- (b) The purchase of the works and undertakings of the North Melbourne Electric Tramways and Lighting Co. Ltd. in the municipal districts of the City of Melbourne and the City of Essendon.
- (c) The scheme propounded by the Commission and adopted by the Government for the supply of electricity to the South-Western District of Victoria.
- (d) The Commission's Sugarloaf-Rubicon Hydro-Electric Scheme for the supply of electricity to the North and North-East of Victoria and to the Metropolis.

After an investigation extending over several weeks, the Committee submitted the following recommendations which were adopted by Parliament :—

- (1) That subject to some minor amendments in the machinery clauses, the State Electricity Commission Bill, as submitted, be passed by Parliament.
- (2) That Parliament approve of the purchase of the undertaking of the North Melbourne Electric Tramways and Lighting Company and ratify same forthwith.
- (3) That the South-Western District Scheme be approved.
- (4) That approval be given to the Sugarloaf-Rubicon Scheme, and the necessary moneys provided to insure a commencement being made with the work at the earliest possible moment.

By the adoption of the Committee's recommendation in regard to the State Electricity Commission Bill, the Commission was authorized to give supply in country districts from its transmission lines, and to assume control of the retail distribution within any municipal district served by such lines at the request of the municipality concerned. Provision was also made in this connexion for the subsidizing of supply schemes which could not be regarded as self-supporting at the outset. It was further provided that the control of all high tension lines associated with the State Electricity Supply Scheme should be vested in the Commission.

Under this Act, authority was given the Commission to purchase an electrical undertaking on any terms that may be agreed upon with the undertaker, this being an extension of the powers previously granted the Commission under Section 17 of Act No. 3104.

SUGARLOAF-RUBICON HYDRO-ELECTRIC SCHEME.

On the 6th September, 1922, the Commission presented a report to the Government on its investigations into the water power resources of the Sugarloaf, Rubicon River, Snobb's Creek, and Royston River districts, the chief object of these investigations being to ascertain if sources of hydro-electric energy existed in the areas named suitable for supplementing the power available from the Sugarloaf (Eildon Weir) works, regarded both as a means of supply to the North and North-Eastern Districts of the State, and as a supplementary supply to the general State scheme.

It was recommended that a scheme providing for the following be adopted by the Government:—

- (1) Power Stations at Royston, Rubicon, Rubicon Lower, Snobb's Creek, and Sugarloaf, all to feed into a common sub-station situated about 8 miles from Sugarloaf. The total capacity of hydraulic turbines proposed to be installed in these stations is 25,800 brake horse power.
- (2) Sub-station at Rubicon and terminal station at Thomastown.
- (3) Transmission lines operating at 66,000 volt running from Rubicon to Thomastown (connecting there with the Melbourne high tension network), and from Rubicon to Benalla. From Benalla main trunk feeders to be run to power centres respectively at Wangaratta and at Shepparton.

The estimated cost of the whole scheme was set down at £962,320.

Having regard to the fact that under the most favorable circumstances this scheme could not be completed in its entirety before 1928, the Commission recommended, as a first step in the construction programme, that the transmission lines associated with the scheme be at once proceeded with so that in the meantime energy from the State scheme can be made available to this area of the State where an insistent and growing demand for electricity supply has been present for some time.

As stated in the reference to this scheme under the heading "Investigation by Select Committee of Parliament," Parliamentary authority was given to the Commission's Scheme being proceeded with at once, and loan moneys were accordingly made available during the latter end of last session of Parliament. The progress made with the scheme is referred to in more detail under the heading "Electricity Supply," Part II. of this Report.

ELECTRICITY SUPPLY IN RURAL DISTRICTS.

SUPPLY TO GIPPSLAND.

In October, 1922, the Commission submitted for the approval of the Government a scheme for supply to East and South Gippsland, and also to towns in the Narracan Shire situated west of Yallourn.

The scheme provided for the erection of high tension transmission lines from Yallourn to Bairnsdale, supplying *en route* the towns of Traralgon, Heyfield, Maffra, and Sale; Yallourn to Korumburra and Leongatha; and Yallourn to Moe, with extension to Trafalgar and Yarragon. The total estimated cost of these proposals was £112,000.

The need for providing means of supplying this extensive district was impressed on the Commission as the result of a power survey of the possible requirements in those towns which could be served from the proposed lines; and with the object of having the supply available concurrently with the main power station coming into operation in 1924, steps have been taken to proceed with the scheme, for which funds were made available by Parliament during the last session.

As related to this scheme it must be recorded that the residents of the towns which can be supplied from the proposed transmission lines have given every evidence of their earnest desire to utilize electric energy, and are prepared to co-operate and assist to the utmost in endeavouring to obtain supply.

As an instance of this, the case of a farming community in the Tyers River District may be cited. The residents of this district, which is situated some miles from Traralgon, banded together and furnished guarantees of definite annual consumption of electricity if the Commission would undertake to supply energy to the district. The offer was also made that residents along the route of the necessary transmission line would make available easements over the property free of all cost to the Commission, and a spirit of co-operation and self-help was further shown by the willingness of the residents to assist in the erection of the reticulation by sinking post holes and providing part of the labour required in the erection of the poles.

When the proposal was investigated by the Commission it was found that the load offered would justify the erection of a line operating at 6,600 volts from Yallourn to the district (a distance of $6\frac{1}{2}$ miles), and with the approval of the Government the work of erection of the line and the low tension reticulation is now in hand. The splendid example set by this small community is worthy of emulation by other districts similarly circumstanced and situated within the range of the State scheme. Apart from any other consideration, this supply presents an opportunity to the Commission to closely follow the results which can be obtained by the application of electric energy for power and lighting purposes on the farm.

EXTENSIONS TO THE SOUTH-WESTERN DISTRICT SCHEME.

When authority was given for the construction of the South-Western District Scheme, branch lines from Camperdown to Cobden, and from Terang to Mortlake, were provided for ; but it has been necessary during the period under review that the Commission obtain Governmental approval to the erection of the following additional branch lines as extensions to the South-Western District Scheme. In each of the cases mentioned the Commission's recommendation was made after a detailed power survey as to the probable requirements of the respective districts :—

- (1) From Geelong to Queenscliff and Point Lonsdale, giving supply *en route* to Portarlington and the Bellarine Shire.
- (2) From Colac to Winchelsea and Birregurra.
- (3) From Warrnambool, lines to Dennington and to Allansford.

SHEPPARTON.

Early in the period the Shepparton Shire Council sought the Commission's assistance in regard to improving the existing supply to the town of Shepparton and making provision for the additional load offering by industries which had commenced operations in Shepparton. The existing undertaker, the India Rubber Gutta Percha and Telegraph Works Company Limited, was giving a D.C. supply, but owing to limited generating plant was unable to meet additional demands, and in view of the likelihood of a 3-phase supply becoming available from the Commission's mains the Company was averse to incurring extra capital expenditure in installing the additional plant required, unless some guarantee could be given of a reasonable return on the capital so invested.

Under an agreement with the Company, the Council had the right to acquire the undertaking in September last, but intimated that it could not see its way to act in this direction. A proposal was, however, submitted by the Council that the Commission itself should acquire this undertaking, since the town of Shepparton is within the area to be served by the Sugarloaf-Rubicon Scheme. After a close investigation it was decided to enter into a contract with the Company to acquire its undertaking at a fixed price when supply is available from the Commission's mains, the Company to take steps to immediately install the additional generating plant required and to be reimbursed this expenditure (less proper depreciation) when the undertaking passes to the control of the Commission. Governmental approval was obtained to this course which will involve an expenditure on taking over of £11,500.

CONTROL OF RETAIL DISTRIBUTION.

In accordance with the powers conferred on the Commission by Act No. 3265, to which reference has already been made in this report under the heading "Investigation by Select Committee of Parliament," many Municipalities situated within range of the Commission's South-Western District and Gippsland transmission lines have made application to the Commission for a retail supply of electricity as provided in Section 2 of that Act.

In February last the Commission submitted a report to the Government summarizing the municipalities which had made application for such supply, and also those municipalities which were in negotiation with the Commission for a supply as contemplated in this legislation, but which would involve the acquisition of existing undertakings. On the recommendation contained in this report the Government decided to make available the sum of £100,000 to cover the estimated expenditure by the Commission up to the 31st December, 1923, in giving such supplies. This amount provided for the acquisition of municipal owned plants involving in some cases change-over of the system of supply from D.C. to 3-phase alternating current 50 cycle supply, the acquisition of undertakings of private companies and the construction of low tension reticulation in towns where no supply of electricity had previously been given.

Up to 30th June last, arrangements were in hand for giving supply to the following towns under this authority :—

South Western District Scheme—

Camperdown, Terang, Cobden, Allansford, Dennington, Winchelsea, Birregurra, Queenscliff, Portarlington, Drysdale and Point Lonsdale.

Gippsland Scheme—

Trafalgar, Moe, Yarragon and Traralgon.

In addition to the towns mentioned the Commission, at the direction of the Government, arranged also to assume the control of the retail distribution in the City of Warrnambool.

At the close of the period the Commission was in consultation with the Shire of Colac in relation to the acquisition of its undertaking and was also investigating a request from the Shire of Maffra that the Commission assume control of its electric light undertaking in the town of Maffra.

These many applications for retail supply have, of course, necessitated an organization being set up by the Commission for dealing with this phase of electricity supply work. This organization has been defined and will be brought into operation when the main transmission line work in Gippsland and the South-Western District reaches the stage at which the Commission will operate the retail distribution in the several towns mentioned.

Under the scheme of organization, officers to be known as "District Superintendents" will be appointed, and it will be the function of these Superintendents, assisted by their local staffs, to take charge of districts such as that covered by the South-Western District Scheme, and be responsible for the operation and service to consumers in that district. The District Superintendent will, of course, have a representative in each town served, but will himself be stationed at some town central to the whole area supplied. In the case of the South-Western District Scheme, the district head-quarters will be at Colac.

ELECTRICITY SUPPLY IN MELBOURNE.

BULK SUPPLY TO MUNICIPALITIES ADJACENT TO THE CITY OF MELBOURNE.

For some years past the Melbourne City Council has been supplying energy in bulk to the Municipalities of Brunswick, Coburg, Williamstown, Port Melbourne and Footscray, to the Tramways Board at Coburg and to the North Melbourne Electric Tramways and Lighting Company's undertaking at Essendon, Flemington and Kensington now controlled by the Commission.

In December last the Commission approached the Melbourne City Council and pointed out that with the coming into operation of the Yarraville Terminal Station and with the completion of sub-station "C" (Brunswick), and sub-station "D" (Ascot Vale), the Commission would be in a position to give bulk supply to the corporations concerned at a cheaper rate than was provided in their existing contracts with the Melbourne City Council.

As the result of negotiations between the two bodies an agreement was arrived at that, subject to the consent of the Municipalities concerned, the Commission should take over these supplies as soon as it was in a position to do so, with the exception of supply to the City of Port Melbourne, which cannot be conveniently dealt with by the Commission from any of its sub-stations now in course of erection. It was agreed that the sum of £6,750 should be paid to the Council in order to recoup it for the expenditure incurred in the laying of underground and overhead cable to give these supplies.

SUPPLY TO SUNSHINE AND ST. ALBANS AREA.

In the design of the original Morwell Scheme provision was made for a transmission line operating at 22,000 volts to be constructed in close proximity to the route of the Main Yallourn Yarraville Transmission Line.

To enable supply to be given to the St. Albans Quarry Company at St. Albans and to the Commonwealth Oil Refineries Ltd. at Kororoit Creek steps have been taken with the Government's approval to erect a section of this 22,000 volt line from Yarraville Terminal Station to a point close to Sunshine. From this line branch lines will be run to the respective consumers.

The telephone line poles from Yallourn Power Station to Yarraville Terminal Station, which run parallel to the main transmission line for the whole of this distance, have been utilized to carry the conductors for this section of the subsidiary line.

ERECTION OF SUB-STATION "B", COLLINGWOOD.

The Melbourne Electric Supply Company having made application for a supply of energy to enable it to meet increased demands on its system in the Collingwood district, which are expected to arise during the winter of 1924, it has been necessary for the Commission to undertake the erection of Sub-station "B" as provided in the original scheme approved by Parliament. The sub-station will be located in Langridge-street, Collingwood, and when completed will be linked by means of underground cables with the other sub-stations erected by the Commission in the Metropolitan Area.

The demand on this sub-station from the Company's mains alone is anticipated to reach at least 10,000 kilowatts by 1925, an indication of the exceedingly rapid growth that is taking place in the electric supply demand in the Metropolitan Area.

UNDERTAKING OF THE NORTH MELBOURNE ELECTRIC TRAMWAYS AND LIGHTING CO. LTD.

On the 1st August, 1922, the Commission assumed control of the electric light undertaking of this Company, the purchase of the undertaking by the Government having been ratified by Parliament during its last session. The Tramway's portion of the Company's assets, which was also acquired by the Government, has been transferred to the control of the Tramways Board in accordance with Parliament's decision. Operations in this area have been dealt with in this Report under "Electricity Supply," where it is referred to as the Essendon-Flemington Undertaking, by which name it is now known in the Commission's records.

