

FEDERATION OF MALAYA
THE FIRST ANNUAL REPORT OF THE CENTRAL
ELECTRICITY BOARD
1 SEPT. 1949 - 31 AUGUST 1950







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The First

ANNUAL REPORT

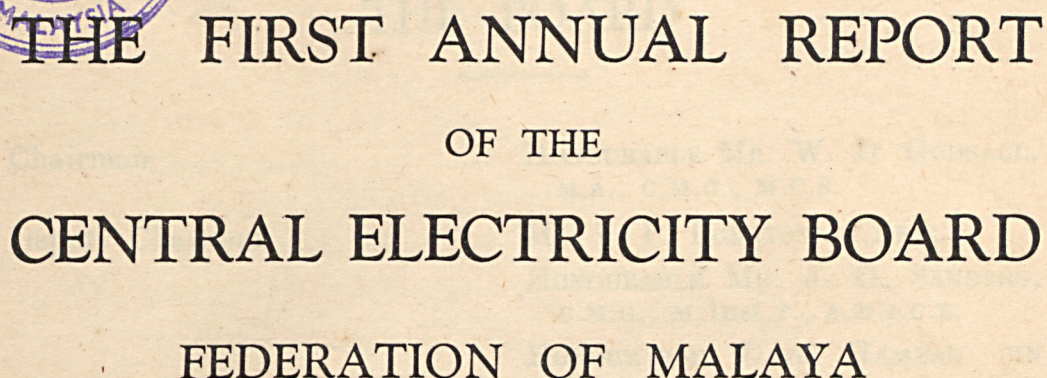
of the

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KUALA LUMPUR:
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1951.

THE BOARD

Chairman	HONOURABLE MR. W. D. GODSALL, M.A., C.M.G., M.C.S.
Deputy Chairman	MR. F. P. EGERTON, M.I.E.E. HONOURABLE MR. J. O. SANDERS, C.M.G., M.Inst.T., A.M.I.C.E. HONOURABLE DATO HAMZAH BIN ABDULLAH. MR. E. D. SHEARN. MR. CHONG YOW SHIN. MR. F. S. MCFADZEAN, M.A., LL.B.

The following also served as temporary members for various periods during the year:

Temporary Chairman ...	HONOURABLE MR. W. C. TAYLOR, M.C.S.
Temporary Deputy Chairman	MR. J. SHARPLES, B.SC., A.M.I.E.E. MR. J. M. BELL, B.A. (Cantab). MR. G. E. MOTT.

Principal Officers of the Board—

Deputy Chairman	MR. F. P. EGERTON, M.I.E.E.
Chief Engineer	MR. J. SHARPLES, B.SC., A.M.I.E.E.
Secretary and Chief Accountant	MR. K. REED, A.C.A.
Chief Construction Engineer	MR. C. H. WHITE, M.I.E.E., Mem.A.I.E.E., M.I.E.Aust.
Chief Electrical Inspector ...	MR. J. H. SUMNER, M.SC., A.M.I.E.E.
Superintending Engineers ...	MR. J. V. KEENE, Assoc.A.I.E.E. MR. J. K. KEENE, A.M.I.E.E. MR. F. BRAND, A.M.I.E.E.
Generation Superintendent	MR. A. GERARD, A.M.I.Mech.E.

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ABBREVIATIONS

- MW = Megawatt (1,000 Kilowatts).
KW = Kilowatt (1,000 watts).
HP = Horsepower (746 watts).
KWh = Kilowatt-hour (1 Board of Trade Unit).
KV = Kilovolt (1,000 volts).
KVA = Kilovolt-ampere.
U/G = Underground.
O/H = Overhead.
A.C. = Alternating Current.
D.C. = Direct Current.
T.R.S. = Tough Rubber Sheathed Cable.
V.I.R. = Vulcanised India Rubber.
H.S.O.S. = House Service Overhead System.
P.B.J. = Paper Braided Jute Insulated.
C.E.B. = Central Electricity Board.
P.R.H.E.P.Co. = Perak River Hydro-Electric Power Co., Ltd
R.H.T.Co. = Rahman Hydraulic Tin Co.
E.M. & M.Co.Ltd. = Eastern Mining and Metal Co., Ltd
T.C. = Transformer Capacity.
B.S. = Bulk Supply.
P.S. = Power Station.
O.E. = Oil Engine.
S.T. = Steam Turbine.
H.E. = Hydro-Electric.



CHAPTER I.

INTRODUCTION.

Historical.

As this is the first Annual Report of the Central Electricity Board, Federation of Malaya, it is of interest to give here a brief history of public electricity supply in the Federation.

