

Administration Report

Electricity Department

1933-34

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ELECTRICITY DEPARTMENT.

ADMINISTRATION REPORT FOR THE YEAR 1933-34.

At the commencement of the year under report the official inauguration of the Pykara Hydro-Electric System was performed by His Excellency the Governor. The old Hydro-Electric Development Department formed mainly for the preparation of that scheme and the construction of the works, now forms the nucleus of the new Electricity Department.

2. The first year of operation has not revealed any important defects in the design and workmanship of the Pykara Hydro-Electric Works and System. Severe weather conditions were experienced at the headworks and generally in the Nilgiris. Some small protective works had to be undertaken as is inevitable in a scheme of this type and magnitude. Slips were the cause of unexpected work on the lower bund and the penstock slopes, but apart from these minor works, it is satisfactory to record that all the works stood up well and are functioning as anticipated. The total cost of the works is Rs. 109.88 lakhs as against Rs. 133.36 lakhs the large saving on the estimates being almost entirely due to the lower cost of machinery and equipment and economy in the field, and not to any sacrifice of the important features included originally in the scheme.

3. The larger extensions—to Palghat, Avanashi and in the Anamalais—which were in progress at the time of the last report were completed. Extension of supply to Tiruchopoly was sanctioned by Government and contracts placed. Proposal for extension to Negapalam were submitted to Government. This extension is expected to supply Negapalam, Tanjore, Kumbakonam and the East Tanjore Electric Supply licensee at Tiruvarur. Small line extensions to reach out to 10 points, costing about Rs. 2.5 lakhs were undertaken. This, as has already been pointed out in previous reports, has become necessary on account of change of Government policy which has brought distribution as well as bulk supply within the ambit of the departmental activities. Approval of Government was given to a working formula for gauging the remunerative character of these extensions.

4. The conditions of load and revenue, in the face of world depression and low price of agricultural commodities which has undermined the spending power of the population, are eminently satisfactory. There is a gratifying increase in textile manufacture in Coimbatore and its environs, for which a large part of the credit should go to the hydro-electric supply. The Government policy regarding conversion loans which has enabled moneys to be advanced without delay to both new and old mills for the purchase of electrical machinery and equipment has resulted in a rapid

increase in the number of mills erected. This arrangement relieves the management of the investment on generating plant and electrical part of the mills machinery estimated to cost around 30 per cent of the total investment on plant. In some cases, the initial capital expenditure avoided on the electrical equipment has been invested in additional textile machinery, resulting in a greater demand for electricity. The low rate for power with a guaranteed maximum charge of 8 pies per unit and security of supply, due to ample spare generating plant and other safety features of the system has been another factor in the industrial development of the district. The technical knowledge of the departmental staff has been placed freely at the disposal of industrialists and it is apparent that the fact is being appreciated. The availability of hydro-electric supply has also attracted a large cement factory at Madukarai, which is expected to be in service by July 1934.

5. Another feature of the Government policy, viz., the management of the Municipal Electrification Schemes in the hydro-electric areas during the initial period of development by Government Electricity Department, has been responsible for increased interest taken in the electrification of towns. Mention was made in last year's report of three towns working and three under construction. Two of the latter are now functioning. Proposals for four more have been submitted to Government, sanction for three of which has since been received and the fourth is also likely to be taken in hand as the conditions on which the Government approval is contingent are likely to be fulfilled. In smaller towns the department has undertaken low tension distribution direct. Five such towns are now in operation. Such a policy ensures that these undertakings will be started along the right lines and gives them the benefit of highly qualified technical assistance and experienced management which the respective councils would otherwise not be able to afford.

6. Out of the three thermal stations which owed their inception to the idea of finding a market for the displaced oil engines in the hydro-electric area and at the same time building up load for future hydro-electric schemes, two (Virudhunagar and Dindigul), were completed and brought into service. The third (Palni) is expected to be brought in service during the year.

7. The idea of installing thermal generating stations for electrical and industrial development is being extended. A proposal was submitted to Government during the year (which has since been sanctioned) of erecting a generating station at Theni in Madura district and supplying the municipalities of Bodinayakanur and Periyakulam as well as the township of Theni. The engines proposed to be used for this installation are those installed in the Mettur Dam Power House.

8. It is rather difficult to foresee the future of this policy so far as the small town distributions are concerned. Whereas the municipal undertakings by agreement will be handed over eventually to the respective councils, the local bodies in the smaller

areas may have neither the means nor the technical ability to take over the distribution. It is however not generally realized that the generation and distribution of electrical energy is a highly specialized art and the benefit to the consumer and return on capital invested is directly proportional to the technical experience and ability at the disposal of the individual undertakings. The history of small supply undertakings, all the world over, would point to the benefits of central control under the department.

9. There is a general activity in the electrical field, both in and out of the hydro-electric area. A number of licences for supply have been taken out and capital is discovering the profitable character of electrical supply investments. A welcome sign is the incorporation of rural as well as urban load in some of the new applications. One licensee has an area of 911 square miles and another 1,392 square miles. The inspection work has therefore increased in volume and importance. Attempts are being constantly made to standardize the conditions of supply as well as rates, as far as possible. The total number of towns in the Presidency having electric supply at the end of the year was 45, an increase of 11 on the previous year, and 27 in the last five years. This electrical development is in no small manner due to the propaganda and publicity activities of the department. The testing work has also increased on account of the Government being concerned directly with the supply since the inauguration of the Pykara Hydro-Electric System, instead of being an inspecting agency only.

10. The work of the electric installations in Government buildings being largely a reflex of the number of towns where electric supply is available, has increased considerably. The expenditure under this head has steadily increased—it amounted to Rs. 4½ lakhs for new installations during the year making up the total capital cost of these works Rs. 39.5 lakhs—and but for the financial stringency which has affected the Government grants under this head, the expenditure would have been much greater. In apportioning the limited funds at their disposal, Government have recognized the fact that the installations in hydro-electric areas bring a small revenue to Government from sale of power, in addition to the other considerations which normally govern these grants.

11. The Periyar report was published during the year. The general conclusion was against taking up this scheme immediately because of the greater possibilities of the Mettur Hydro-Electric Scheme which therefore should rank first for consideration. But the scheme is sure to be taken up sooner or later, possibly much sooner than might have been thought a few years ago, owing to the increasing popularity of electric supply schemes.

12. Special attention was devoted to the investigation of the Mettur Hydro-Electric Scheme. A good deal of time was spent on finding a common basis for the joint use of water for irrigation and power. The original proposal of change of crop season was altered by Government which decision affected adversely the power

forming timber barriers on the hill side to prevent boulders from rolling down to the pipe line. This resulted in an unforeseen expenditure of Rs. 9,800.

19. The annual repairs to residential and other buildings were duly carried out.

20. Two new buildings were put up at the Coimbatore Receiving Station, one being the combined store room and meter and relay testing laboratory and the other, the quarters for the Assistant Engineer, Operation.

21. *Power house.*—The load on the system is still below the capacity of one generating unit and therefore it has not been necessary to have more than one generator in service for purposes of load supply. But the machines in service were interchanged at regular intervals so as to keep all the sets in running order. Voltage regulation has been somewhat of a problem due mainly to the large transmission net work being lightly loaded. With increasing load and the adoption of certain measures which are now being studied, an improvement in voltage conditions should result.

22. It was not to be expected that in a scheme of this magnitude and variety comprising a large amount of equipment, instruments, etc., of a very delicate nature, the first year of operation would be free from difficulties. But problems have been systematically studied as they presented themselves, remedial measures applied with the least possible delay, and operation procedure settled in the light of experience gained. From one point of view, it was fortunate that in the very first year, fairly severe weather conditions were experienced on the system, especially in the Nilgiris, with the result that weak spots have been discovered and rectified at this early stage. Special grounding arrangements were found necessary in the power house as an added protection against lightning and have been made by utilizing one of the power transformers at the Glen Morgan Power House. Two 1,000 K.V.A. transformers have been ordered for service to the local 11 K.V. feeders in place of the direct feed adopted at present; experience has shown the necessity of interposing a buffer between the lines exposed to severe lightning and the station busbars.

23. The total number of units generated at the power house during the year was 10,928,920. The corresponding figure estimated in the project report was 6,879,000. The greater part of the power is utilized in the Coimbatore district, fully 83 per cent of the units generated being transmitted to Coimbatore Receiving Station. Curves facing pages 4, 6, and 8 give the growth of the load and consumption at the power house and at Coimbatore.

24. *Transmission lines.*—Considerable extensions have been carried out during the year. In the tea district of the Anamalai Hills, the following factories have been connected:—

Akkamalai, Vallimalai, Karamalai, Kalliar, Pachamalai, Uralikal, Iyerpadi, and Monica,
and connexions will shortly be given to Murugalli, Shaikal-mudi, and the Ropeway. Reconnaissances have also been made

for lines to most of the remaining factories in the Anamalais including the Mudis group. The load prospects in this area are promising and it is expected that the duplication of the 22 K.V. line between Pollachi and Iyerpadi will be found necessary in the near future. The funds for this work have already been tentatively sanctioned by Government. Additional connexions to tea factories have also been made in the Nilgiris district—notably Devershola, Rockwood and Frith Hall.