LAL LAL COAL FIELD.

In October, 1922, at the request of the Government, an investigation, though not in any sense an exhaustive one, was made with a view to enabling the Commission to express an opinion on the question of developing the brown coal deposits at Lal Lal as a source of generation of electricity for the service of Ballarat and surrounding districts.

On a review of the comparative estimates of the cost of energy from a local power station at Lal Lal, and of Morwell energy delivered to Ballarat from the Yarraville Terminal Station, the conclusion was arrived at that the proposals were not justified.

FINANCIAL.

ALTERATION IN FINANCIAL ARRANGEMENTS OF THE COMMISSION.

On the Commission's recommendation, legislation was brought down and passed at the last session of Parliament having as its objective an improvement in the then existing arrangements for dealing with the accounts of the Commission.

This legislation, known as the *State Electricity Commission Funds and Accounts Act 1922*, provides for the establishment by the Commission of a general fund which is to be applied in the performance of those works which the Commission is empowered to undertake by its authorizing statutes; authority being also granted the Commission to establish reserve funds for renewals or depreciation in respect of its various works.

The Act further provides that the Commission is to make payment to the Treasury for interest in respect of any loan moneys raised for the purposes of the Commission.

The passing of this Act has made it possible for the accounts of the Commission to be arranged in such a form that its undertakings can now be placed on a commercial basis from an accounting point of view. This was not possible under the procedure which had formerly to be complied with.

PAYMENT OF INTEREST ON CAPITAL EXPENDITURE DURING CONSTRUCTION PERIOD.

In August, 1922, the Government notified the Commission that interest on the capital cost of the whole electrical, briquetting, coal winning, and township schemes from the date of any expenditure would be debited to each undertaking, and that payment must be included in the cost of operation over a period of twenty years in addition to the current interest due on loans. This was a new departure in Governmental policy, as hitherto in the construction of all railways, irrigation, and other public works only the actual loan moneys have been debited, interest during construction being paid from Consolidated Revenue. It was clearly stated in the Commission's reports in which the various estimates of schemes were submitted to the Government that interest during construction had *not* been included. This decision will add not less than £500,000 to the original estimates, and during the process of writing off will increase the selling price of electric energy, briquettes, &c., accordingly. Since August, 1922, estimates given by the Commission have all included interest payable on expenditure during construction.

INCREASE IN COST OF WORKS.

In addition to the factor dealt with in the preceding paragraph, the original estimates of the Commission will be exceeded owing to the abnormal increase in the rate of wages and to certain of the items of plant exceeding the amounts provided in the estimates.

INDUSTRIAL.

The total number of workmen employed on the various activities of the Commission as at the 30th June, 1923, was as follows :—

Yallourn	..	..	..	958
Transmission Line	..	..	..	709
Metropolitan Works	..	..	..	470
Total	..	..	..	2,137

It is with pleasure that the Commission records the fact that there was no interruption, due to industrial trouble, at any of its works during the period under review. So far as the Yallourn works, particularly, are concerned, this can be said to be due in some measure to the efforts made by the Commission to provide its employees with suitable accommodation, and be making such provision in the way of recreation requirements as will influence the general welfare of the employees in the right direction.

Reference was made in the last Annual Report to the establishment of provision stores at Yallourn to supply the requirements of the employees at reasonable rates.

These stores, as a result of careful buying and economy in running, have continued to function successfully, and extensions of the operations have been entered into as the demand warranted. During the year a general store has been opened in the main business centre of the township to specially serve the needs of the permanent residents, and stocks have been extended to take in many and varied lines called for by these householders. As a result, stocks on hand have increased in value, with a proportionate increase in annual turnover. With the growth in the population of the town further extensions will be made, and plans are already in hand to establish butchery and bakery businesses. The success already achieved gives full confidence to the Commission in anticipating that further benefits to the employees will accrue as a consequence of the proposed gradual extension of these operations.

It was stated in the last Annual Report that the messes at the construction camps were controlled on a co-operative basis by committees elected by the employees. Unfortunately, however, this method has proved a failure, due principally to the constant changes in *personnel* of the executive committee, a feature which seems inseparable from large construction works.

To prevent further losses, it has been found essential to relieve the committees, and full control has now been assumed by the Commission itself. The benefits of this action are already manifest, and it is hoped with careful management to gradually bring the financial affairs of the messes to proper order.

STORES AND TRANSPORTATION.

With the extensive works being carried out in the Metropolitan Area and in the country districts, the Central Store, Footscray, has proved its usefulness to the Commission, while the store at Dandenong has fully coped with the works on the main transmission line and the Gippsland transmission scheme.

The permanent store at the Yallourn Works was completed and occupied during the year, superseding the temporary stores at the Works, which thereby became available for other necessary construction purposes.

The motor transport equipment required by reason of the extensive areas over which the Commission's Works are spread and the nature of such works, has rendered necessary the establishment of a permanent garage in Whiteman-street, South Melbourne. Associated with the garage is a workshop which deals with inspection, overhaul, and repairs of all motor vehicles at regular intervals.

LICENSING OF WIREMEN.

The appended statement shows the number of licences issued under the Licensing of Wiremen Rules to date, and the number of licences granted during the period :—

Grade.	Number issued to 30th June, 1922.	Number issued from 1st July, 1922, to 30th June, 1923.	Total.
" A "	1,092	72	1,164
" B "	387	98	485
" C "	441	148	589
Special Licences	14	5	19
Permits	970	433	1,403

The Board of Examiners, in dealing with the results of the last examination under the Licensing of Wiremen Rules, reports that the examination results show a general improvement in regard to candidates for " A " Grade examination, but similar improvement is not noticeable in the case of candidates for " B " Grade examination, though the general indications are that candidates for both grades are becoming possessed of a wider and more thorough knowledge of electric wiring work.

The Inspectors of the Fire Underwriters' Association and the Superintendents of the various Electric Supply Undertakings are co-operating with the Commission's staff in supervising the work of wiremen, and it is apparent that the administration and supervision of the rules has had the effect of improving the standard of electric wiring work throughout the State.

In connexion with the formulation of standard rules governing the methods of wiring applicable to the whole State, to which reference was made in the last report, the Commission appointed the following Committee :—

Commissioner Sir Thomas Lyle (Chairman).

Messrs. F. W. Chambers, F. S. Willers, P. V. Lockey, G. Henderson, and C. Cross.

The Committee has now practically completed its work, and it is expected that at an early date the final proof of the rules will be available for adoption.

ELECTRIC LIGHT AND POWER ACT 1915, No. 2645.

Two of the smaller electric supply authorities made application during the course of the year for permission to increase their charges for supply of electric energy, and both applications, after careful investigation, were approved. The increases were necessitated, as in former cases, by the enhanced cost of labour and materials necessary to the maintenance of supply.

The following are the particulars of these applications :—

Undertaker.	Existing Price.	Proposed Charge.
Winchelsea Shire Council—Supplying Lorne	<i>Lighting</i> —1s. per candle power per lamp per annum	<i>Lighting</i> —For any amount up to 30 units per month, 1s. 3d. per unit; and for each unit over 30 units, 1s.
Upper Yarra Shire Council—Supplying Warburton	<i>Lighting</i> —5d. per unit	<i>Lighting</i> —9d. per unit

Since the passing of the Electric Light and Power Act in 1896, 164 Orders in Council authorizing the supply of electricity have been granted. Of these 95 were granted to Municipal Councils and 69 to private Undertakers, &c. Twenty-one Orders in Council have been cancelled, and seven Municipal Councils have transferred their powers, wholly or in part, to private companies for periods mostly up to 30 years.

An Order was issued to the Borough of Maryborough during the period, the maximum prices under the Order being 1s. per unit for lighting and 5d. per unit for power.

A statement of Electric Supply Undertakings operating in Victoria as at 30th June, 1923, under the provisions of the *Electric Light and Power Act 1915* is contained in Appendix No. 2 to this Report.

The Commission has decided that the whole of its electric supply undertakings are to be subject to the provisions relating to inspection and public safety as laid down by the Electric Light and Power Act and regulations issued thereunder.

ELECTROLYSIS.

As the result of representations made by the Melbourne and Metropolitan Board of Works, the Postal Department, and the Metropolitan Gas Company Limited, the Commission, by virtue of its powers as defined in Section 17 of Act No. 2996, has conferred with the Railways Commissioners and the Melbourne and Metropolitan Tramways Board, whose undertakings, it is alleged, are largely responsible for troubles experienced in the maintenance of underground reticulation in the metropolis. The arrangement has been made for the Chief Engineers of the latter Departments to confer with the Chief Engineer of the Commission, these Engineers forming an Electrolysis Investigation Committee, of which the Commission's Chief Engineer is the Chairman. This Committee has had lengthy conference, with the object of determining the precautions which are to be taken against electrolysis, and, as soon as it has concluded its deliberations, it is the Commission's intention to call together in conference representatives of all bodies or parties interested with the object, after hearing all parties, of presenting a recommendation from the Commission to the Government.

MR. COMMISSIONER SWINBURNE.

On the 9th November, 1922, Commissioner the Hon. George Swinburne resigned from the Commission, and on 7th February, 1923, was re-appointed by the Government as Commissioner.

PART II.—DESIGN, CONSTRUCTION, AND OPERATION.

BRIQUETTING AND RESEARCH.

Briquetting Factory, Yallourn.

Clearing of the site of the briquette factory at Yallourn was completed in July, 1922, and excavations for the foundations started during the same month. Most of the plant acquired from the Zeitzer Eisengiesserei A.G. of Zeitz, Germany, had been delivered at the site when that Company's engineer, Mr. Walther Schmidt, and six foremen-erectors arrived in Victoria early in August, and by that time building foundations had been, for the most part, concreted, enabling an immediate start to be made with the erection of the plant.

The wet preparation, drying, cooling and pressing sections of the factory are now approaching completion and the conveyor bridges connecting the factory with the main haulage line from the open-cut screens are well advanced. A commencement has been made with the erection of the boiler house structural work. A concrete chimney to provide natural draft for the boilers and to rise to a height of 332 feet above ground level is also under construction.

All the necessary railway connexions to the factory have been made and have been in use for about twelve months conveying plant and materials right to the work. Later these connexions will be utilized for the transport of briquettes to market.

A contract has been arranged with Messrs. Babcock and Wilcox for the supply of four water tube boilers aggregating 18,040 square feet heating surface, with superheaters, feed pumps, and accessories, together with structural steel for the boiler house and turbine room, the contract price being £71,000. Provision is made in the contract that the greater part of this amount shall be expended on material of Australian production and fabrication. The high pressure piping, hydraulically pressed parts for the boilers, turbine pumps, various instruments, and sundry other materials are, however, being made in Great Britain. Boiler drums, castings, step grate furnaces, hoppers, low pressure piping, and sundry other plant will be manufactured at Messrs. Babcock and Wilcox's newly-established works at Regent's Park, Sydney, and the contractors have arranged for all the structural work, amounting to from 450 to 500 tons, to be fabricated in Melbourne. The first deliveries of the structural work have been made.

Pulverized Coal.

The experimental plant at Newport was completed in January last, and, after trial runs and adjustments extending over a few weeks, started to supply coal to No. 23 boiler at Newport "A" Power Station. This boiler has been adapted by the Railways Commissioners for the firing of pulverized fuel, and has been supplied up to date with sufficient powdered brown coal to enable it to be fully utilized for the morning and evening peak loads. A further supply of pulverized brown coal has been available as required for an A2 locomotive, likewise equipped by the Railways Commissioners for burning pulverized fuel.

Tests are at present being conducted by the Railways Commissioners on the locomotive on both goods and passenger service, as well as on the stationary boiler. The combined operations of the Railways Commissioners and this Commission will, in due course, enable a reliable opinion to be formed of the prospects of the commercial use of powdered brown coal, both for locomotive purposes and stationary boiler firing.

Research.

As forecasted in its last Annual Report, the Commission has taken steps to enlarge the scope of its research work on carbonizing problems, and to this end a Fuel Research Chemist (Mr. R. E. Thwaites, M.A.), was appointed in March, 1923. Some preliminary laboratory work is being done in Melbourne, and in a few months a pilot plant will be established at Yallourn to permit of operations being conducted on something larger than a laboratory scale.

COAL SUPPLY.

Yallourn Open Cut.

Overburden removal proceeded without interruption throughout the year, with one, and, at times, two, shovels delivering to the conveyors, so that in all 400,200 cubic yards place measurement were removed, exposing the surface of the coal over a surface of 10 acres. It is estimated that the quantity of coal vertically under the portion stripped amounts to 2,000,000 tons.

The erection of the second large revolving shovel was completed in September, 1922, and since that date both shovels have been employed continuously on overburden removal or earth-work construction as and when required.

To deal with the excavation of the coal when the demand exceeds the capacity of the existing machines, it is proposed to obtain an electrically-operated shovel considerably larger than either of the steam shovels at present employed, and tenders for this machine have already been called.

The design is nearing completion of the coal loader apparatus, the function of which will be to receive the coal from the shovel, crush it, and deliver the material automatically to the trucks of the transport system.

Contracts have been placed for the supply and erection of the structural steel for the coal screening house, the screens, and the driving machinery. The initial capacity of this plant will be 4,000 tons per day, but provision has been made for extension to deal with 10,000 tons per day when required.

The work of erection of the coal storage bins is well forward; the bins will provide an initial storage capacity of 2,500 tons, but the foundations permit of extension to 7,500 tons.

A contract has been placed for the manufacture and erection of two automatic endless rope haulage systems to receive the coal from the screening plant and storage bins and transport it either to the Power Station or to the Briquette Works. The fabrication of this plant is well forward, enabling a commencement to be made with the erection.

In order to eliminate the water which will drain from the coal, a system of headings, aggregating 11,000 feet in length, was laid out under the whole area of the first open-cut, the headings being located close to the bottom of the coal deposits and spaced 150 feet apart. Work was started in January, 1923, and to the 30th June, 4,356 feet had been driven. The total amount of water draining from the mass is directly proportional to the length of the headings driven.

The levee banks surrounding the open-cut site effectually protected the workings from the floods during the year, while the pumping plant installed proved adequate to deal with all underground water met with in the excavation, and with the surface drainage and rainfall.

EXPLORATION.

The boring campaign on the ground to the east of the square mile of proved coal was continued, and three additional bores (Nos. 331A, 390, and 391) were put down at an interval of 10 chains, the average depth of overburden being 38 feet and the thickness of coal 150 feet. The results of the bores are shown in the appended statement.

The total number of bores put down in this location is 37, and the results indicate that a total additional tonnage of 83,115,000 tons of coal has been proved. The depth of overburden varies from 20 to 41 feet, averaging 30 feet, whilst the thickness of the coal varies from 124 to 206 feet, and averages 162 feet.

On the southern portion of the square mile to the west of the railway, seven bores were put down in order to have bores at approximately 10 chains apart. The results of these bores (Nos. 392 to 398) are satisfactory, and are also shown in the following statement :—

RESULTS OF BORING IN YALLOURN AREA FOR YEAR ENDING 30.6.1923.

Bore No.	Co-ordinate Location.	Feet of Overburden.	Feet of Coal.	Tons Coal per Acre. $1\frac{1}{2}$ cub. yds = 1 ton.	R.L. of Coal Surface.	Total depth of Bore— feet.
331A	3160S 300E	35	166	229,500	105.0	251
390	520S 1620E	38	124	171,500	104.0	212
391	1180S 1620E	41	162	224,000	99.0	253
392	4750S 400W	29	160	221,000	110.0	239
393	5500S 700W	25	177	244,000	115.0	252
394	6200S 1700W	35	217	300,000	135.5	303
395	6200S 2400W	38	230	318,000	137.0	318
396	6200S 3100W	60	232	320,000	143.0	342
397	4750S 1800W	30	189	261,000	119.0	269
398	4750S 1100W	35	165	228,000	115.0	250

ELECTRICITY SUPPLY.

YALLOURN WORKS.

Steady progress has been made on the erection of the steelwork for the Power Station buildings, the Turbine House being in an advanced stage of completion, while the Boiler House is also well forward. About 75 per cent. of the material for the turbo-alternators and condensing plant has been delivered on the site during the period, and the erection of the first set is well in hand, with the second set following up. The boiler contractors have delivered a large portion of the material covered by their contract, and the erection of the first five out of the total of twelve boilers is in progress.

Practically the whole of the switchgear equipment for the control of the main plant has been received on the site, and the erection of the outdoor switchgear and structures is well on to completion. The equipment in the control building is expected to be completed by the end of 1923.

The site works of the circulating water system which include screen pits, inlet and outlet conduits, discharge pits, and weir are now practically complete.

Water supply mains and reticulation have been laid connecting the Power Station with the main water supply scheme, and the sewerage scheme for the Power Station, Workshops, &c., is in operation. During the period the roadway and drainage system around the Power Station were brought to completion.

A quantity of auxiliary plant ordered during the year is in process of manufacture in workshops in Great Britain and Australia, and includes feed pumps, circulating water screens, coal handling plant, ash handling plant, piping, valves, feed heaters, air compressor, and exhausters.

The temporary power station at the works supplied the demand of the construction works, the coal-winning operations, and also Morwell and Yallourn townships, the load exceeding at times 400 kws., and, in addition, one or other of the boilers in the station has been intermittently under test on the investigations relating to pre-drying and furnace design.

YALLOURN-YARRAVILLE TRANSMISSION LINE.

The work of clearing the route of the line, covering a total length of 110 miles, has been brought to completion, and of the 591 towers comprising the line 560 have been erected. Approximately 120 miles of cable have been strung, leaving a balance of 550 miles to be erected. The line has involved the erection of 700 gates on the easements acquired by the Commission, and numerous culverts, bridges, and drains have also been constructed. The telephone line required for operating purposes has been pushed on, 2,400 poles being erected, and 400 miles of telephone wire strung.

YARRAVILLE TERMINAL STATION.

The Yarraville Terminal Station which is the main receiving station for the energy transmitted from Yallourn, and also the link between Newport "A" and Newport "B" and Yallourn Power Houses, and the Metropolitan Sub-stations, is approaching completion. The station will shortly be brought to completion, and tests at full pressure on a section of the main transmission line will follow.

On the 17th June, the 12,500 kws. frequency changer was brought into service in order to supply the Melbourne City Council's undertaking with 50 cycle energy by conversion of 25 cycle energy from Newport "A" station. This represents the first section of the plant associated with the electrical side of the Morwell Scheme to be brought into commercial service.

METROPOLITAN DISTRIBUTION.

Sub-station "J" (3-6,000 k.v.a. banks)—supplying the Melbourne City Council at its power station in Spencer-street has been completed and put into operation.

Sub-station "D" (3-1,000 k.v.a. banks)—This station, which will supply the Ascot Vale area, is approaching completion. A photograph of the work appears in Appendix No. 3.

Sub-station "C"—This sub-station, which is to supply the Brunswick area, is under construction at present, and is expected to be completed well before the end of 1923.

Sub-station "B"—Designs for this sub-station to supply Collingwood area, and providing for a total rating of about 18,000 k.v.a., are now in hand, the object being to give supply of energy in bulk to the undertaker in that area before the winter of 1924. For the present, it is intended to complete this sub-station with a transformer capacity of about 9,000 k.v.a.

About 35 miles of 22,000 volt cable, and about the same length of pilot cable has been laid, and the cables between Yarraville Terminal Station and Newport Power Station and between Yarraville Terminal Station and the Sub-station "J" in Spencer-street, are in operation.

NEWPORT "B" POWER STATION.

The whole of the work of the erection of this station is now approaching completion, and the first half of the plant capacity, namely, one turbine and two boilers, has been brought into service. A fifth boiler has been ordered to supplement the present installation, and is in early stages of manufacture.

The bringing into operation of this station has enabled the Commission to meet the large increase in the demand in the metropolitan area which was anticipated for the winter of 1923.

SUGARLOAF-RUBICON HYDRO-ELECTRIC SCHEME.

The final surveys of the route of the transmission lines involved in this scheme have been taken in hand. The route from Sugarloaf to Benalla has been completed, and the survey is now rapidly proceeding on the Main Sugarloaf-Thomastown line.

Attention has also been directed to the design of electrical apparatus required for the operation of the line.

The gaugings of the streams associated with the scheme are being systematically observed, and the preliminaries on the design of the hydro-electric work have been taken in hand.

TRANSMISSION LINES—UNDER CONSTRUCTION.

The erection of the main 44,000 volt transmission line from Geelong to Warrnambool for giving supply to the South-Western District was pushed ahead with all speed from the commencement of operations in January, 1923. Supply was made available in Colac on 12th April, the transmission line being then complete in every respect, but as no 44,000 volt apparatus had been delivered, transmission at 6,000 volts and a special boosting arrangement in Colac was provided to regulate the supply pressure. Sections of the line will be brought into operation progressively as the deliveries of transformers and switchgear permit, this particular apparatus being delayed owing to the dockers' strike in the United Kingdom, but the line is expected to be finally completed and in full operation before the end of 1923.

Designs have been finalized for supply to the following centres in the South-Western District, which will be given by means of 6,600 volt branch lines:—

From Geelong—Queenscliff, Drysdale, Portarlington, Bellarine Shire.

From Colac—Winchelsea, Birregurra.

From Camperdown—Cobden.

From Terang—Noorat, Mortlake.

From Warrnambool—Allansford, Dennington.

These branch lines involve the construction of nearly 100 miles of 6,600 volt pole line, and the equipment of numerous sub-stations.

With regard to the supply to Gippsland, it was decided to meet the demand of the Shires of Narracan (Yarragon, Trafalgar, and Moe) and Traralgon (Traralgon) from the temporary power plant at the Yallourn works pending the main power station coming into operation. The erection of the transmission line from Yallourn to Moe has been completed, and the extensions to Trafalgar and Yarragon are in progress. The transmission line from Morwell to Traralgon is in course of construction.

As part of the Commission's scheme for supply to Gippsland, designs are in course of preparation for supply as far east as Bairnsdale and south to Leongatha and Korumburra.

The construction of the single-phase 6,600 volt line to Tyers, $6\frac{1}{2}$ miles from Yallourn, has been commenced. Special farm stations of a simple and inexpensive type of from 2 to 5 k.v.a. capacity have been designed, and about six of these sub-stations will be used on the scheme.

TRANSMISSION LINES IN OPERATION.

The transmission lines for supply to Mornington Peninsula, meeting the demand in Dandenong, Frankston, and Mornington, and along the Yarra Valley, supplying Ringwood, Croydon, and Lilydale, have been brought into operation. The feature of these transmission schemes is that the equipment of the 22,000 volt sub-stations, both transformers and switchgear, is entirely of Australian manufacture, probably the first occasion when such an equipment of entirely local manufacture has been put into commercial service. An extension of the Lilydale transmission line, in order to give supply to the Cave Hill quarries, has been completed.

Supply has been given to the township of Morwell by transmission from Yallourn during the year, and the growth of the demand has greatly exceeded expectations.

The construction of the separate pole lines required to give supply to the Commonwealth Oil Refineries and the St. Albans Quarry has been put in hand. During the period, also, service has been given to the Mt. Lyell Chemical Works, Yarraville.

In accordance with the powers transferred from the Railways Commissioners, the Commission has continued to give supply to a number of large industrial users in the area defined in the *Railways Act* 1918, No. 2942.

RETAIL DISTRIBUTION IN COUNTRY TOWNS.

The work of reticulating the towns of Moe, Trafalgar, Yarragon, and Traralgon has been commenced, and should be brought to completion at an early date.

The material required for the reticulation of the following towns served by the South-Western District Scheme is now being collected, and the work of erection of the poles and lines is being started immediately:—

Winchelsea, Birregurra, Cobden, Camperdown, Terang, Allansford, Dennington, and Warrnambool, Queenscliff, Point Lonsdale, Drysdale, and Portarlington.

ESSENDON—FLEMINGTON UNDERTAKING.

The appended statement in respect of the Commission's operations in this area from 1st August, 1922, to 30th June, 1923, a period of eleven months, indicates the favorable results which have attended the Commission's work. The progress made has quite justified the

Commission's policy of dealing with the undeveloped portions of the area by anticipating the wants of the public, and pushing on with all extensions, provided there was prospect ultimately of the investment being self-supporting.

Power Station—2,120,850 units generated—M.D. 593 K.W.

No. of Consumers—6,488, giving an increase of 1,559 new consumers for the period.

No. of Public Lamps—1,178, giving an increase of 117 public lamps for the period.

Change-over—1,403 consumers were changed over from D.C. to A.C. supply, leaving 2,552 to be transferred.

The financial results of the operation of this undertaking are given in the statements of accounts which appear in Appendix No. 1 attached.

It will be noted from the published accounts that an amount of £13,000 has been appropriated from profits and passed to a depreciation reserve.

It has been necessary to make this particularly heavy provision for the reason that expenditure on account of conversion of the system of supply from direct current to alternating current, which requires to be completed during the ensuing financial year, while adequate provision also needs to be made for the depreciation of the reticulation.

With the completion of this conversion the whole of the requirements of the area will be supplied from the State scheme, and the existing local generating plant will, therefore, be no longer required. The decision to take this plant out of commission will entail heavy writing off during the next few years, and this aspect also had to be kept in view in deciding on the amount of the appropriation.

The accommodation provided in the offices in Mount Alexander-road, Ascot Vale, taken over from the North Melbourne Electric Tramways and Lighting Company, is not conducive to the Commission obtaining the best results from the operation of this undertaking, nor are the offices situated in a satisfactory central position. Apart from this, the Tramways Board needs to have the whole of the available space for its own purposes. An agreement has, therefore, been arrived at with the Board that the Commission will vacate the old offices as soon as it can conveniently do so. Land in Young-street, Moonee Ponds, has been acquired on which it is proposed to erect offices suited to the needs of the undertaking, and plans of the office building are now in course of preparation by the Commission's architectural staff.