25. The 11 K.V. line to Palghat was also completed during the year and supply to the Palghat licensee, the Government distribution at Podanur and the Madukarai Cement Works (temporary supply for construction purposes) given. Completion of the 11 K.V. industrial ring at Coimbatore was effected during the year, and also extensions to rural distribution. The Coimbatore Government 11 K.V. lines were also extended to the village of Suler from Coimbatore and to Avanashi from Tiruppur. Supply to Erode and Salem including the South Indian Railway at the former place was given direct from Pykara during the year.

26. *Distribution schemes.*—At the close of the year under review, the following distribution schemes are in actual and effective operation under supply from Pykara:—

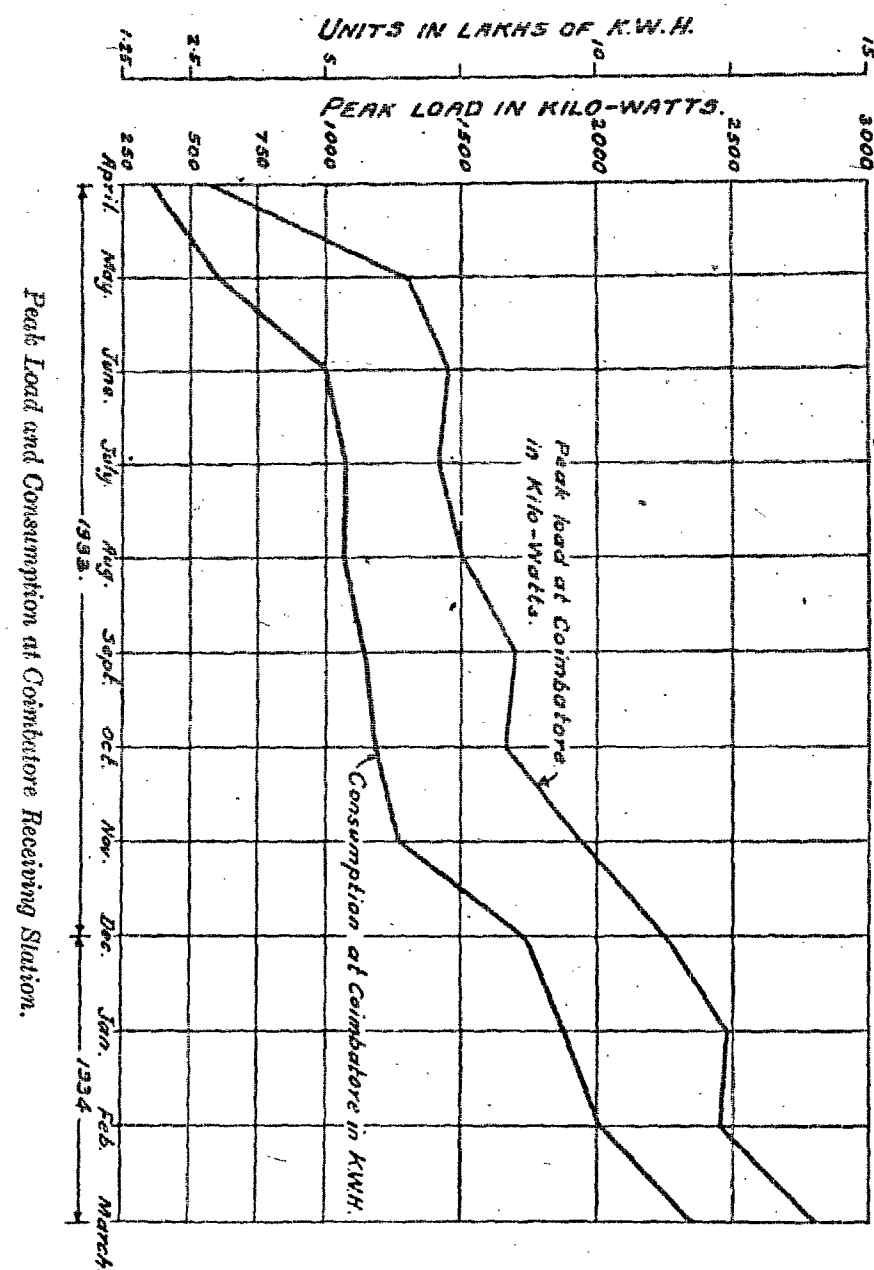
Coimbatore, Pollachi, Tiruppur, Singarampalayam, Peelamedu, Singanallur, Suler, Podanur, Mettupalayam, Karanadai, Uppilpalayam, Sowripalayam, Avanashi, Anuppapalayam, Bhavani, Ootacamund and Coonoor,

and extensions to the following places are under consideration and will probably be taken up for construction in the near future:—

Palladam, Dharapuram, Udamalpet and Vellakinar.

27. The following statement gives the details of the lines and transformer stations brought in service during the year:—

Serial number and name of line.	Length of line in miles H.T.	Length of line in miles L.T.	Transformer capacity.
1 Anamalais	13 miles (22 K.V.).	..	..
2 Avanashi	8	3	62.5 and 25 K.V.A.
3 Anuppapalayam	..	1.5	10 K.V.A.
4 Suler	5	4	25 "
5 Ondiputhur	..	..	25 "
6 Tie line Ginning factory ..	1	1	25 "
7 Dhandapani stores	..	1	75 "
8 Uppilpalayam	1.0	2 1/2	50 "
9 Sowripalayam	1.0	1.0	25 "
10 Forest College	..	..	25 "
11 Agricultural College	..	1 1/2	50 "
12 Sugar factory, Podanur	..	..	75 "
13 Peelamedu distribution	..	4	50 "
14 Kaleswarar Mill	..	..	250 "
15 Somasundaram Mills	..	..	250 "
16 Singanallur	..	1 1/2	10 "
17 Mills on Avanashi road	..	..	25 "
18 Central Jail line	..	..	..
19 Inside Central Jail	..	..	25 K.V.A.
20 Service line to Pankaja	..	..	2 x 250 K.V.A.
21 Mettupalayam extension	Extension of 66 street lights additional.		



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Serial number and name of line.	Length of line in miles H.T.	Length of line in miles L.T.	Transformer capacity.
22 Karamadai	Extension of	24 street lights	additional.
23 Coimbatore Municipal	Do.	18	do.
24 Pollachi do.	Do.	4	do.
25 Bhavani	Do.	3	do.
26 Singarampalayam			50 K.V.A.
27 Podanur street lights		3	15 do.
Total 22 K.V. lines		13 miles.	
" 11 K.V. "		18½ miles.	
" 400 volts		46½ miles.	
Transformers		22 Nos.,	total capacity 1647½ K.V.A.

28. *Medical.*—Medical arrangements at the headworks continue to be satisfactory and the special attention paid to anti-malarial measures at Singara have justified themselves as it is seen from the reduced number of infections.

29. The question of medical attention to the members of the staff living in the fever-stricken areas of the Anamalais and the foot-hills of the Nilgiris is receiving the attention of the medical authorities.

30. *Commercial.*—Considering general economic conditions, commercial progress during the year has been very satisfactory. In the Coimbatore district 9 H.T. Mill consumers with a connected load of nearly 5,000 h.p. were given service during the year, the first being given in July 1933. Low tension industrial power loads have developed steadily, the total connected horse-power now connected in the Coimbatore area is over 1,200 h.p. Additional power loads are being canvassed with satisfactory results, and it is anticipated that a total of 10,000 h.p. in connected load will be reached and probably supplied before the end of 1934-35. House service connexions are also increasing but not as rapidly as one might wish. This is probably due to general depression, for it is unquestionable that the people in general are now more fully alive to the benefits and economy of electricity both in industry and in the home. Load is developing satisfactorily in the tea planting districts of the Anamalais and the Nilgiris, and it is hoped that the large group of factories in the Wynad district will start to electrify in the near future.

The approximate connected load in categories is as follows :—

	Horse-power.
H.T. mill load	4,700
L.T. industrial and ginning	1,170
Tea factories	950
Pumping	200
Miscellaneous	200
Total	7,260

The total number of units distributed during the year was 9,669,203 against 6,594,000 units estimated in the project report.

A summary of the results of the year's working is given on page 10.