PART III.—GENERAL.

TOWNSHIP OF YALLOURN.

DWELLINGS.

During the period covered by this Report, contracts have been entered into for the labour only required in the erection of about 130 houses in the township, the materials to be supplied by the Commission. The majority of these houses are of brick construction, in various designs, covering four, five, and six-roomed houses. At the 30th June last 60 houses in the township were occupied by the Commission's staff.

*Photographs showing some of the types of houses erected at Yallourn appear in Appendix 3 of the Report.

Considerable trouble was experienced by the Commission in obtaining suitable skilled labour for the erection of the dwellings in the town, there being in particular a shortage of skilled bricklayers and plumbers. To some extent this difficulty was overcome towards the end of the period.

WATER SUPPLY.

The construction of the water supply scheme referred to in the last Report is approaching completion, and it is expected that full operation will be commenced when the installation of the pump is completed during the next month.

A complete design for the reticulation has been made, and pipes have been laid to supply all building operations and houses occupied in the town, as well as various parts of the works.

ROADS AND STREETS.

Road and street construction and drainage has been carried out to serve all houses occupied or in course of construction, the work conforming to the design for the complete township of 3,000 population.

An effective fire-break has been cleared around the township area.

LIGHTING.

The reticulation system for the town has been extended to meet the demand caused by expansion in the township area. Similar comment also applies to the street lighting.

CONSTRUCTION WORKS, YALLOURN.

While the progress made with the various activities at Yallourn has been dealt with earlier in this Report, the following matters associated directly with construction have also to be recorded.

CONSTRUCTION CAMPS.

During the period, in order to meet the demand for accommodation caused by the large number of men employed on the works by the Commission and by contractors, it was necessary to make arrangements for the erection of large numbers of tents suitably framed and floored. This accommodation has served to relieve the acute position which threatened to arise in regard to the accommodation at the works, but the position will cease to exist with the diminution of the various activities towards the end of 1923.

It also became necessary on account of these extensions to make further additions to the mess accommodation, but having regard to the existing construction programme it is not anticipated that the Commission will require to take any further steps in this direction.

BRICKWORKS.

It was mentioned in our last Report that the brickworks would probably be extended to meet practically the whole of the demand for bricks for buildings on the power station site, briquette works, and township. Shortly after the close of the last period the Commission decided to install a double brick machine with a larger pan and to erect six new kilns, thereby increasing the output from the works to approximately 6,000,000 bricks per annum.

With the object of itself undertaking tile making as part of its activities associated with the brickworks, the Commission is at present carrying out tests on the various clays at Yallourn in order to ascertain their suitability for tile-making purposes. The indications are that the tests will prove favorable, and may justify the Commission in undertaking the manufacture of its own tiles.

RAILWAYS.

The Railways Construction Branch has now brought to completion the sidings necessary to serve the power station area, open cut, and briquetting factory.

ROADS.

In order to facilitate transport within the area, it has been necessary to take steps to metal various roads associated with the works. Attention has, of course, been given during the year to the maintenance of all roads under the Commission's control.

OFFICE ACCOMMODATION, YALLOURN.

At present the administrative offices at the Works are situated in temporary buildings in the Eastern Construction Camp, and the staff quartered there has long since outgrown the available office space. In addition, with the completion of construction, suitable offices need to be available for administrative purposes and for the Senior Officers associated with the various activities.

To meet the position the Commission decided to erect suitable offices on the Power Station area, which site is central to the whole works, and a contract has recently been placed for the supply of labour for the erection of the building, which is to be of brick construction. The estimated cost of the building complete is £16,000.

WATER POWER INVESTIGATIONS.

Systematic inquiries into the water power resources of those areas of the State within the range of centres of population have been continued and valuable data have thereby been obtained.

The investigation of the Strathbogie District referred to in our last Report was made the subject of a special report to the Government. As the results of the investigation indicated that the power available in this district would not be great, and would be relatively expensive, it was recommended that no further action be taken to develop these resources for the present.

Further investigations have indicated that as a future supplementary source of power to the Sugarloaf-Rubicon Scheme, power would probably be available from the streams in the Murrindindi district adjoining the Sugarloaf and Thomastown transmission line, and stream gaugings in this district are being continued with the object of arriving at definite conclusions on this possible source of supply.

The investigations of Little River, Big River, and Taggerty River reported in the last Annual Report have been continued.

Investigations for supplementary sources of power in the Western District reveal that favorable results might be expected from the Aire River at a point about 25 miles from the Geelong-Warrnambool Transmission line. No definite opinion, however, can be expressed until gaugings have been taken over a considerable period.

A scheme to supply the Chalet at Buffalo by utilizing the water power resources in the vicinity was investigated, but the proposal proved impracticable owing to the irregular flow and the high cost of storage.

Gaugings are being systematically carried out on all streams investigated, and inquiries continued in the Upper Yarra Valley, Moroka Valley, Wonnongatta, and the Grampians.

STAFF.

On the 1st September, 1922, Mr. A. D. Murdoch, formerly Manager of the North Melbourne Electric Tramways and Lighting Company Limited, commenced duty with the Commission as Public Supply Engineer.

It is with much regret that we have to record the death of Mr. H. E. Coane, of the firm of Messrs. J. M. and H. E. Coane, the Commission's Consulting Hydraulic Engineers, who died on the 29th April last. The late Mr. Coane was associated with the Commission for a period of nearly three years, and was responsible for the design of the hydraulic end of the Sugarloaf-Rubicon Scheme adopted by Parliament at last session, in addition carrying out, during his period of service, many valuable investigations into the water power possibilities of this State.

In concluding, we take pleasure in once again recording our recognition and appreciation of the valuable service which members of the Staff have given the Commission during the period covered by this Report.

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.

Appendix No.		PAGE No.
1. ..	Balance-sheet and Statement of Accounts for year ended 30th June, 1923	18
2. ..	Statement of Electric Supply Undertakings operating in Victoria at 30th June, 1923, under the provisions of the <i>Electric Light and Power Act</i> 1915	22
3. ..	Photographs of various phases of the operations of the Commission	27

APPENDIX No. 1.

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, 1923. The values of the stores have been accepted on the certificates of the storekeepers, and adjustments have yet to be made in the allocation of stores to several works to agree with the balances in the ledgers of the Department.

(Sgd.) J. A. NORRIS,
Auditor-General.

15th November, 1923.

STATE ELECTRICITY COMMISSION OF VICTORIA.—GENERAL REVENUE ACCOUNT AND BALANCE SHEET FOR YEAR ENDING 30TH JUNE, 1923.

GENERAL REVENUE ACCOUNT.					
	£	s.	d.		£ s. d.
To Net Loss on sale of Bulk Energy, Revenue Account	106	7	1	By Net Profit on Essendon-Flemington Revenue Account	129 16 3
" Balance carried forward	7,234	9	4	" Revenue earned from Rents	6,690 1 4
				" Forfeited Deposits and Specification Charges	292 10 6
				" Miscellaneous	228 8 4
					7,340 16 5
				" Balance brought forward	7,234 9 4

GENERAL BALANCE-SHEET.

<i>Liabilities.</i>		<i>Assets.</i>		
		£	s.	d.
Capital authorized by Parliament under—				
Loan Act No. 3029	£355,000	115,641	10	11
„ 3101	1,430,000	185,094	14	4
„ 3160	2,006,000	390,437	11	5
„ 3234	1,576,000	6,043	18	7
		3,435	19	9
	£5,367,000	22,390	18	11
	
Loans raised by Treasury	..	3,539	8	1
Add advances from Public Account	..	7,364	4	2
		4,012,231	19	7
		4,019,596	3	9
		42,892	0	3
Less amount not drawn	..	533	15	3
		9,415	13	3
		10,624	13	6
		1,148	6	2
		38,306	6	4
		35,685	0	4
		897	3	1
		1,430	18	4
		1,921	19	7
		61,595	2	9
		45,329	1	5
		1,430	18	4

RECONCILIATION WITH TREASURY BOOKS.

	£	s.	d.
Expenditure under Loan Acts as per Treasury Books	3,976,704	3	6
Plus Accounts in Electricity Commission's Books, and not in Treasury Books until 1923-24 ..	2,026	15	4
Expenditure under Loan as per Electricity Commission's Ledger	3,978,730	18	10
Amount of Liability to Treasury as a Debtor to the Public Account as per their Books	238,385	0	4
Less amount in Treasury Books not in Electricity Commission's Books	4,397	4	5
Amount of Liability to the Public Account shown in Electricity Commission's Books	233,987	15	11

Certified correct—

R. LIDDELOW,
Secretary.

9th October, 1923.

STATEMENT OF EXPENDITURE ON PRELIMINARY WORKS TO 30TH JUNE, 1923.

ELECTRICAL BRANCH.

	£	s.	d.	£	s.	d.
Estimates, Reports, &c., Preliminary Surveys	1,253	15	11			
Experiments, &c.	2,070	2	4			
Experiments, Tests on Coal, &c., at Temporary Power Plant, Yallourn	2,996	11	2			
Merz and McLellan, Technical Advice	3,340	4	11			
Newport "B"—Surveys, Inspections, &c.	677	17	10			
				10,338	12	2

COAL SUPPLY BRANCH.

Flood Prevention	12,977	0	9			
Overburden Removal, Disposal, &c.	47,151	4	0			
Deep Drainage of Coal	8,866	1	2			
Metropolitan Distribution	280	1	10			
Preliminary Boring, Surveys, Estimates, &c.	2,833	18	2			
				72,108	5	11

TOWNSHIP.

Surveys and Clearing, &c.	3,171	12	9			
Fire Breaks	2,361	9	2			
House Drainage	632	1	0			
				6,165	2	11

BRIQUETTING BRANCH.

Shaftsinking	5,665	17	9			
Estimates, Reports, Experiments, &c.	2,894	8	10			
				8,560	6	7

GENERAL.

Brick Plant and Tile-Making Plant, Shaft-sinking, and Experimental Work, &c.				1,269	5	5
Total				98,441	13	0

Certified correct—

R. LIDDELOW,
Secretary.

9th October, 1923.

BULK SUPPLY ELECTRICAL ENERGY.—REVENUE ACCOUNT FOR YEAR ENDING 30TH JUNE, 1923.

REVENUE ACCOUNT.

	£	s.	d.		£	s.	d.
To Purchases	174,489	17	4	By Profit from 1921-2	44	8	4
„ Operating Expenses	1,856	0	3	„ Sales	178,491	17	10
„ Interest—Reserve Account	1,601	15	11	„ Net Loss carried forward	106	7	1
„ Depreciation Reserve	694	19	9				
	178,642	13	3		178,642	13	3

To Net Less brought forward—£106 7s. 1d.

Certified correct—

R. LIDDELOW,
Secretary.

9th October, 1923.

REVENUE ACCOUNT OF ESSENDON-FLEMINGTON UNDERTAKING FOR THE ELEVEN MONTHS
FROM 1ST AUGUST, 1922, TO 30TH JUNE, 1923.

	£	s.	d.		£	s.	d.
To Generating and Distributing Expenses	29,161	4	6	By Sales of Electricity, Meter Rents, &c. . .	46,989	1	9
„ Interest—Reserve Account ..	4,698	1	0				
„ Depreciation Reserve ..	13,000	0	0				
„ Net Profit carried forward..	129	16	3				
	46,989	1	9		46,989	1	9
				„ Net Profit brought forward ..	129	16	3

Certified correct—

R. LIDDELOW,
Secretary.

9th October, 1923.

EXPENDITURE OUT OF CONSOLIDATED REVENUE, 1ST JULY, 1922, TO 30TH JUNE, 1923.

Dr.	£	s.	d.	Cr.	£	s.	d.
To Expenditure—				By Treasury Account—			
Salaries	2,206	19	8	Division 70/1	4,816	9	7
Salaries and Fees—Chairman and				„ 70/2	6,491	17	7
Commission	4,397	4	5	„ 70/3	2,000	0	0
Fitting up and Equipping Offices..	89	19	7	„ 70/5	94,062	14	2
Power Investi-				„ 70/6	20,539	0	2
gations—				„ 70/8	11,885	17	9
Surveys .. £6,274	9	11		Special Appropriation Act No. 3104 ..	4,397	4	5
Power require-							
ments—							
Country Centres 554	2	9					
	6,828	12	8				
Licensing of Wiremen	1,042	10	0				
Electric Inspection	1,140	5	3				
Bulk Supply Electrical Energy ..	94,062	14	2				
Briquetting Research	2,000	0	0				
Experimental Coal Pulverizing							
Plant	20,539	0	2				
Operating Expenses—Essendon							
and Flemington Undertaking ..	11,885	17	9				
	144,193	3	8		144,193	3	8

Certified correct—

R. LIDDELOW,
Secretary.

9th October, 1923.

APPENDIX No. 2.

ELECTRIC SUPPLY UNDERTAKINGS OPERATING IN VICTORIA UNDER "ELECTRIC LIGHT AND POWER ACT 1915," No. 2645, ON 30TH JUNE, 1923.