31. Agricultural pumping has great load possibilities in the Coimbatore area but nervousness has been expressed about the

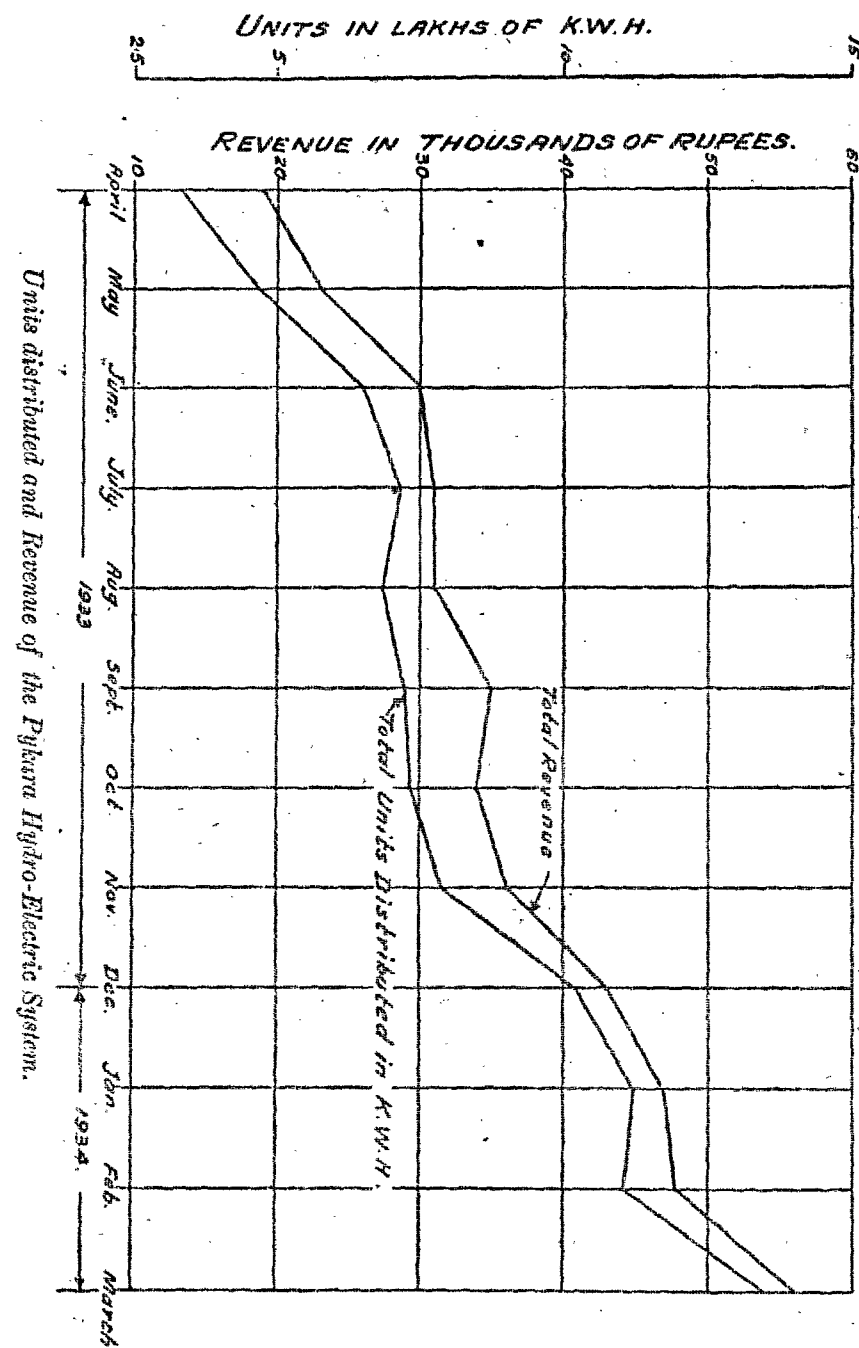
effect of electric pumping on subsoil water levels. Local opinion considers that the water table varies with the seasonal rains and that no permanent decrease of importance in the level has taken place during the past few years. No organized campaign has been started to canvass this class of load but to date 43 installations totalling 264 h.p. are in operation or have signed agreements, while another 300 h.p. is expected during the year.

32. The Coimbatore Cement Works are expected to be connected up by July 1934. This should add about 1,000 h.p. to the system load.

33. In view of the low prices of commodities and exceedingly cut prices adopted by the Oil Companies in the areas served by hydro-electric power, the rates had to be revised to make the use of electric power more attractive to the low tension power consumers. Occasion was taken to recast the frame work of some parts of the tariff to make provision for certain special loads like ginning which is essentially a seasonal load and therefore cannot stand a demand charge for all the twelve months in the year. The rates for tea estates were also materially modified in order to encourage the use of electric power for drying and withering the leaf. The manufacturing firms specializing in the electrical equipment of tea factories have devoted special attention to Anamalais recently and it is felt that the new rates would result in a large increase in load.

34. Special mention has to be made of the operation of the conversion fund and the utilization of the blanket grant for small extensions. The establishment of a conversion fund to assist existing industries to change over to use of electric power by means of loans against electric plant was accepted as an integral part of the original Pykara Report. Depressed conditions of business and the very big drop in price of Diesel oil altered its character somewhat so that pro tem loans are advanced to new textile mills who propose using electric power as well as old established industries, for which it was originally intended. The first instance of the loan was not a conspicuous success as the mill went into liquidation soon after the electrical plant was installed. The mill has however changed hands and the new management have discharged all current liabilities. This mill is expected to take power to the full capacity in the near future. The other mills are operating satisfactorily. It may be safely stated that the existence of this fund coupled with the availability of cheap electric power has at least expedited, if not actually caused, the establishment of four textile mills in the Coimbatore district and three more will probably materialize for the same reason.

35. It was felt that a lump sum provision was necessary in the budget for extensions which would come up during the year as is customary in all commercial undertakings. It was admitted that the normal Government procedure of sanction was not suitable as such extensions have usually to be undertaken at short notice, and a



decision to be given quickly if the department is to compete successfully with other sources of power. Rules for such extensions were submitted to Government and approved. Under these rules an extension was considered remunerative if the estimated revenue during the first eight years covered the capital cost. It was hoped that this would result in greatly simplifying the procedure and expediting the work. Unfortunately the working of the system has not been up to expectation. The delay caused by the scrutiny in the Secretariat before sanction of Government was accorded has at times been disadvantageous to rapid commercial development. Instances of anticipating Government sanction in order to avoid loss of revenue have been more frequent than should be the case in a properly systematized procedure and although the Government have treated these instances with tolerance, it is not a state of affairs which can be retained as a permanent feature of the Pykara working. In the circumstances the obvious course is to vest the Chief Engineer with powers of administrative approval up to a reasonable figure, having in mind normal commercial procedure and the conditions of working.

36. *Office organization.*—In spite of the progress which has been made and extensions carried out, the establishment has not been increased during the past year; as a consequence the greater part of the staff is overworked. This particularly refers to the Central office at Coimbatore where the organization, due to inadequate staff, leaves much to be desired. An application for additional staff has been made but to date their employment has not been sanctioned. The position regarding the accounting system, from a commercial point of view, cannot be regarded as altogether satisfactory. In a large and growing commercial undertaking like the Pykara costing over a crore of rupees, the obvious course would seem to be to evolve a commercial procedure on the lines of large company undertakings of similar nature, the position of the Accountant-General being that of the chartered accountant of a company. The Accountant-General himself suggested the adoption of commercial procedure in his note on appropriation accounts of 1930-31, but the department's proposals on these lines providing for a Chief Accountant of gazetted rank under the control of the Chief Engineer have not been accepted by Government and a temporary experimental arrangement ordered in its place. The experiment consists of posting a divisional accountant who acts as the Accountant-General's primary auditor for Government expenditure and revenue and a municipal accountant under the department's control the audit details for whose work have not yet been settled. This is, in effect, an attempt to adapt the whole administration of the Pykara system to the existing system of Public Works Department accounts whereas logically the accounting system should be adapted to the most suitable administrative procedure. Moreover the Government and municipal work is of identical character so far as low tension distribution and consumers are concerned and there is a probability of two types of audit for the same type of work, executed and supervised by the same engineering staff.

37. The results of the first year's working compared with the forecast in the project report are as follows :—

	Capital expenditure.	K.W.H. distributed.	Gross revenue.	Operation and maintenance expenses.	Net revenue.
	RS.		RS.	RS.	RS.
Project report ..	1,33,36,000	6,534,000	3,38,160	2,62,000	76,160
Actual ..	1,09,88,000	9,669,203	3,76,300	2,40,800	1,35,500

MUNICIPAL ELECTRIC SUPPLY UNDERTAKINGS.

38. The progress of these undertakings was generally satisfactory. The average consumption of electricity for domestic purposes was hardly up to expectations but, when the necessary staff is available, an attempt will be made to develop this load. The small industrial power load might be considered satisfactory, especially at Tiruppur, in view of the competition from other sources of power and low prices. This applies to all distribution centres. In order to meet this competition rates for this class of load have had to be reduced.

39. (a) The public lighting systems in each town have been extended during the year and the municipal councils have generally shown a progressive tendency to increase the use of electricity within their jurisdiction. Tiruppur has the highest connected public lighting load per head of population.

(b) The following statistics may be of interest indicating as they do the commercial progress of these undertakings during the past year :—

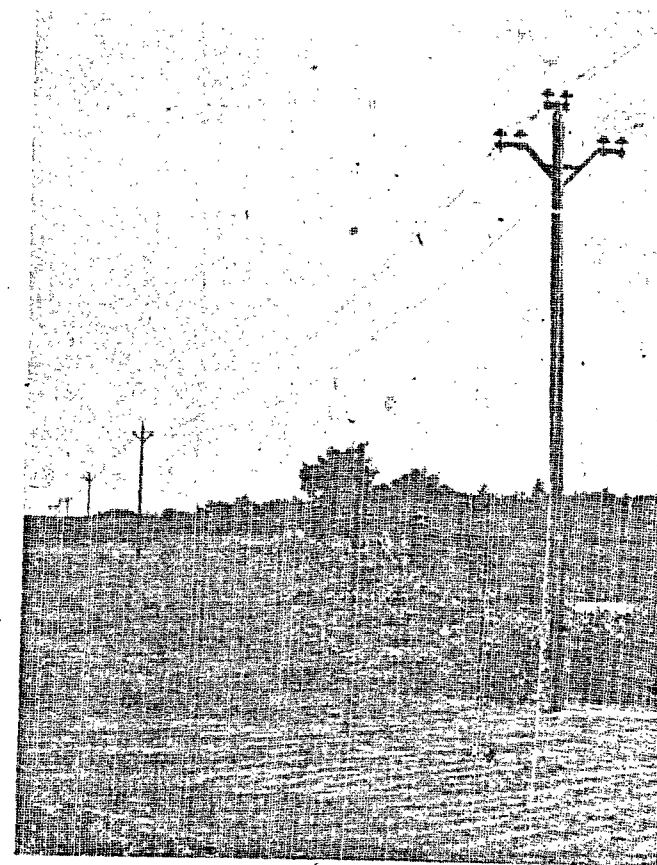
	Monthly consumption of electricity K.W.H.	Number of consumers.		Public lighting. Watts connected per head of population.	Gross revenue.
		Domestic.	Small power.		RS.
Coimbatore (population 95,000).					
April 1933 ..	49,210	915 *	3 (166 horse-power).	..	8,041
March 1934 ..	62,850	1,204	16 (282 ..)	884	10,823
Tiruppur (population 18,000).					
April 1933 ..	12,240	96	3 (45 horse-power).	..	972
March 1934 ..	22,625	228	17 (418 ..)	1,410	3,333
Pollachi (population 22,000).					
April 1933 ..	9,515	87	..	..	763
March 1934 ..	14,696	257	8 (225 horse-power).	984	2,249

* 507 were taken over from Mr. Vincent.

A summary of the balance sheet for 1933-34 is as follows :—

	Capital expenditure to date.	Gross revenue.	Operation and maintenance expenses.	Net revenue.
	RS.	RS.	RS.	RS.
Coimbatore ..	4,42,671	1,33,294	78,470	54,824
Tiruppur ..	1,22,192	36,984	30,647	5,439
Pollachi ..	1,56,395	28,058	24,767	3,291

(c) The general attitude of the Municipal Chairmen and Commissioners whose electric supply undertakings are being managed by the department is progressive, and the work of the department has been facilitated by their generous response to the various proposals placed before them from time to time for the extension and improvement of the distribution systems.



Typical Rural Line, cost about Rs. 1,750 per mile.

DINDIGUL AND VIRUDUNAGAR POWER-SUPPLY SCHEMES.

40. Power stations and distributing systems on which a beginning was made last year were completed and brought in service during the year under report. The civil engineering part of the work was supervised by the Executive Engineer, Civil Engineering Division, Madras, and the electrical by the Electrical Engineer (General), Madras. The Dindigul Electric Scheme was inaugurated by the Hon'ble Mr. P. T. Rajan, the Minister for Development, on 19th February 1934. The Virudunagar Electric Scheme was informally inaugurated on 25th March 1934.

41. As completed each town has a power plant consisting of 2 units each consisting of 350 b.h.p. Crossely 4-cylinder horizontal engines directly coupled to 190 K.V.A. 400/440 volts, 3-phase, 50 cycles General Electric Company alternator and 40/125 volts, 60 amperes, 7.5 K.W. exciter, with necessary auxiliaries, switch-board, etc. Other details of the schemes are as follows:—

	Dindigul.	Virudunagar
Number of sub-stations	3	2
Capacity of	50, 50, 25	50, 10
H.T. mains	7.5	4.2
L.T. mains	52	35.95
Number of consumers up till 31st March 1934 ..	130	76
Capital expenditure to 31st March 1934 (municipal) ..	Rs. 85,028	Rs. 93,293

PALNI ELECTRIC SUPPLY SCHEME.

42. This scheme is similar in character to Dindigul and Virudunagar, i.e., generation in a Government power house and distribution by the Government Electricity Department on behalf of the municipality. After a close examination of alternative plants it was decided to use two second-hand engines utilized by Mr. Vincent in his power house at Coimbatore prior to the advent of hydro-electric power in that town. The power house building is in the process of erection. The contract for the municipal distribution scheme has been awarded to Messrs. Crompton Engineering Company. The scheme is expected to be functioning before Christmas.

INVESTIGATION AND NEW SCHEMES.

43. *Cochin line.*—At the commencement of the official year, the negotiations with the Cochin Government were believed to be sufficiently advanced to justify a final survey of the 115-mile line to Ernakulam and preparation of layouts, designs, specifications and estimate of the line as well as the sub-stations at Ernakulam, Trichur and Palghat. Tenders were invited, but no orders were placed as difficulties arose about the minimum guaranteed income, which had been tentatively settled at Rs. 3 lakhs per annum. The Officiating Chief Engineer paid two visits to Cochin to have personal discussion with the Diwan. The discussions were continued by the Chief Engineer on return from leave and certain revisions were agreed on in the terms of the agreement. The matter is still pending with the Cochin Darbar, but as there are proposals for other

extensions in the Presidency, it is probable that this scheme will not be proceeded with. The load prospects do not appear as favourable as originally estimated.

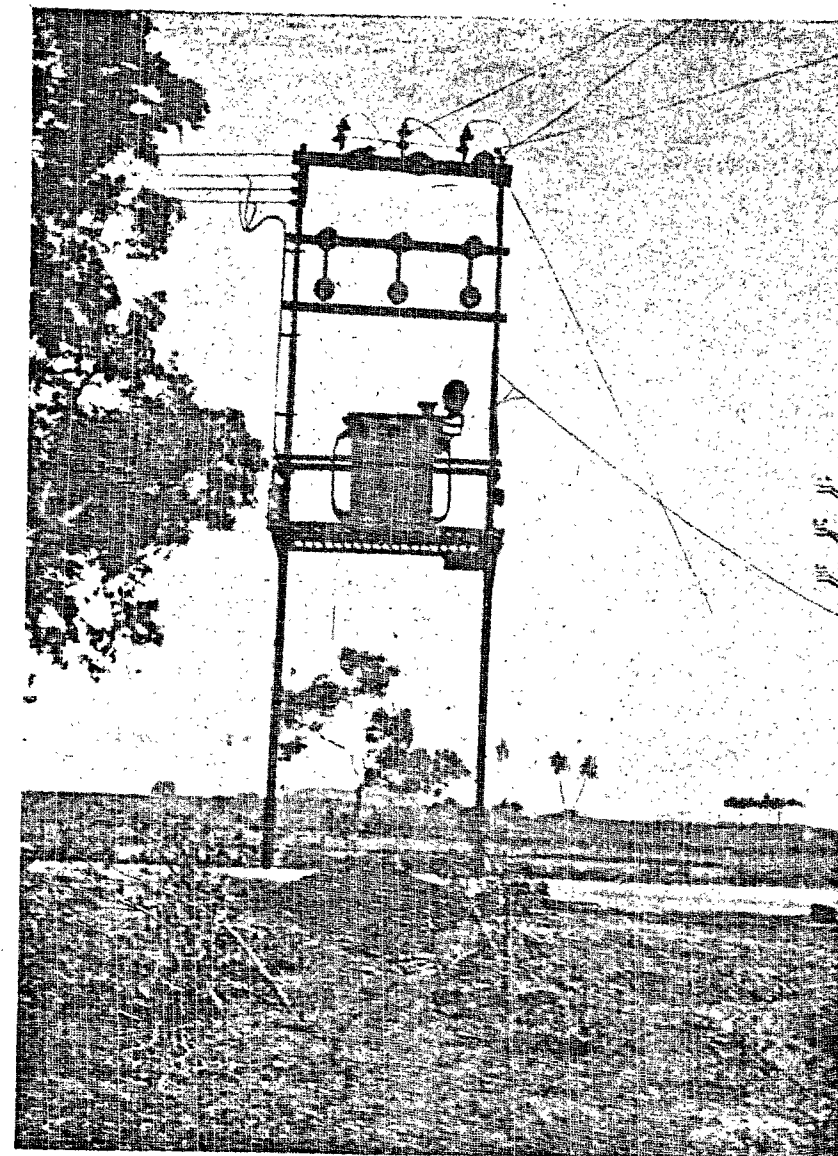
44. *Erode-Trichinopoly line.*—Similar work was undertaken on the Erode-Trichinopoly line under more favourable conditions as the Trichinopoly-Srirangam. Electric Supply Corporation, the electric supply licensees, after protracted negotiations, signed an agreement to close down their thermal plant and take hydro-electric power for all their requirements. The South Indian Railway Company have not yet signed an agreement to take power for their works and colony at Golden Rock, but indications are that they will take a part of the demand now and the balance later on.