Undertaking.	Popula- tion.	Supply Authority.	System of Generation and Distribution.	Consumers.		Present Price per kw. hour.	
				Lighting.	Other Pur- poses.	Lighting.	Power.
Alexandra ..	700	Alexandra Shire Council ..	D.C., 2-wire, 230 volts ..	155	30	1s. ..	6d.
Ararat ..	4,657	Ararat Borough Council ..	3-phase, 50 cycles, 240/415 volts	510	68	1s. ..	6d.
Bacchus Marsh	1,400	Bacchus Marsh Shire Council ..	3-phase, 50 cycles, 230/400 volts	157	9	1s. ..	6d.
Bairnsdale ..	4,000	A. H. Wood Pty. Ltd. ..	D.C., 3-wire, 230/460 volts ..	370	30	9d. ..	4d.
Ballarat ..	38,500	Electric Supply Co. of Victoria Ltd.	D.C., 3-wire, 220/440 volts ..	3,369	318	Flat rate, 9d.; M.D., 9d. and 5d	3½d. and 1½d.
Benalla ..	3,000	Benalla Shire Council ..	3-phase, 50 cycles, 230/400 volts	300	50	10d. ..	5d.
Bendigo ..	33,170	Electric Supply Co. of Victoria	D.C., 3-wire, 220/440 volts ..	3,170	211	Flat rate, 9d.; M.D., 9d. and 5d.	4d. and 1½d.
Beulah ..	550	Karkaroo Shire Council ..	D.C., 3-wire, 230/460 volts ..	101	12	1s. 4d. ..	9d.
Birchip ..	1,000	Birchip Electric Supply Co. ..	D.C., 2-wire, 230 volts ..	160	10	11d. ..	10d.
Boort ..	600	Boort Co-operative Butter Co.	D.C., 2-wire, 230 volts ..	130	4	1s. ..	4½d.
Brunswick ..	45,332	Brunswick City Council ..	3-phase, 50 cycles, 230/400 volts. (Supplied in bulk by Melbourne City Council)	6,320	180	Flat rate 6d. <i>Sliding</i> <i>scale.</i> — First 500 units per mth., 6d per unit.; all over, 3½d. per unit	Flat rate 2d. per unit. <i>Sliding</i> <i>scale.</i> —First 2,000 units per month., 2d. per unit; next 4,000 units per mth., 1½d. per unit; all over 6,000 units, 1½d. per unit
Camperdown	3,300	Hampden Shire Council ..	D.C., 2-wire, 230 volts ..	333	120	1s. ..	5d.
Carrum, &c. ..	5,000	Carrum Electric Supply Co. ..	1-phase, 50 cycles, 230/400 volts. (Supplied in bulk by Melbourne Electric Sup- ply Co.)	1,100	None	8d. ..	2d.
Casterton ..	1,500	Casterton Electric Supply Co. .	D.C., 2-wire, 230 volts ..	250	15	10½d. ..	7½d.
Castlemaine ..	5,000	Castlemaine Electric Supply Co.	D.C., 3-wire, 230/460 volts	431	38	1s. to 9d.	4½d.
Charlton ..	1,360	Charlton Electric Light and Power Co.	D.C., 2-wire, 230 volts ..	240	61	1s. to 9d.	4½d.
Coburg ..	20,973	Coburg Town Council ..	3-phase, 50 cycles, 230/400 volts. (Supplied in bulk by Melbourne City Council)	2,199	51	Flat rate, 6d. <i>Sliding</i> <i>Scale.</i> — 6½d. to 4d.	<i>Heating</i> , 3d. per unit. <i>Power.</i> — (a) 2½d. per unit. (b) For power con- sumed between midnight and 5 a.m. next day.— First 500 units per mth., 2½d. per unit; next 3,000, 2d. per unit; over 3,500, 1½d. per unit
Cobram ..	900	Tungamah Shire Council ..	2-wire, 230 volts, D.C. ..	126	7	1s. ..	8d.
Cohuna ..	200	Federal Milk Pty. Ltd. ..	2-wire, 230 volts, D.C. ..	150	2	9d. ..	6d.
Colac ..	4,750	State Electricity Commission of Victoria	3-phase, 50 cycles, 230/400 volts	450	22	8d. ..	2d. to 4d.
Coleraine ..	840	Coleraine and Western District Butter Factory Co.	D.C., 2-wire, 230 volts ..	136	6	1s. ..	1s.
Daylesford ..	3,357	India Rubber, G.P., and Tele- graph Works Co.	D.C., 3-wire, 230/460 volts ..	360	30	10d. ..	5d.
Dimboola ..	1,000	Dimboola Shire Council ..	D.C., 3-wire, 230/460 volts ..	255	84	1s. 2d. ..	7d.
Dandenong ..	4,000	Dandenong Shire Council ..	1-phase, 230/460 volts. (Sup- plied in bulk by the State Electricity Commission)	550	..	11d. and 9d.	4d. and 3d.
Donald ..	1,500	Donald Shire Council ..	D.C., 2-wire, 230 volts ..	313 Total	9d.	9d. ..	5d. to 4½d.
Doncaster ..	1,300	Doncaster Shire Council ..	1-phase, 50 cycles, 200/400 volts. (Supplied in bulk by Melbourne Electric Supply Co.)	240 Total	7d.	7d. ..	3d.
Drouin ..	750	Drouin Co-operative Butter Fac- tory Co. Ltd.	D.C., 2-wire, 230 volts ..	150	15	9d. ..	4½d.
Eaglehawk ..	..	Eaglehawk Borough Council ..	D.C., 3-wire, 230/460 volts ..	640 Total	9d.	9d. ..	4½d. to 1½d.
Elmore ..	700	Elmore Electric Light and Power Co.	D.C., 3-wire, 230/460 volts ..	142	..	1s. ..	..
Essendon ..	37,500	State Electricity Commission of Victoria	D.C., 220/440 volts; and 3-phase, 50 cycles, 230/400 volts. (Bulk supply Mel- bourne City Council at 6,000 volts)	6,500 Total	5½d.	5½d. ..	3½d. to 1½d.
Euroa ..	1,800	Euroa Shire Council ..	D.C., 2-wire, 230 volts ..	293	17	9d. ..	6d.
Frankston ..	792	Frankston Shire Council ..	1-phase, 230/460 volts, 50 cycles. (Bulk supply State Electricity Commission)	200	..	10d. ..	6d.

APPENDIX No. 2—continued.

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

Undertaking.	Popula- tion.	Supply Authority.	System of Generation and Distribution.	Consumers.		Present Price per kw. hour.	
				Lighting.	Other Pur- poses.	Lighting.	Power.
Footscray ..	36,470	Footscray City Council ..	1-phase, 50 cycles, 230/400 volts. (Supplied in bulk by Melbourne City Council)	7,000	..	5d. ..	Heating, &c.— Flat rate, 2d. per unit. <i>Industrial Power.</i> — First 1,000 units per mth., 2d. per unit; next 4,000, 1½d. per unit; next 4,000, 1¼d. per unit; and there- after 1d. per unit
Ferntree Gully, &c.	..	J. A. Newton ..	1-phase, 50 cycles ..	280	..	10d. ..	6d.
Geelong ..	33,400	Melbourne Electric Supply Co. Ltd.	D.C., 230/460 volts, and 3-phase, 50 cycles, 230/400 volts	4,875	Total	10d. to 4d.	4½d. to 2d. or 0·7d.
Gisborne ..	600	Gisborne Shire Council ..	D.C., 2-wire, 230 volts ..	105	..	9d. ..	4d.
Hamilton ..	5,000	Hamilton Electric Supply Co...	D.C., 2-wire, 230 volts ..	640	60	10d. to 8d.	6d. to 2½d.
Healesville ..	2,600	Healesville Shire Council ..	3-phase, 50 cycles, 230/400 volts	225	49	10d. to 6d.	4d. to 3d.
Heidelberg ..	16,000	Heidelberg Shire Council ..	1-phase, 50 cycles, 200/400 volts. (Supplied in bulk by Melb. Elec. Supply Co.)	2,555	44	First 200 units per mth., 5½d. per unit; all over 200 units per mth., 4d. per unit	First 200 units per mth., 2½d. per unit; all over 200 units per mth, 2d. per unit
Heathcote ..	1,100	McIvor Shire Council ..	D.C., 2-wire, 230 volts ..	172	6	1s. ..	6d.
Heyfield ..	600	Heyfield Butter Factory Co. ..	D.C., 2-wire, 230 volts ..	130	..	9d. ..	5d.
Hopetoun ..	490	Karkaroc Shire Council ..	D.C., 2-wire, 230 volts ..	90	14	1s. 4d. ..	9d.
Horsham ..	4,000	Horsham Electric Supply ..	D.C., 3-wire, 230/460 volts ..	656	40	10d. ..	5d.
Inglewood ..	1,100	Inglewood Borough Council ..	D.C., 2-wire, 230 volts ..	90	40	10d. ..	8d.
Jeparit ..	700	H. J. W. Block ..	D.C., 2-wire, 230 volts ..	134	4	1s. ..	6d.
Kerang ..	2,300	Kerang Shire Council ..	D.C., 2-wire, 230 volts ..	413	Total	9d. ..	4d.
Kilmore ..	1,100	Kilmore Shire Council ..	D.C., 2-wire, 230 volts ..	156	7	10d. and 1s.	7d.
Koroit ..	..	Koroit Borough Council ..	D.C., 2-wire, 230 volts ..	135	7	10d. ..	6d. to 3d.
Kyabram ..	2,000	Kyabram Butter Factory ..	D.C., 3-wire, 230/460 volts	274	78	10d. ..	7d.
Kyneton ..	3,200	Kyneton Borough Council ..	A.C., 3-phase, 50 cycles, 230/400 volts	304	73	1s. ..	6d. to 4d.
Korumburra	2,500	Poowong and Jeetho Shire Council	D.C., 2-wire, 230 volts ..	350	55	10d. ..	5d.
Lorne ..	250	Winchelsea Shire Council ..	D.C., 2-wire, 115 volts ..	73	..	1s. 3d.	..
Leongatha ..	1,800	Leongatha Butter and Cheese Factory Co.	D.C., 2-wire, 230 volts ..	191	109	10d. ..	4d.
Lilydale Shire	9,500	Lilydale Shire Council ..	1-phase, 200 and 400 volts, and 230/460 volts. (Sup- plied in bulk by State Electricity Commission and Melbourne Electric Supply Co.)	687	73	1s. and 7d.	4d. and 3½d. to 2d.
Maffra ..	1,500	Maffra Shire Council ..	D.C., 2-wire, 230 volts ..	210	40	1s. and 8d.	5d.
Mansfield ..	650	Mansfield Shire Council ..	D.C., 2-wire, 230 volts ..	176	6	11d. ..	8d.
*Metropolitan Suburbs	437,200	Melbourne Electric Supply Co. Ltd.	1-phase, 4,000 volts, 50 cycles, 200/400 volts	66,761	2,560	(a) S.S., 5¼d. per unit for first 500 units per month, and 3¼d. per unit there- after; (b) 7d. per unit for first 450 hours' use per annum of M.D., and 3¼d. per unit thereafter	(c) 2½d. to 8d. with coal clause; (d) 2½d. per unit for first 80 hours' use per month of M.D., and 1d. per unit thereafter; (e) for all consumption between 11.30 p.m. and 7.30 a.m., 1½d. per unit, and 2½d. per unit for any consump- tion during other periods of the 24 hours
Melbourne City	106,600	Melbourne City Council ..	(1) D.C., 230/460 volts. (2) 1-phase, 50 cycles; primary, 4,000 volts; secondary, 200/400 volts. (3) 3-phase, 50 cycles; primary, 6,000 volts; secondary, 230/400 volts	14,477	Total	4½d. to 2½d. or 7d. to 1½d.	2½d. to ¾d. 2½d. to ½d.; flat rate, 2¼d.
Minyip ..	577	Dunmunkle Shire Council ..	D.C., 2-wire, 230 volts ..	120	2	1s. 2d. ..	8d. Pumping, 3d. per 1,000 gallons 6d. to 3d.
Mildura ..	3,500	Mildura Shire Council ..	D.C., 230/460 volts ..	723	Total	1s. ..	..
Mooroopna ..	1,400	Rodney Shire Council ..	D.C., 2-wire, 230 volts ..	125	30	11d. ..	7d.
Mornington ..	1,432	Mornington Shire Council ..	1-phase, 230/460 volts, 50 cycles. (Supplied in bulk by State Electricity Com- mission)	98	22	1s. ..	6d.
Mortlake ..	1,000	Mortlake Butter and Cheese Factory Co.	D.C., 2-wire, 230 volts ..	160	50	1s. ..	8d.
Murrayville ..	..	Siemering's Pty. Ltd. ..	D.C., 2-wire, 32 volts ..	2	..	1s. per 25 watt lamp per month	..