45. Orders were placed with Messrs. British Insulated Cables, Limited, for the supply of material and construction of the line from Erode to Trichinopoly. The orders for the switchgear at Erode, Trichinopoly, etc., were placed with Messrs. The Associated Electrical Industries (India), Limited. The line is expected to be in service before the end of the official year and the cost is estimated to be about Rs. 20 lakhs.

46. Survey work was finalized and the lines were re-routed, resulting in a saving of nearly two miles on a total length of 80 miles. Up to the end of the official year tower locations had been completed over a distance of 40 miles and steps taken to have compensation fixed. Some of the buildings at the Trichinopoly and Erode sub-stations were under construction at the close of the year.

47. *Karur Electrification Scheme.*—As a subsidiary of the Erode-Trichinopoly line extension, proposals were submitted for installing a sub-station at Karur, 37 miles on the line from Erode and supplying power to the municipal town of Karur. The municipal council having accepted the usual conditions of management by the Government Electricity Department during the initial period, specifications were drawn up, tenders invited and selection made during the year. The official sanction has since been received. The contract has been awarded to Messrs. The British Insulated Cables, Limited. The estimated cost of Government work is Rs. 95,000, and of municipal works, Rs. 96,000. The work is expected to be completed early in the next year.

48. *Udamalpet Electric Supply Scheme.*—Proposals were submitted during the year for taking a line from Pollachi to Udamalpet in Coimbatore district. The municipal council were very anxious to have a supply on the same lines as Pollachi, but the low tension load by itself was not sufficient to justify the expenditure on a line of 18 miles. Arrangements for starting two textile mills at Udamalpet and operating with Pykara power however modified the position and Government sanction was given to construct the line, at a cost of Rs. 1,29,000, if one mill at least materialized and signed a power contract. The negotiations were well advanced but were not completed at the end of the official year.



22 K.V. Podanur 75 K.V.A. Rural Transformer Station.

49. *Theni-Periyakulam-Bodinayakkanur Scheme.*—The Municipal Councils of Periyakulam and Bodinayakkanur had been anxious for electric supply in their towns. The towns are in the area to be supplied from the Periyar Hydro-Electric Scheme and therefore the load development in these places is of great importance to the department. Reports on electrification of these towns were prepared last year but no further action was taken. Two 165 h.p. oil engine sets however were released from the Mettur Dam Power House as there was a fear that they might be sold in the Coimbatore area where strenuous, and so far, successful, efforts have been made to persuade all new large industrial plant to take hydro-electric power. A scheme was therefore prepared for a generating station at Theni in the Madura district using these engines and supplying the municipal towns of Periyakulam and Bodinayakkanur through 11 K.V. lines and submitted to Government. It has since been sanctioned by Government. The length of the projected lines is 10 miles to Periyakulam and 10 miles to Bodinayakkanur. The Municipal Schemes would be administered by the Electricity Department as managing agents in the initial stages. Power in the township of Theni will be distributed direct by Government. The total cost of the scheme is—

	RS.
Government Power House and Transmission Lines to	
Periyakulam and Bodinayakkanur	1,80,000
Government Distribution at Theni	20,000
Periyakulam Municipal distribution	77,500
Bodinayakkanur Municipal distribution	60,500

The scheme is expected to be ready for service in 1935-36.

50. *Trichinopoly-Negapatam line.*—There was no intention for the present of going further east than Trichinopoly with Pykara power although clauses in the Negapatam and Mayavaram-Mannargudi-Tiruvarur licences provided for the licensees taking hydro-electric power when available. The proposed installation of steel rolling mills at Negapatam created a block of power not previously anticipated and after negotiations with the promoters of the Steel enterprise for guaranteed revenue, etc., proposals were submitted to Government for extending the 66 K.V. lines to Negapatam at an estimated cost of Rs. 21.00 lakhs. The line is intended to supply in addition to the Steel Rolling Mill load and the licensees' load at Negapatam, the municipal towns of Tanjore and Kumbakonam, both of which have an existing supply and the requirements of the Mayavaram-Mannargudi-Tiruvarur licensee at Tiruvarur.

51. *Mettur Hydro-Electric Scheme.*—The most important investigation was in connexion with the Mettur Hydro-Electric Supply. When the possibility of generating hydro-electric power at Mettur Dam was first considered—and pipes provided in the dam—it was the intention of Mr. Mullings, then Chief Engineer, to change the crop season in the new area to be supplied, so that among other advantages a continuous supply may be available for power development. This however did not meet with the approval of the concerned officials, and the Irrigation Development Board

at the instance of the Director of Agriculture and the Chief Engineer for Irrigation, recommended that the seasons for the new area remain the same as for the old, and that the irrigation requirements so determined should take precedence over power. This was accepted by Government who issued rules in G.O. No. 2671 I., dated 6th December 1933, for the use of Mettur water. The whole basis of the scheme was thus altered and considerable time was spent in arriving at the working data for the scheme. The report on the scheme as thus altered was in the final stages of preparation at the end of the year. It has been submitted to Government in June 1934. Examination of load and other conditions showed that the original intention of carrying the lines right up to Madras has, for the present, to be postponed. As under preparation, the report provides for supply in the north up to Vellore and changing over the Trichinopoly and Negapatam extensions from Pykara to Mettur, so as to enable Pykara power to be taken to Madras via Dindigul. The cost of the scheme will be about Rs. 182 lakhs.

52. *Chettipet Hydro-Electric Scheme.*—As recorded in last year's report, studies had been commenced at the instance of the Irrigation Department on a power development at the Chettipet weir in the Godavari Western delta, with a view to supply a possible seasonal pumping load. Designs and estimates were prepared and forwarded to the Irrigation Department who however decided to drop it as it is not considered sufficiently attractive from their point of view. But the studies revealed the possibility of tying up with Rajahmundry and utilizing the scheme for the general electrification of that area. No work is being done on this but the possibility of such a development as part of a general development plan should not be lost sight of, and as soon as the necessary staff is available, the investigations will be continued.

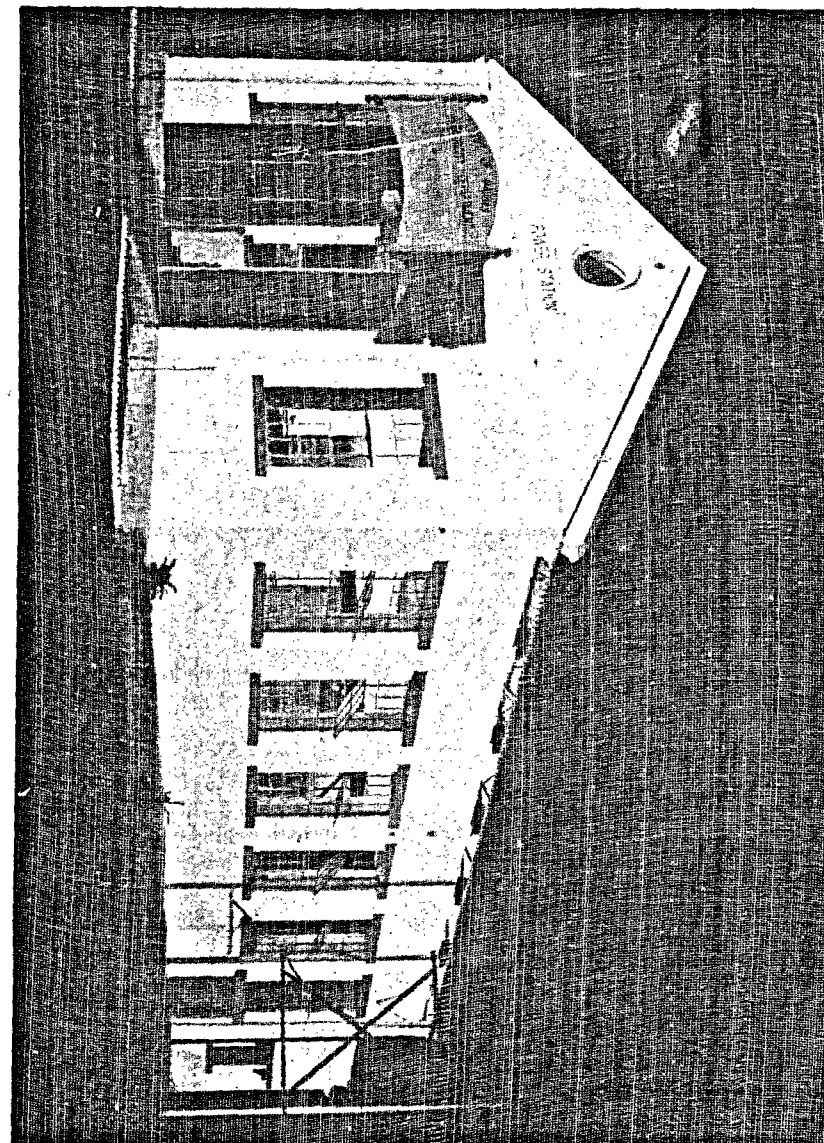
53. *Hydro-metric Studies.*—As recorded in last year's report the headquarters subdivision for this work was abolished from 1st April 1933, the supervision of the field work being placed in charge of the Assistant Engineer (Civil) at Glen Morgan.