* Richmond, Prahran, St. Kilda, Malvern, Caulfield, South Melbourne, Fitzroy, Collingwood, Kew, Oakleigh, Hawthorn, Camberwell, Brighton, Sandringham, Mordialloc, Mentone, and Shire of Moorabbin.

APPENDIX No. 2—continued.

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

Undertaking.	Popula- tion.	Supply Authority.	System of Generation and Distribution.	Consumers.		Present Price per kw. hour.	
				Lighting.	Other Pur- poses.	Lighting.	Power.
Murtoa ..	1,148	Dunmunkle Shire Council ..	D.C., 2-wire, 230 volts ..	174	3	1s. ..	7d. Pumping, 3d. per 1,000 gallons
Nagambie ..	750	Goulburn Shire Council ..	D.C., 2-wire, 230 volts ..	110	36	10d. ..	6d. to 5d.
Nathalia ..	850	Numurkah Shire Council ..	D.C., 3-wire, 230/460 volts ..	181	33	1s. 4d. ..	8d.
Nhill ..	1,500	Lowan Shire Council ..	D.C., 3-wire, 230/460 volts ..	208	6	1s. 3d. ..	9d. to 6d.
Northcote ..	30,000	Northcote City Council ..	1-phase, 50 cycles, 200/400 volts. (Supplied in bulk by Melbourne Electric Supply Co.)	4,996	448	4½d. ..	2d. per unit first 2,000 units per mth.; 1½d. per unit for next 2,000; 1½d. per unit thereafter
Numurkah ..	1,230	Numurkah Shire Council ..	D.C., 2-wire, 230 volts ..	280	74	9d. ..	5d. to 3½d.
Orbost ..	2,000	Orbost Butter and Produce Co.	D.C., 2-wire, 230 volts ..	195	60	9d. ..	5d.
Ouyen ..	..	Walpeup Shire Council ..	D.C., 2-wire, 110 volts ..	15	..	9d. ..	
Nunawading Shire	13,406	Nunawading Shire Council ..	1-phase, 50 cycles, 200/400 volts. (Bulk supply by Melbourne Electric Supply Co.)	2,309	627	6d. ..	(a) Up to 250 units per mth., 2½d. per unit and 2d. per unit thereafter. (b) (For indus- trial power)—Up to 250 units per mth., 2d. per unit; 250 to 2,000, 1½d. per unit; all over 2,000, 1½d. per unit
Preston ..	11,085	Preston Shire Council ..	1-phase, 50 cycles, 200/400 volts. (Bulk supply North- cote City Council)	1,100	Total	6d. per unit for first 500 units per month, and 3d. per unit thereafter	Industrial. — First 3,000 units, per month 2d. per unit; next 4,000 units, per month, 1½d. per unit; next 8,000 units; 1½d. per unit per month; all over, 1½d. per unit. Heating and cooking, 3d. per unit
Port Melbourne	12,000	Port Melbourne Town Council..	3 phase, 50 cycles, 230/400 volts. (Bulk supply by Melbourne City Council)	1,225	175	5d. ..	First 1,000 units per mth., 2d. per unit; next 1,000 units per mth. 1½d. per unit; over 13,000 units per mth., 1½d. per unit; over 15,000 units per mth., 1½d. per unit
Rainbow ..	1,000	Rainbow Electric Supply Co. ..	D.C., 2-wire, 230 volts ..	112	..	1s. ..	1s. to 8d.
Rochester ..	2,000	Commonwealth Electric Co. Ltd.	D.C., 2-wire, 240 volts ..	355	Total	10d. to 6d.	6d. to 4d.
Rupanyup ..	550	Dunmunkle Shire Council ..	D.C., 2-wire, 230 volts ..	112	..	1s. ..	
Rushworth ..	800	Waranga Shire Council ..	D.C., 2-wire, 230 volts ..	223	7	10d. ..	6d.
Rutherglen ..	950	Rutherglen Shire Council ..	D.C., 230/460 volts ..	143	50	10d. ..	6d.
Sale ..	3,782	Sale and District Co-operative Butter and C.S. Co.	3-phase, 50 cycles, 230/400 volts	388	12	9d. ..	3½d.
Sea Lake ..	550	Wycheproof Shire Council ..	D.C., 2-wire, 230 volts ..	89	30	1s. 4d. ..	6d.
Seymour ..	2,000	Seymour Shire Council ..	A.C., 50 cycles, 3-phase 230/400 volts	267	36	10d. ..	5d. to 3½d.
Shepparton ..	4,000	India Rubber G.P. and T. Works Co.	D.C., 3-wire, 230/460 volts	523	Total	10½d. ..	5½d.
Sorrento ..	350	Flinders Shire Council ..	D.C., 2-wire, 230 volts ..	191	4	£1 per ann. per 32 cp. lamp	1s.
Sunbury ..	1,500	Bulla Shire Council ..	D.C., 2-wire, 230 volts ..	102	40	1s. 3d. to 10d.	6d. to 4d.
Sunshine ..	4,000	H. V. McKay ..	D.C., 2-wire, 230 volts ..	488	12	6½d. ..	3d.
Swan Hill ..	3,000	Swan Hill Shire Council ..	D.C., 2-wire, 230 volts ..	400	155	1s. ..	5d. to 3d.
Tatura ..	1,230	Tatura Butter Factory Co. ..	D.C., 2-wire, 230 volts ..	164	56	10d. ..	6d.
Terang ..	3,000	Hampden Shire Council ..	D.C., 2-wire, 230 volts ..	323	119	1s. 2d. ..	5d.
Toora-Foster	800	Toora-Foster Electric Co. ..	3-phase, 50 cycles; primary, 6,000 volts; secondary, 240/415 volts	50	90	10d. ..	4d. to 1d.
Wangaratta ..	3,600	Wangaratta Borough Council ..	3-phase, 50 cycles, 230/400 volts	300	50	9d. ..	4d.
Warburton ..	1,000	Upper Yarra Shire Council ..	D.C., 2-wire, 230 volts ..	120	..	9d. ..	
Wahgunyah	400	Rutherglen Shire Council ..	D.C., 2-wire, 240 volts ..	40	8	9d. ..	6d.
Warragul ..	1,800	River Latrobe Hydro-Electric Co.	3-phase, 50 cycles; primary, 23,000 volts; secondary, 230/400 volts	200	Total	8d. ..	4d. to ½d.
Werribee ..	1,500	Werribee Shire Council ..	D.C., 230/460 volts, 3-wire	151	40	1s. ..	7d. and 4d.

APPENDIX No. 2—continued.

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

Undertaking.	Popula- tion.	Supply Authority.	System of Generation and Distribution.	Consumers.		Present Price per kw. hour.	
				Lighting.	Other Pur- poses.	Lighting.	Power.
Williamstown	19,450	Williamstown City Council ..	3-phase, 50 cycles, 230/400 volts. (Supplied in bulk by Melbourne City Council)	2,783	47	5½d. . .	<i>Power and Heating.</i> —4d. for first 40 hrs.' use of con- sumers' maximum demand, and 1½d. per unit there- after (per mth.)
Wodonga ..	1,200	Wodonga Electric Supply Co.	D.C., 230 volts, 2-wire ..	186	7	9d. ..	7d.
Woodend ..	1,000	Newham and Woodend Shire Council	D.C., 230 volts, 2-wire ..	130	10	1s. ..	6d.
Wycheproof	700	Wycheproof Shire Council ..	D.C., 230 volts, 2-wire ..	116	62	1s. 3d. ..	6d.
Yarrawonga	1,500	Yarrawonga Shire Council ..	D.C., 230 volts, 2-wire ..	280	12	1s. 2d. ..	
Yarram ..	2,100	Yarram Hydro-Electric Co. ..	A.C., 3-phase; 50 cycles; primary, 11,000 volts; secondary, 230/400 volts	210	15	8d. ..	4d. to 3d.



APPENDIX No. 3.

PHOTOGRAPHS OF COMMISSION'S OPERATIONS.



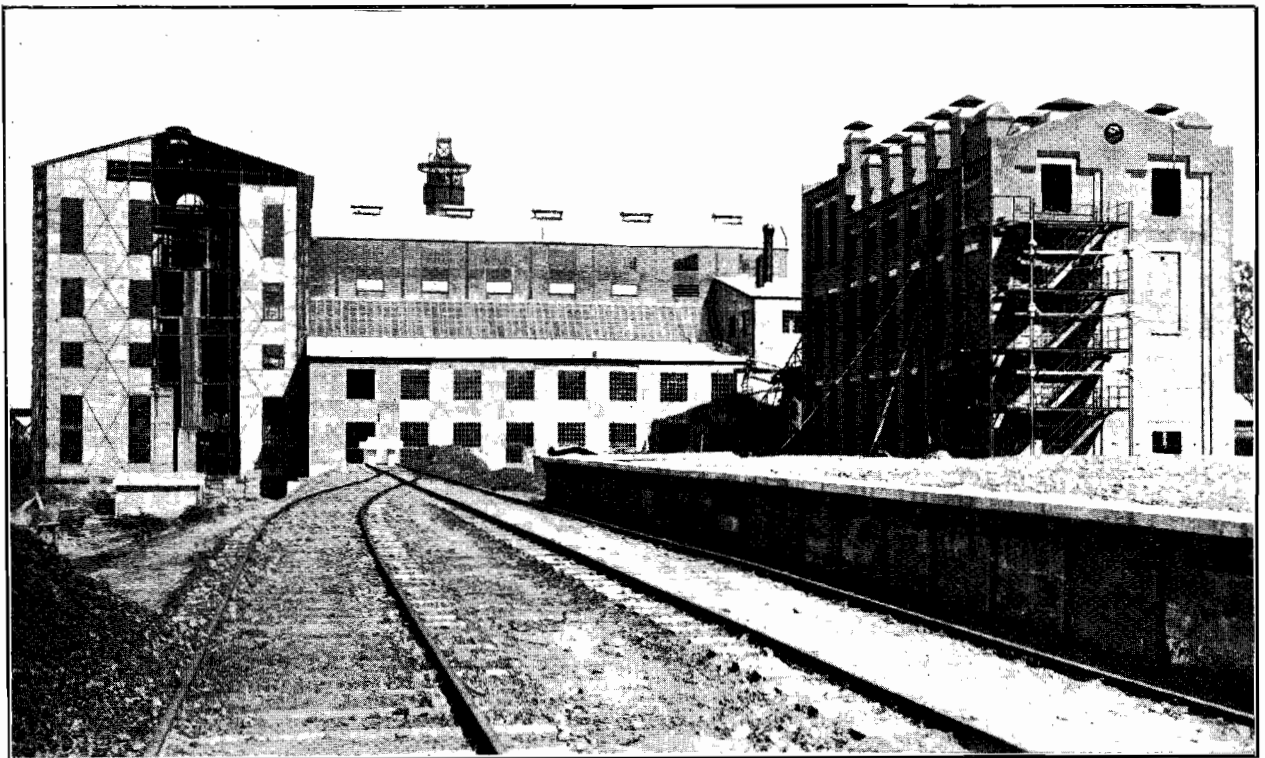
1. The Power Station Area, Yallourn.—On the right are the power station buildings showing portion of the turbine house in an advanced stage of completion, with the structural steel work of the boiler house in course of erection. The Main Workshops, Stores, &c., appear in the centre, and on the left is the coal crushing and screening house.



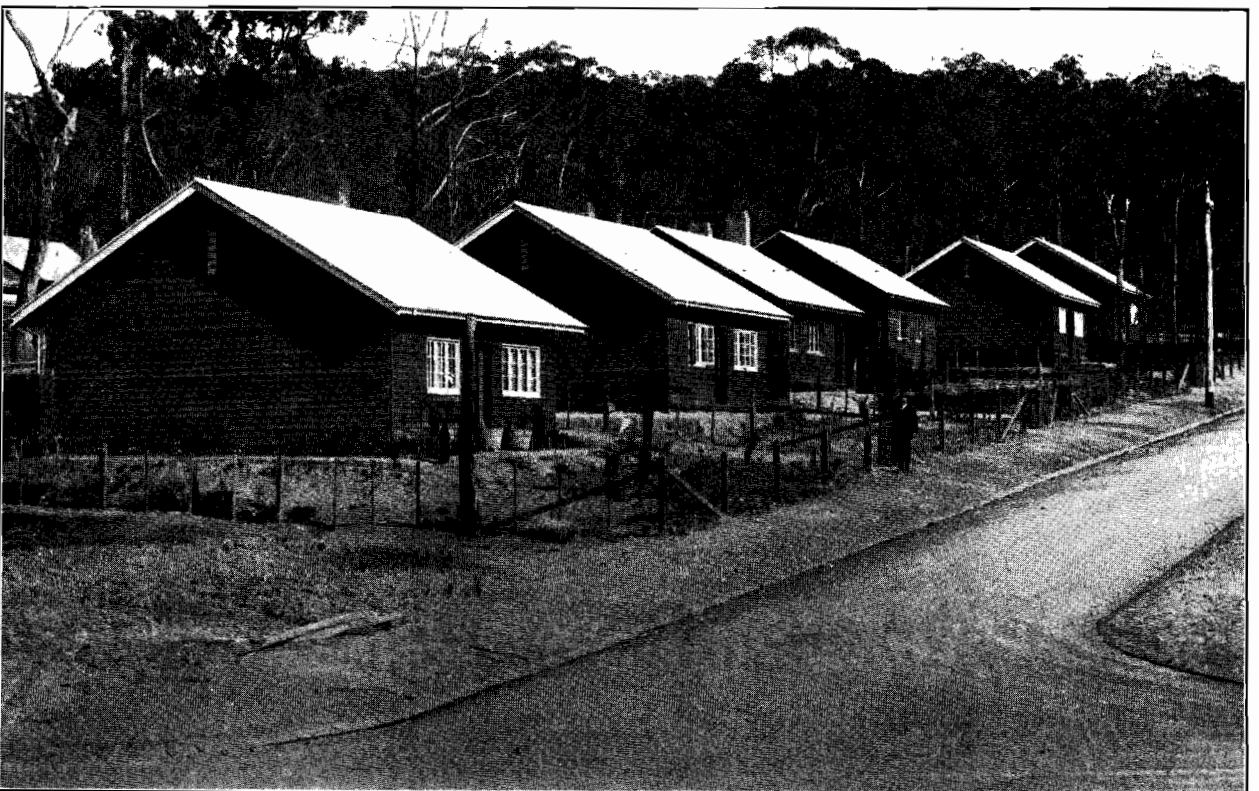
2. The Open Cut, Yallourn.—In the centre is one of the large Bucyrus shovels engaged in the process of overburden removal. The coal vertically under the area from which the overburden has been stripped is estimated at 2,000,000 tons.