54. The field work of gauging the rainfall and river-flow was continued at Pykara, Sandynallah, Kumbar, Koniar Kundipuzha, Thalipuzha, Cholahipuzha and Tambraparni basins.

55. At the headquarters, discharge table and extension of discharge curves for the new weir at Thalipuzha Gauging site were prepared from the discharge statements received from the field. Daily run-offs for Upper Koniar on Barlow's method of computation were worked out to be compared with the actual observed run-offs. Working tables and duration curves for the Pykara Scheme for 34, 39, 52, 78 cusecs continuous discharges were prepared, and studied in conjunction with Mettur Project.

56. *Purchase of materials.*—An important part of the work of the headquarters staff which entails increasing work in the Electrical and Mechanical division of the Technical section is the purchasing of operation material for all the electric supply undertak-

Dindigul Power Station (Typical Oil Electric Station) outside view.



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ings and placing orders for equipment for new schemes. Purchases are centralized so that larger orders may be placed at one time for articles in common use and lower prices obtained. This system also tends to standardization, avoids duplication of spare parts and reduces the articles in the stores to a minimum. In the year under report, the total value of the orders placed was over Rs. 15 lakhs as detailed in the following table:—

Materials for		Total. RS.
(a) Operation and maintenance and spares	1,84,000	
(b) New schemes and extensions	13,37,000	
Total ..	15,21,000	

57. The share of India is, for obvious reasons, very small but steps are being taken to increase it by undertaking the manufacture of some of the transmission line switchgear, cross-arms, special structures, etc., in the departmental workshops.

58. All purchases, excepting those of very small value, are made after inviting tenders and the services of the Indian Store Department were utilized where convenient. The purchases made through that department within the year amounted to about Rs. 40,000.

ADMINISTRATION OF THE INDIA ELECTRICITY ACT AND TESTING LABORATORIES.

59. The number of towns in the presidency having electric supply is now 45—vide list in paragraph 73 of these 23 are owned by local bodies and the rest by companies. During the year under review the towns of Avanashi, Bhavani, Dindigul, Madhavore, Palghat, Palamcottah, Podanur, Tirupur, Tiruvottiyur, Tuticorin and Virudunagar commenced the electric supply. The total generating plant of all the electric supply undertakings in the presidency amounts to approximately 61,700 kilowatts, out of which the two biggest are the Madras Electric Supply Corporation with 40,000 K.V.A. and that of Government Hydro-Electric Power Station at Singara with 23,400 K.V.A.

60. With the change of ownership early in January it is expected that the unsatisfactory supply in Calicut has terminated; the new owners, Messrs. The West Coast Electric Supply Corporation, Limited, are busy reconditioning the entire undertaking.

61. *Inspections and tests.*—The number of inspections and tests made during the year was as follows:—

		Previous year.
(a) Inspection and tests of works notifiable under the Act	1,906	2,114
(b) Tests of meters, instruments, fire extinguishers, voltage and the like	1,886	481
Total ..	3,792	2,595

The increase in the number of tests is due to the opening up of a new meter and relay testing section at Coimbatore. During the year,

owing to pressure of office work caused by the gratifying electrical development of the Presidency, the Electrical Inspector to Government and the Electric Sub-Inspectors were able to inspect about two-thirds only of the licensed electrical undertakings and three-fourths only of their inspections respectively and owing to the continued vacant post of the Junior Electrical Inspector, very few of the inspections marked for that officer other than important cinemas were done.

62. *Meter and relay testing.*—The total number of tests carried out in the Electrical Laboratory at Madras and in the meter and relay test section at Coimbatore was 1,886; of which 15 were licensees' substandards used for calibrating consumers meters, 47 were meters from licensees and other firms, 172 were fire extinguishers from cinemas and the rest were departmental meters and substandards for Government's hydro-electric and thermal station areas. The revenue Rs. 2,791 realized from tests is nearly three times last year's figure of Rs. 985; the amount has been included in the total revenue shown in paragraph 86 below. In this year 25 tampered meters of the Madras Electric Supply Corporation were tested and advice given to the Police for the investigation of cases under sections 39 and 44 of the Indian Electricity Act. The single circuit 22,000 volts line 30 miles long from Tuticorin to Tinnevely was tested at 45,000 volts H.T.D.C., this testing kit with auxiliary oil engine and generator is available for hire; load tests were carried out in some of the mills at Coimbatore, Tiruppur and in the Anamalais. Besides adjustments the repairs of instruments meters and relays is carried out. All the relays in the Coimbatore substation were completely tested and adjusted; a programme of relay testing throughout the Government system has been organized and a start made. The meter and relay testing section at Coimbatore has been moved from the receiving station into a new building; the larger space there has permitted the setting up of the much needed additional testing tables and equipment. The Electrical Inspector's superintendence of the Coimbatore testing section and its relay activities has resulted in a considerable increase in the work of the Madras Laboratory. The meters stores in Coimbatore were transferred to the charge of the Resident Engineer, Pykara System, from the 17th March. The South Indian Centre of the Institution of Engineers (India) visited the Madras Laboratory on 15th March and the more important pieces of equipment were demonstrated.

63. *Revenue.*—The total fees claimed during the year on account of inspections were Rs. 21,231, professional assistance to local bodies, Rs. 1,202, arbitration Rs. 438, by meter and kindred tests, Rs. 2,791, and by licence fees (Rule 9) Rs. 2,000 making a grand total of Rs. 27,663 for the year. In addition a sum of Rs. 58 was realized by the sale of cards of instructions for the restoration of persons suffering from electric shock but this sum is credited to the head XXXIV—Stationery and Printing—Secretariat Presses.

64. *Accidents.*—During the year 22 accidents were reported compared with 25 for the previous year; of these six were fatal, as against 14 in the previous year, and briefly occurred as follows:—

Coimbatore.—Three similar accidents, 4th June, 17th July and 28th August, occurred on the 22,000 volts Tiruppur-Erode line; in each case a person climbed up a transmission tower and came into contact with a live wire.

Palghat.—8th October 1933. A lad of 20 years was found dead underneath an overhead line pole; from a letter found on him it seemed that he wanted to commit suicide and so climbed up the post and was electrocuted at 230 volts.

Rajahmundry.—22nd January 1934. One mason while constructing a building came into contact with a live wire at 230 volts and died; this accident was avoidable and proceedings against the owner have been instituted.

Tuticorin.—2nd February 1934. A licensee's wireman, after completing his work on an overhead line pole, slipped while descending; he threw up an arm, came in contact with a live service main (230 volts) and fell to the ground; death was declared to be due to fracture of the skull and to electrocution.

65. *Prosecutions.*—During the year there were 26 prosecutions under the Act for tampering with meters and/or theft of energy; in twelve cases fines totalling Rs. 740 were imposed; this evil is spreading throughout the Presidency.

66. *General.*—No important changes were effected in the Indian Electricity Act and Rules; the inspection fees, G.O. No. 780 W., dated 1st April 1932 was further amended by G.O. No. 1239 W., dated 7th June 1933 specifying fees for the inspection of H.T. lines up to 66,000 volts.

67. As a result of the representations to the Government by the department the use of larger motors, 15 B.H.P. in place of 5 B.H.P. was permitted in town-planned areas outside the proper industrial area. This will give much needed encouragement to the small industrialist who wishes to electrify his plant.

68. The meter rent charges of many licensees were brought on to a more uniform basis; as also the energy rates for cinemas.

69. Owing to insufficient generating plant the connecting up of additional consumers load was prohibited in the following places until more plant is set to work:—Bezawada, Calicut, Cocanada, Conjeeveram, Hindupur, Rajahmundry and Tanjore.

70. Compliance with Rule 63—the guarding of electric wires in case of breakage—was relaxed for the Salem-Erode, the Tuticorin-Tinnevely-Palamcottah and the Mangalore licensees.