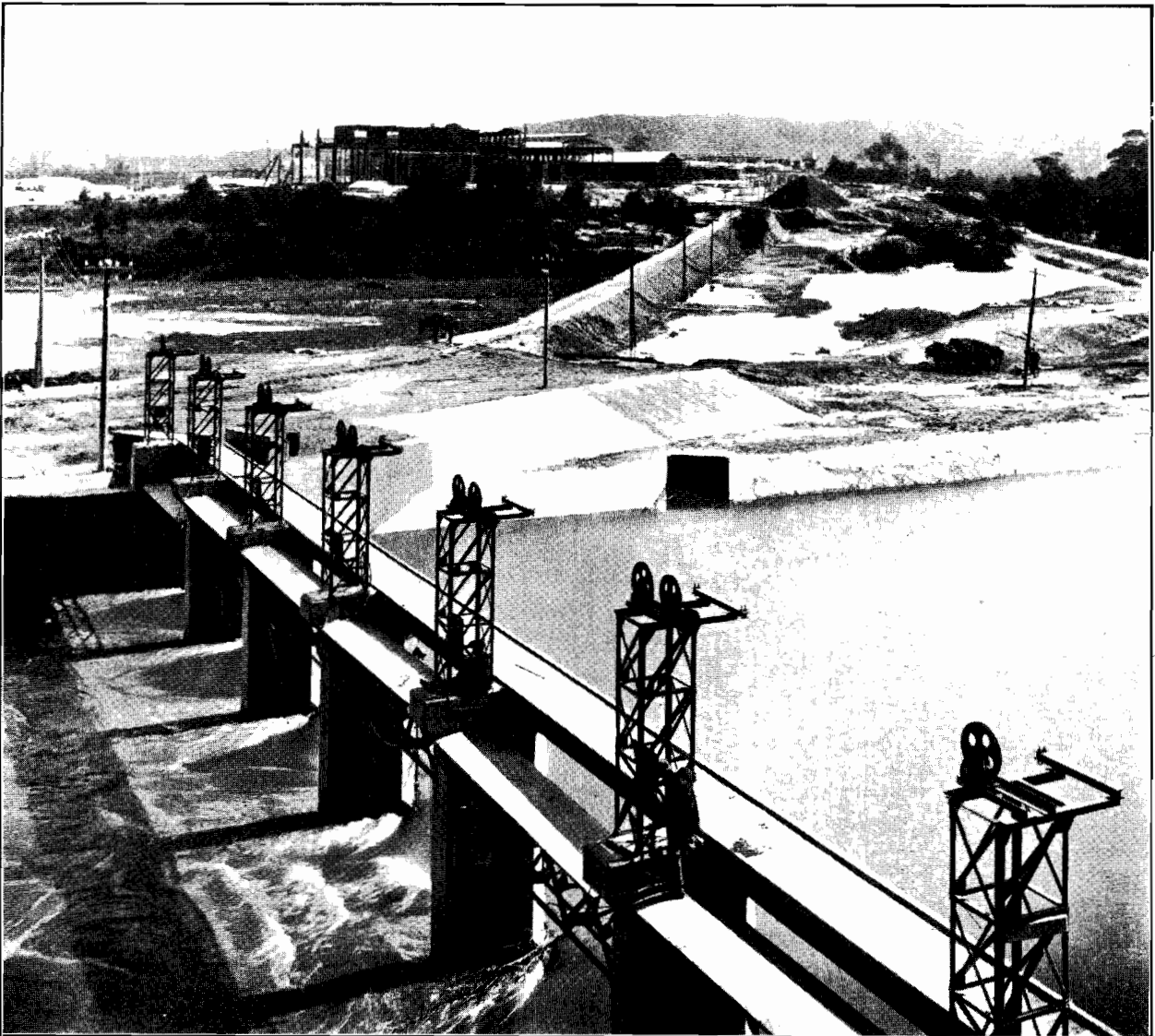
3. Briquetting Factory, Yallourn, showing structural steel for turbine and boiler house in course of erection. The concrete chimney will be 320 feet in height when completed.



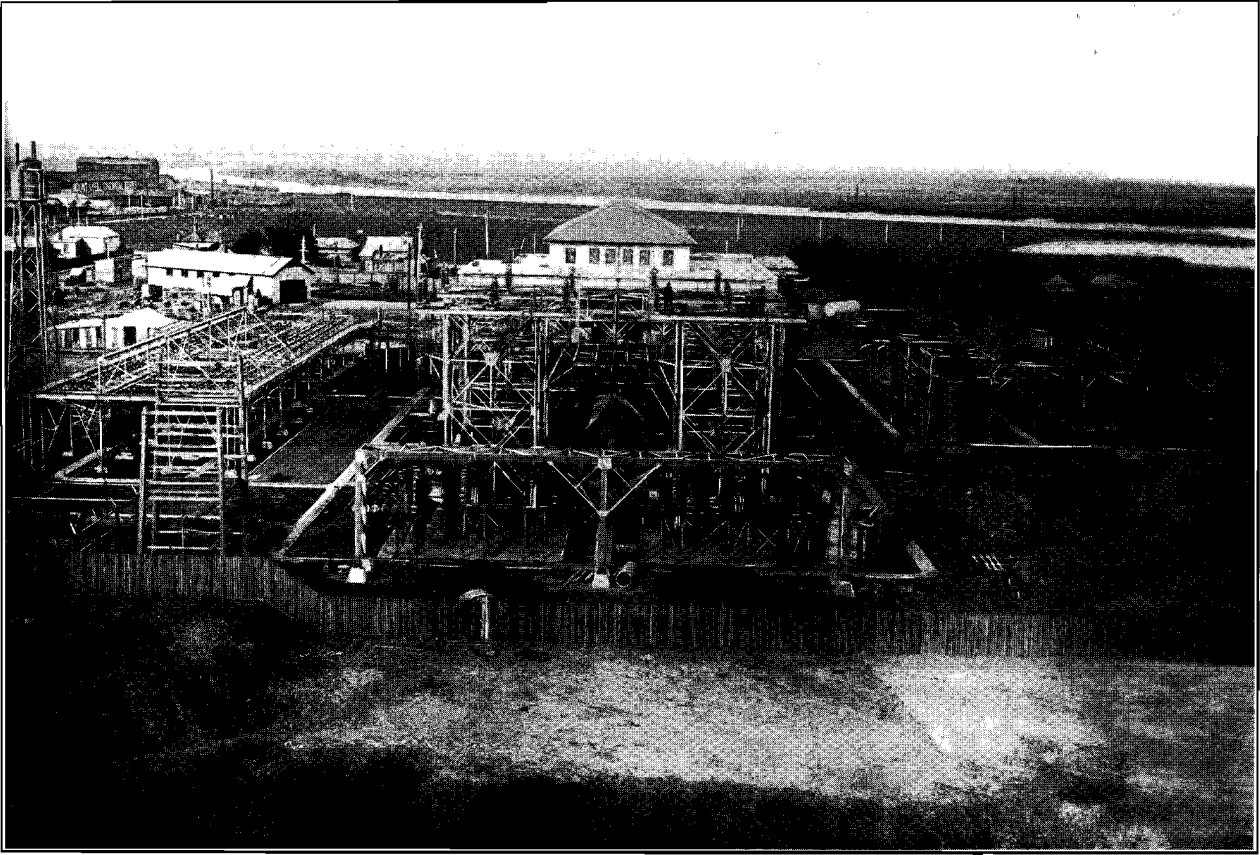
4. Another View of Briquetting Factory, Yallourn.—The wet preparation house is on the left, with the drying section in the centre. The cooling house appears on the right.



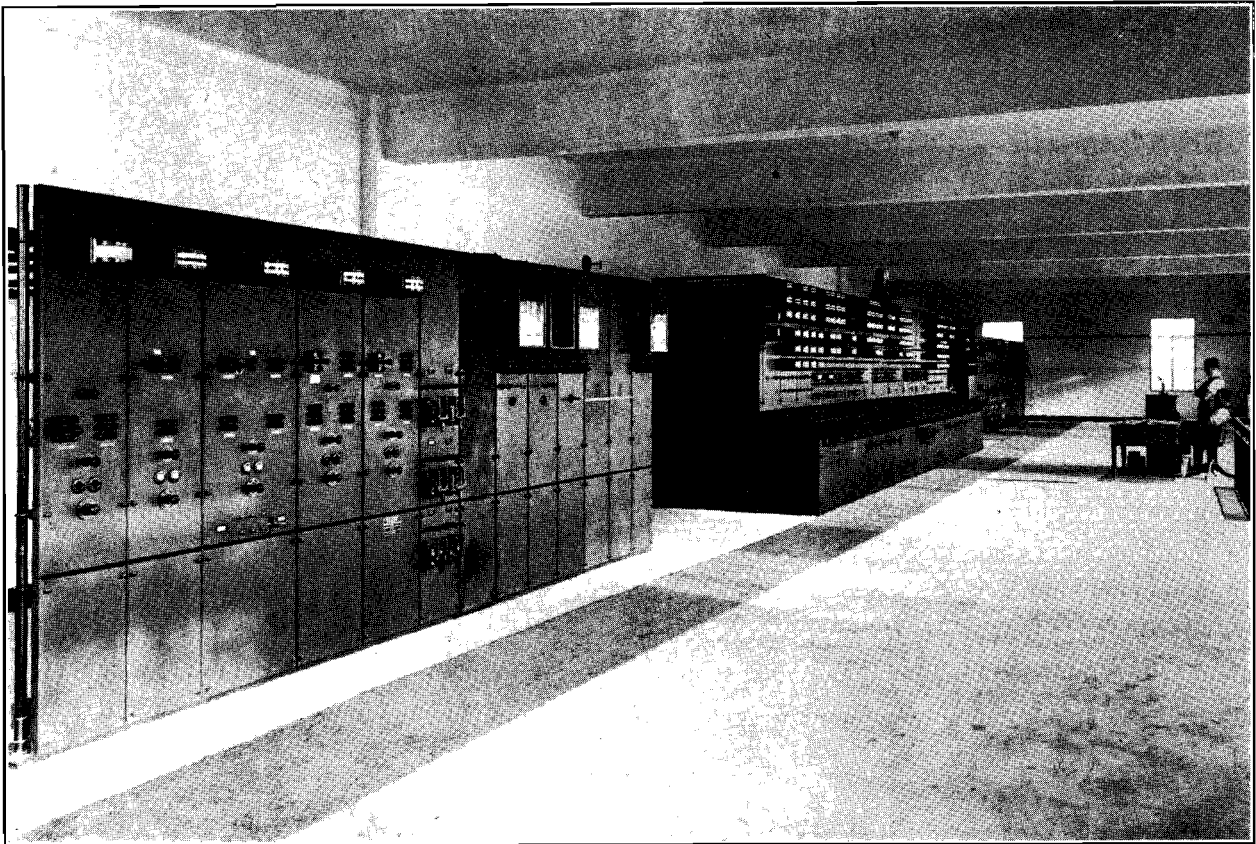
5. Views of Yallourn Township.