71. Draft rules for the formation of a provincial service of electrical engineers of local authorities were submitted.

72. *Administration of the Cinematograph Act.*—The total number of permanent cinemas in the presidency is 104 of which 12

are in the city; the number of travelling cinemas is 61. There has been an increase of 19 in the permanent and of 13 in the travelling cinemas. There are at present 9 talkies in the city and 31 talkies in the mofussil as against the last year's figure of 6 and 9 respectively. The cinema business is definitely on a more satisfactory footing. The total number of inspections made during the year was 230 as against the previous year's figure of 195. The fees realized by inspections has been included in the total revenue given in paragraph 63. The proprietors of three cinemas were prosecuted for breach of rules; in one case the accused were acquitted, in the other two cases fines of Rs. 75 and Rs. 25 were imposed. The Cinematograph Rules, completely revised, were issued in G.O. No. 3948, Law (General), dated 5th December 1933 and came into operation for all new cinemas from that date: for all cinemas then existing the rules will come into force, on 5th December 1934.

73. *Towns having an electric supply on 31st March 1934.*—(1) Avanashi, (2) Bellary, (3) Bezwada, (4) Bhavani, (5) British-Cochin, (6) Calicut, (7) Cocanada, (8) Coimbatore, (9) Conjeevaram, (10) Coonoor, (11) Devakottah, (12) Dindigul, (13) Erode, (14) Guntur, (15) Hindupur, (16) Kanadukathan, (17) Karaikudi, (18) Karamadai, (19) Kumbakonam, (20) Kurnool, (21) Madras, (22) Madura, (23) Mangalore, (24) Masulipatam, (25) Mettupalaiyam, (26) Nattarasankottai, (27) Ootacamund, (28) Palghat, (29) Palamcottah, (30) Podanur, (31) Pollachi, (32) Rajahmundry, (33) Saidapet, (34) Salem, (35) Sembiam, (36) Srirangam, (37) Tanjore, (38) Tinnevely, (39) Tirupati, (40) Tiruppur, (41) Tiruvottiyur, (42) Trichinopoly, (43) Tuticorin, (44) Vellore, (45) Virudhunagar.

The inspection and tests division has been much handicapped by the lack of the services of a Junior Electrical Inspector, and two electric supply undertakings were put into operation without a statutory inspection. This is undesirable.

ELECTRICAL INSTALLATION IN GOVERNMENT BUILDINGS.

74. The work of the division increased very much during the year under review as compared with that of the previous years owing to the execution of a large number of original electrical works, additions, and alterations to existing installations both in the city and in several of the outstations. The most important of them are the remodelling works of the General Hospital and the new X-Ray Blocks and Medical College Buildings, Madras, costing a lakh and a half of rupees and the electrification of the Agricultural and Forest Colleges, Coimbatore, costing Rs. 30,000 each.

75. Seven hundred estimates and plans were prepared and scrutinized by the Electrical Engineer (General) during the year 1933-34, and five hundred and forty works were in progress during the year.

76. The following are among the important electric installations which were under investigation and for which estimates were prepared during the year:—

Madras.—(1) Electric pumping plant for water-supply to the nurses' quarters, Women and Children Hospital.

(2) Electrification of the New Government Press, attached to the Penitentiary, designed to operate the printing machinery with electric drive.

(3) Additional fans and lights in the second floor, New Pathology Institute, Medical College.

(4) Additional pumping sets at the Teachers' College compound for the Engineering College water-supply.

Mufussal.—A scheme for replacing the existing steam and oil plants at the Public Works Workshops, Dowlaishweram, by electric drive was examined and estimates prepared.

Proposals for converting certain manufactory operations to electric power in the Vellore Jail were under investigation.

Electric installations to Government buildings at Vellore. A very large number of estimates and schemes for electric installations in the several mufassal districts were prepared and sent for sanction.

77. Works completed—

(1) Electric installation to the combined Hostel for Mistresses, Cowl Bozuar, Bellary.

(2) Electric installation to quarters of the District Superintendent of Police, Cocanada.

(3) Electric installation to the office of the Executive Engineer, Public Works Department, Trichinopoly.

(4) Electric installation to the District Court Buildings, Trichinopoly.

(5) Electric installation to the District Munsif's Court, Srirangam.

(6) Electric installation to the District Police Office, Madura South.

(7) Electric installation to the Headquarters Hospital, Kurnool.

(8) Electric installation to the Headquarters Hospital, Guntur.

(9) The several Government residential buildings at Guntur.

(10) The several Government residential buildings at Salem.

78. *Works in progress—Madras.*—General Hospital. About 30 miles of wiring and mains have been provided. Two electric lifts one in the operation and surgical blocks and another in the X-Ray department for the conveyance of patients and the staff were installed. An air conditioning equipment for cooling the chambers in the X-Ray Institute was received and erection is in progress.

Government House, Madras.—The Government Houses at Madras and Guindy were equipped with lightning conductors for the protection of the buildings from lightning strokes.

Central Jail, Coimbatore.—The steam and oil-engines used for manufacturing operations in the several departments of the jail have been replaced with electric motors and machinery and the jail is now connected to the Pykara high tension supply. The jail receives a bulk supply and consequently derives the benefit of the H.T. tariff rates and thus obtains energy at very low rates. This change in the electric drive is expected to reduce the working expenses owing to availability of power at cheaper rates and increase in the output of the manufacturing departments and considerable reduction in the cost of the establishment employed for the operation of the gas and oil plants.

Malabar Special Police Buildings, Malappuram.—The electrification of the buildings was sanctioned by Government and the works are being carried out by the Military Engineering Services for purposes of administrative convenience as the installations are proposed to be connected to the Military Power Supply.

79. *General.*—The total expenditure incurred in the division during the year under review was Rs. 4½ lakhs as against Rs. 3½ lakhs spent during the previous year.

80. The total value of the Government electric installations in charge of the Electrical Engineer is estimated to be Rs. 39,48,790 and the amount spent on maintenance repairs including current charges during the year was Rs. 1,63,270, as against Rs. 1,65,509 of the previous year. It will be interesting to note in this connexion that the maintenance and repairs charges during the year have fallen down in spite of the large improvements and additions to the installations and the restoration of the pay cut of the maintenance staff. Considerable efforts were made to secure economies in all directions and the results are gratifying to note.

81. The lightning conductors of the several powder and explosive magazines in the city were tested and revenue realized. Technical advice and assistance were given to civil officers wherever asked for. There were no serious accidents, fatalities or untoward incidents during the year.

BROADCASTING.

82. In response to public opinion expressed both in the Legislative Council and outside that the possibilities of broadcasting as an instrument for rural instruction and national propaganda should be investigated, the Government decided to obtain the services of an expert to advise them as to the method most suited technically—to this Presidency. An experienced officer of the British Broadcasting Corporation has been appointed for 12 months and placed under the administrative control of the Chief Engineer for Electricity.

83. The officer arrived in Madras on 26th February 1934. He has been engaged in setting up the necessary apparatus and has made a beginning in the field strength measurements in and around Madras.

STAFF.

84. During the year under review, there were certain important changes in the superior staff of the department. Major H. G. Howard, Chief Engineer, went on leave from 20th April 1933 for five months and three days and his duties were discharged by Mr. G. B. E. Truscott in addition to his duties as Resident Engineer, Pykara Hydro-Electric System, with headquarters at Glen Morgan.

Mr. G. B. E. Truscott, Resident Engineer, Pykara Hydro-Electric System, whose contract with the Government was due to expire on 31st March 1934, accepted the offer of the post of Chief Engineer of Travancore State, left the department on 19th October 1933 on leave for five months and twenty-eight days preparatory to retirement.

Mr. L. Henshaw, Executive Engineer, Electrical, Coimbatore, was appointed Officiating Resident Engineer, Pykara Hydro-Electric system.

Mr. J. Kuriyan, Operating Engineer, Pykara, was appointed Officiating Executive Engineer, Electrical, Coimbatore.

Mr. B. Ramasomayajulu, Temporary Assistant Engineer, Cauvery-Mettur Project, was appointed as Operating Engineer, Pykara.

Mr. M. B. Kandaswami, Temporary Assistant Electrical Engineer, was appointed as Permanent Assistant Engineer, Operation and Maintenance, Coimbatore, and placed on other duty as Assistant Engineer, Dindigul, Virudunagar and Palni Distribution Schemes.

Mr. N. R. Narasimhamurti, Permanent Supervisor, was appointed to officiate as Assistant Engineer, Operation and Maintenance, Coimbatore.

Mr. M. R. B. Rao, employed on the line construction work in the department was transferred to the Provincial cadre as Assistant Engineer from 17th May 1933, on agreement up to 31st March 1934.

Mr. K. Ramamurti, Temporary Junior Commercial Engineer, Coimbatore, was appointed as Temporary Assistant Engineer (Commercial), Coimbatore, from 1st September 1933.

REORGANIZATION.

85. The hopes entertained about the amalgamation of all the electrical activities of Government in one department have not altogether been realized. All the common functions mentioned in last year's report are being maintained and gradually improved upon. It will be seen from the report that definite economies have been effected. The work has considerably increased without a proportionate addition to the personnel. But the insistence on showing the constituent part of the department under separate heads of expenditure serves to perpetuate the compartmentalism.

which it was the intention of the amalgamation to avoid. Proposals have been submitted to Government from time to time both to get over this and to put the whole department on a commercial basis charging certain fixed fees for services rendered.

86. *Financial details.*—The following table gives a summary of the financial position of the department:—

	Expenditure in 1933-34 final modifi- cation.	1934-35 budget.
	RS.	RS.
Electrical Engineer (General)—		
Salaries, allowances, etc.	55,400	59,800
Revenue	..	..
Net cost ..	55,400	59,800
Electrical Inspector—		
Salaries, allowances, etc.	49,200	55,500
Revenue	23,000	26,500
Net cost ..	26,200	29,000
Chief Engineer's office including Technical section—		
Salaries, allowances, etc.	1,75,000	1,74,400
Revenue	85,400	1,25,800 *
Net cost ..	89,600	48,600
Pykara Hydro-Electric system—		
Salaries, allowances, etc.	1,81,500	2,11,600
Less portion of common staff recovered from works and municipalities	74,800	49,300
Net salaries and allowances ..	1,06,700	1,62,300
Operation and maintenance expenditure	1,41,100	1,50,600
Revenue	3,76,300	5,85,500
Net surplus for capital charges ..	1,29,500	2,72,600
Revenue from water-power royalty from Mysore Government	65,500	65,500
Revenue from other sources	..	..

	Expenditure in 1933-34 Budget.	1934-35 Budget.
	RS.	RS.
Municipal Undertakings—		
Coimbatore	57,200	66,400
Pollachi	38,000	22,600
Tiruppur	28,300	30,100
Dindigul	..	27,500
Virudhunagar	..	27,500

* Excluding Rs. 54,000 on account of the Cochin Line which has since been abandoned.

	Expenditure in 1933-34 Final modification.	1934-35 Budget.
	RS.	RS.
Capital Expenditure—		
58. a. Pykara Hydro-Electric Scheme	2,27,900	3,54,300
58. b. Supply of Electric Power to Salem and Erode from Mettur	4,200	200
58. c. Distribution of Power in the Coimbatore district	4,64,500	5,15,100
58. d. Supply of Electric Power to Palghat	33,300	2,500
58. e. Supply of Electric Power to Devarshola	10,600	600
58. f. Dindigul Electric Supply Scheme	1,33,300	7,500
58. g. Virudhunagar Electric Supply Scheme	1,35,700	6,500
58. h. Palni Electric Supply Scheme	14,200	19,200
58. k. Supply of Electric Power to Trichino- poly	2,000	16,98,000
58. i. Supply of Electric Power to Frith Hall Tea Factory	6,000	..
58. m. Mettur Hydro-Electric Scheme	9,64,300	1,20,000
58. n. Supply of Electric Power to Karur	..	95,000
58. o. Supply of Electric Power to Theni- Periyakulam and Bodinayakanur	..	2,00,000
Supply of Electric Power to Tanjore and Negapatam	..	21,00,000
41. Civil Works—Public electrical installations.	4,50,000	3,32,000

* If sanctioned.

† Proposed supplementary budget.

PROGRAMME FOR 1934-35.

87. The Erode-Trichinopoly 66 K.V. line together with transformer stations at Tiruppur, Erode, Karur and Trichinopoly, an extension at Coimbatore Receiving Station, and the increase in the voltage of the Coimbatore-Erode line to 66 K.V. are expected to be completed during the year and in operation.

The Palni Electric Supply Scheme is expected to be functioning before the end of this year.

Karur town electrification should be nearing completion.

Work should have well-advanced on the Theni-Periyakulam-Bodinayakanur Scheme and subject to Government sanction, on the Udamalpet extension and Municipal Distribution Scheme.

The Trichinopoly-Negapatam 66 K.V. line on which surveys have been tentatively ordered is expected to be sanctioned together with the various sub-stations, and the contracts placed before the end of the year.

It is hoped that the Mettur Hydro-Electric Scheme will have received the sanction of Government and specifications issued and tenders invited before the end of the year.

Smaller works as follows:—

A double circuit 22 K.V. line from Coimbatore to the Madukarai Cement Works, five miles, and the installation of an industrial sub-station at that place.

Reinforcement of Mill 11 K.V. Feeder No. 2 at Coimbatore—4½ miles—on account of increased load.

A rural extension to Vellakinar and several smaller extensions in agricultural areas.

CONCLUSION.

88. The results of the first year's commercial and technical working of the Pykara undertaking and future prospects are most encouraging.

The administration of the undertaking was, however, carried on under great difficulties and there is evidence already that the service given to our consumers will suffer eventually unless some change is made. The Chief Engineer has no powers of administrative approval of schemes and the recruitment and promotion of responsible staff is through the Madras Services Commission.

Rules and regulations are becoming more stringent. This may not be of much consequence to a regular Government Department but for a commercial department, such a system will gradually strangle the efforts of the operating organization and affect the commercial prospects of the undertaking.

The Pykara undertaking has passed through the first year's operation under difficult administrative conditions, sheer inertia may carry it through two more years, when the prejudicial effects of the present system, if continued, will begin to be shown.

The obvious solution is a Public Corporation or Electricity Board, a method adopted by all the leading countries of the world to-day. Given this Board then this Presidency instead of being one of the most backward countries in electrical development might not only rank with some of the leading countries but might be quoted as an example. Furthermore Government will get a greater return on its investment by turning over its properties to a Public Corporation than it ever will by attempting to operate them under the present administrative machinery.

The progress of electrical development throughout the Presidency is satisfactory. The interest shown in it by the general public, and the tendency of the licensee to be more progressive and take more initiative is encouraging. It is vastly different to the general attitude prevailing five years ago. But a certain amount of apathy is still in evidence and I do not look for real progress for another five years and only then provided that there is, in the meantime, no obstruction to development and nothing occurs to undermine the confidence of the public. The Electricity Board referred to above will ensure steady progress.

The past year, like its predecessors, has been a busy one and the officials and staff of the department have been untiring in their efforts to ensure that the activities of the department were carried on efficiently and economies effected wherever possible.

H. G. HOWARD,
Chief Engineer for Electricity.

June 1934.

Government of Madras

PUBLIC WORKS AND LABOUR DEPARTMENT

G.O. No. 1883 W., 28th Aug. 1934

Electricity—Administration Report of the department for 1933-34.

READ—the following paper :—

From the Chief Engineer for Electricity, dated 21st June 1934,
No. 2234/34-6.

Order—No. 1883 W., dated 28th August 1934.

Recorded.

2. It is observed with satisfaction that the initial stage of the Pykara Project was completed with a very substantial reduction of the estimated capital expenditure and that the results of the first year's working of the system compared with the revenue forecast show a reduction in operation and maintenance expenses and an increase in net revenue of 78 per cent as shown below :—

	Capital cost.	Operation and maintenance expenses.	Net revenue.
	RS.	RS.	RS.
Estimated	1,33,36,000	2,62,000	76,160
Actuals	1,09,88,000	2,40,800	1,35,500

The system has been run economically and efficiently. The conversion fund scheme which was adopted by Government on the suggestion of Major Howard and which has enabled textile manufacturers to obtain advances for the purchase of electrical machinery and equipment in order to substitute Pykara power for other forms of industrial power, has been a great success and has fostered a rapid expansion of the mill industry. Encouragement to industries by low rates for power and the extension of power to rural areas have also been a special feature of the department's activities.

The Chief Engineer has recently had delegated to him certain powers to sanction expenditure on new schemes, so as to enable him to comply sufficiently promptly with demands for power and further accelerate the progress of electrical development.

The Government management of municipal electrical enterprises in the early stages is also proving a successful experiment.

3. An investigation into the possibilities of broadcasting as an instrument of instruction and propaganda was started towards the end of the year under a special officer placed under the administrative control of the Chief Engineer.

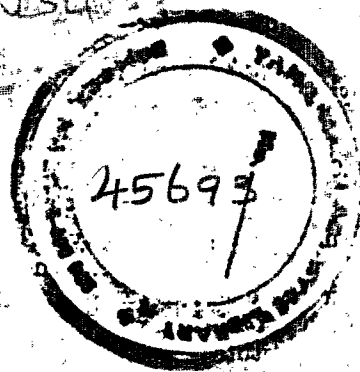
4. His Excellency the Governor in Council desires to place on record his warm appreciation of the good work of Major Howard and the staff of his department during the year under review.

(By order of the Governor in Council)

N. GOPALASWAMI,
Secretary to Government.

To the Chief Engineer for Electricity.
" Chief Engineer (General, Buildings and Roads).
" Chief Engineer for Irrigation.
" Development Department.
" Local Self-Government Department.
" Librarian, Legislative Council, Madras.
" Secretary, Madras Services Commission.

Press.



ருவதற்காக எடுத்த
கொள்ளப்பட்ட

* Mr. ஹாதம் 1988 வருடம் *

* செப்பனிட முடிந்த *

* April மாதம் 1988 வருடம் *

* ஆராய்ச்சி உதவியாளரின் *

* கையெழுப்பம். *