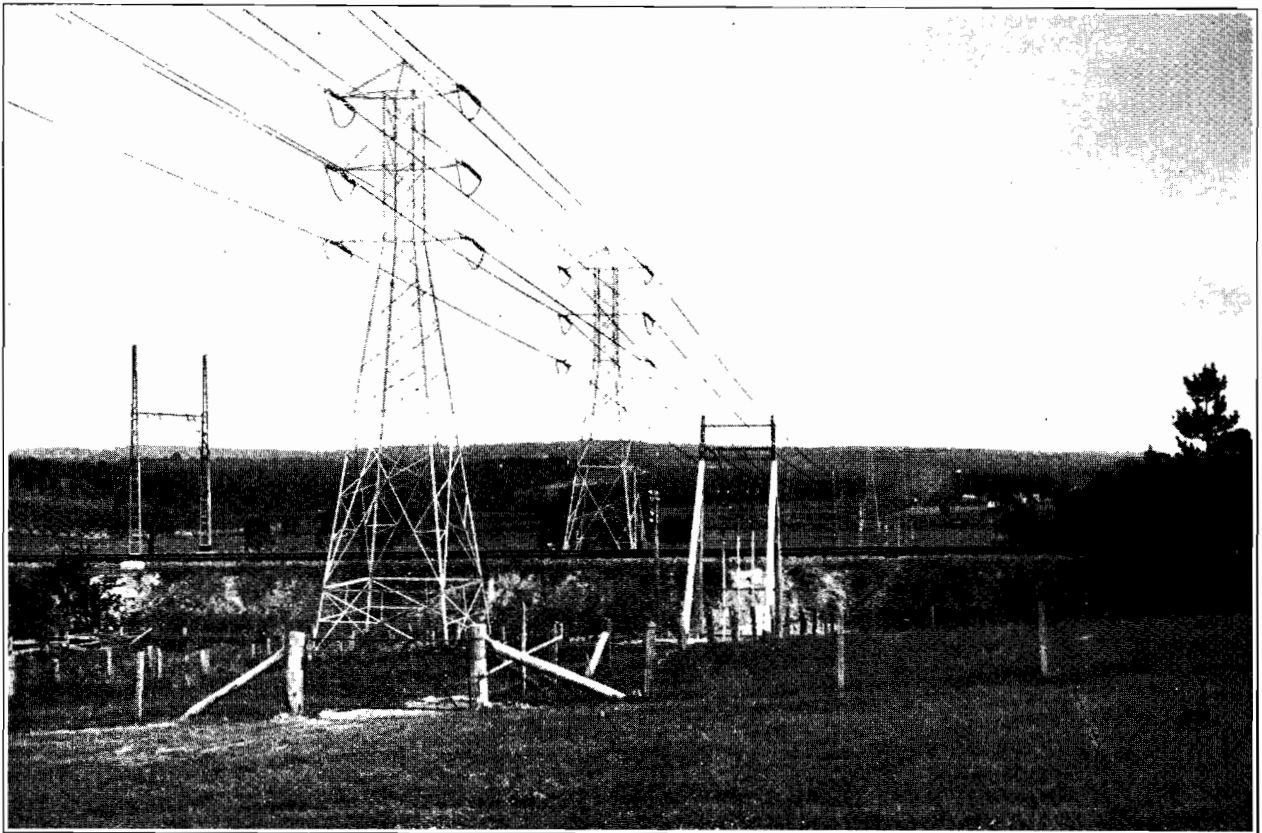
6. Weir on Latrobe River, with Levee Bank and Power Station Buildings in background.



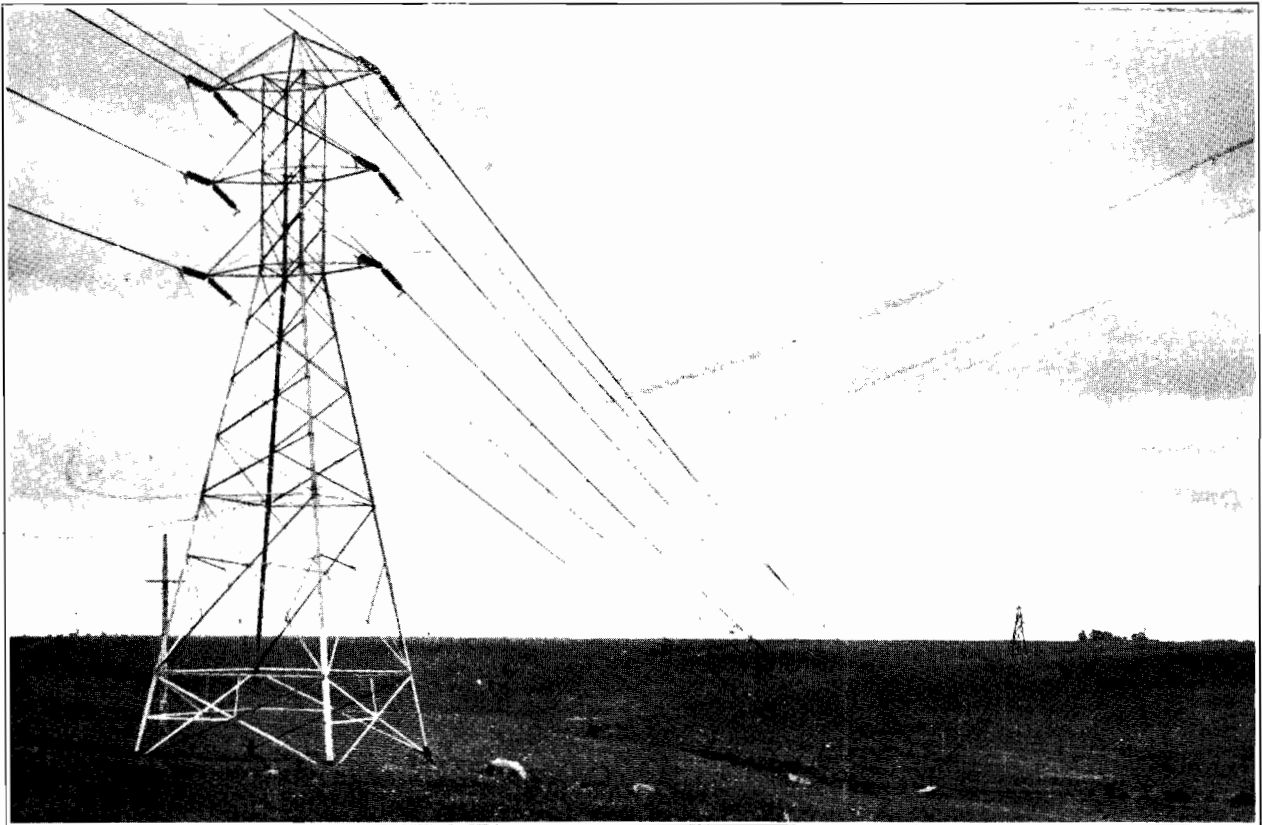
7. Yarraville Terminal Station.



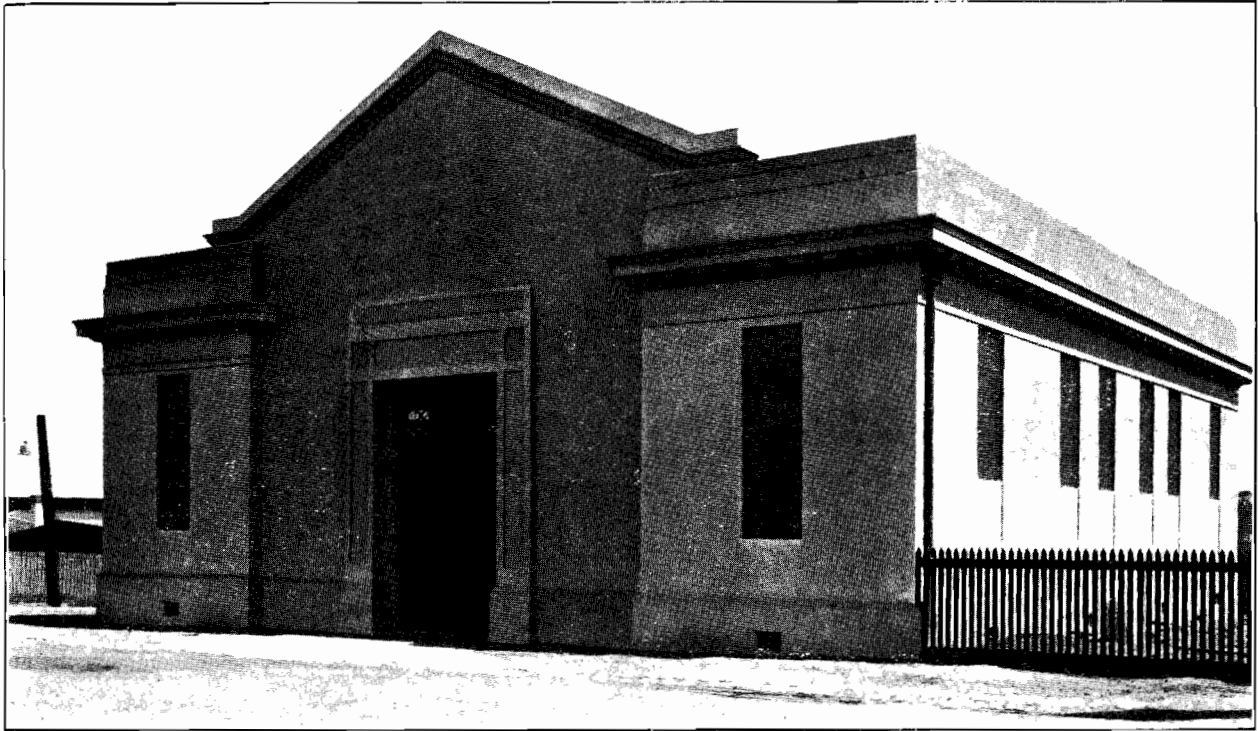
8. Yarraville Terminal Station.—Control Room.



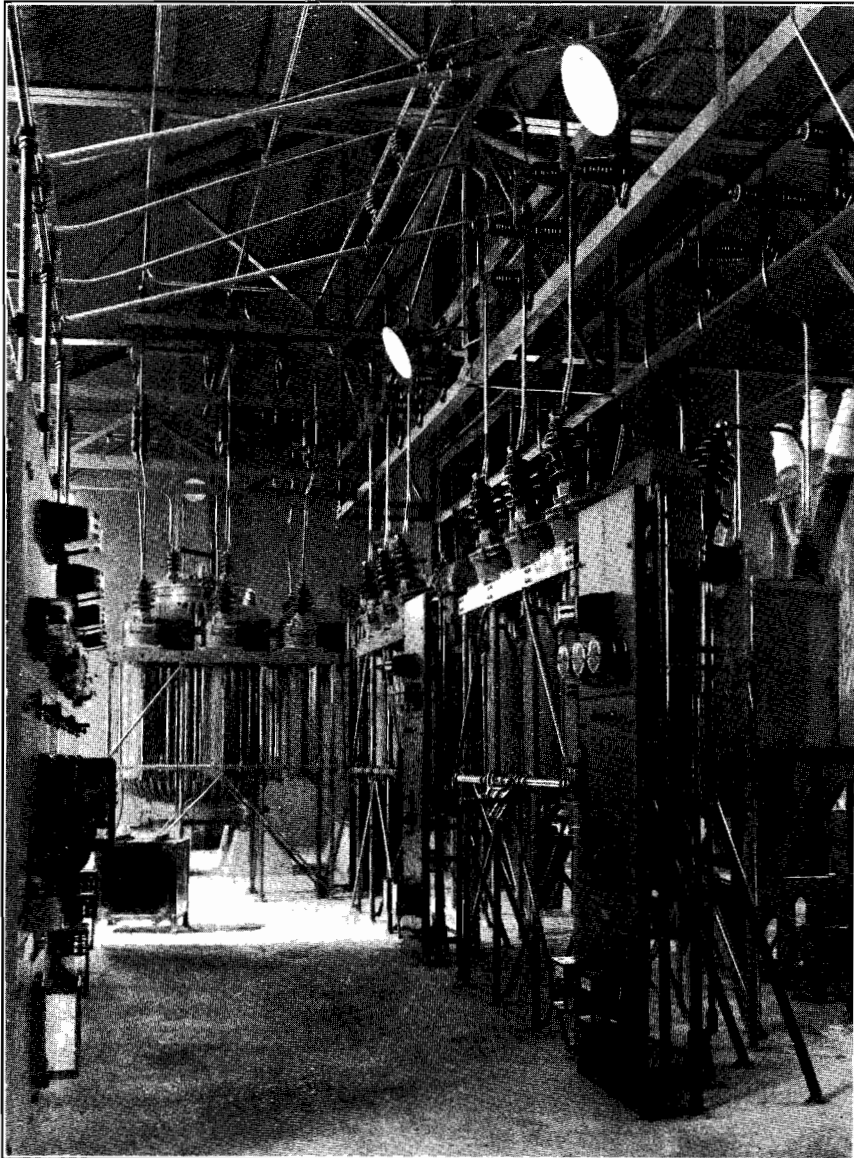
9. Yallourn-Melbourne High Tension Transmission Line. Crossing at Ringwood Railway.



10. Yallourn-Melbourne High Tension Transmission Line. Crossing Moonee Ponds Creek Valley. Span, 2,425 feet.



11. Sub-station "D" at Ascot Vale.



12. Sub-station "D," Ascot Vale, showing portion of equipment.

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