The first public supply of electricity in the territory now comprising the Federation of Malaya commenced operation in Penang in 1904, and this was followed shortly afterwards by the installation in Kuala Lumpur in 1905 of a supply of electricity, primarily intended for supplying Government quarters and a limited number of arc lamps for street lighting. Electricity was generated in a small hydro-electric power station sited on the Gombak River, 12 miles from Kuala Lumpur. The plant consisted of two 400 K.W. turbo-alternators. About 1919 this supply was augmented by the installation of a station at Gombak Lane in the centre of Kuala Lumpur, with mixed generating plant totalling 1,450 K.W. By 1926, Prai Power Station on the mainland facing Penang, had just been put into commission with an installed capacity of 9,500 K.W., and a steam power station at Bungsar, Kuala Lumpur, was under construction. In the meantime, public electricity supplies had been inaugurated in Ipoh, Johore Bahru, Seremban and Malacca, the latter two supplies being operated by private companies. The Seremban installation was purchased by Government on 1st January, 1924.

Up to this time, the Government Electricity Department had been a sub-department of the Public Works Department, but on the 1st January, 1927, it became an independent Federal Department, controlling supplies of electricity in the former Federated Malay States. In Johore, electricity supplies were under the control of the State Public Works Department, until a rather later date, when a State Electricity Department was formed, which in addition to increasing plant capacity in Johore Bahru, also constructed stations at Muar, Batu Pahat, Kluang, Kota Tinggi and Segamat.

In 1928 and 1929, the Perak River Hydro-Electric Power Company's steam and hydro-electric stations at Malim Nawar and Chenderoh respectively were put into commission and from that time onwards supply was given from the Company's system to most towns and villages in Perak, South of the Perak River, and the Government generating station at Ipoh was shut down, and a bulk supply was taken from the Company's system.

In North Perak, Government erected a power station at Taiping, and in Province Wellesley, Messrs. Huttenbachs Limited purchased current in bulk from the Penang Municipality and distributed it to many small towns in the area. In Kedah that Company also installed a few diesel generating stations.

Electricity supply on the Eastern side of the country commenced about 1928 with the installation of generating plant at Raub and Kota Bahru, the former under the Federated Malay States Electricity Department and the latter under the Kelantan Government. Subsequently, generating plant was installed at Kuala Lipis (1929), Bentong (1929), Kuantan (1931), Mentakab (1938) and Fraser's Hill (1939).

At the outbreak of the second world war, the total generating plant in the country amounted to approximately 140,000 K.W. (including standby plant), and the total units generated in 1940 was 650 million.

As a result of denial of plant to the enemy and neglect during the Japanese occupation, 60 per cent. of the pre-war plant capacity was rendered unusable. At the same time, there had been a general drift of population towards the towns and on the liberation of Malaya in 1945, the Government was faced with a greatly increased demand for electricity and a very considerably reduced plant capacity to meet this demand. This unfortunate state of affairs has persisted since 1945, owing to the extremely slow delivery of equipment from the United Kingdom, although towards the end of 1948 and during 1949, some improvement was obtained.

With the formation of the Malayan Union in April, 1946, Government took over control of all electrical installations in the country with the exception of those operated by private companies and that of the Penang Municipality. It also operated the Malacca Electric Light Company's plant on a rental basis and in July, 1948, this latter plant was purchased outright and the installation became one operated by the Federation Electricity Department.

Shortly before the second world war it was realised that the proper development of electricity in the country necessitated the inter-connecting of the large electricity undertakings and the economic development of hydro-electric power in locations at present removed from immediate load centres. The need for such policy was accentuated by events since the outbreak of the war and the stage was reached where inefficient plant should be discarded and the amount of standby generating plant greatly reduced. In order to control such development it became apparent that a central body was necessary to construct and operate an integrated electricity scheme. It was therefore decided to follow the principle generally established throughout the world that the business of generating and distributing electricity was one which should be in the hands of a public corporation, and as a result the formation of the Central Electricity Board was approved by the Federal Government in

August, 1949, and came into being on the 1st September, 1949, taking over all the undertakings formerly operated by the Electricity Department and so bringing to an end the activities of that Department after a period of 22 years, eight months.

Establishment, Constitution and Function of the Central Electricity Board.

The Electricity Ordinance No. 30 of 1949, provided for the establishment of the Central Electricity Board on 1st September, 1949.

The members of the Board are appointed by the High Commissioner in Council and comprise a Chairman, a Deputy Chairman and five other members, at least three of whom shall not be public officers. In the first instance the High Commissioner in Council appointed as Chairman, the Financial Secretary of the Government of the Federation of Malaya, and as Deputy Chairman, the former Director of Electricity, who became the Board's Chief Executive Officer. The names of these gentlemen and others who have served on the Board during the year 1949/50 will be found on the title page of this Report.

The functions and duties of the Board are set out in Section 15 of the Electricity Ordinance and are:

- (a) to manage and work the electrical installations transferred to the Board by the Ordinance and such other installations and apparatus as may be acquired by the Board under the provision of the Ordinance;
- (b) to establish, manage and work such electrical installations as the Board may deem it expedient to establish;
- (c) to promote and encourage the generation of energy with a view to the economic development of the Federation;
- (d) to secure a supply of energy at reasonable prices;
- (e) to make regulations in accordance with provisions of the Ordinance governing the generation, transmission, distribution and use of energy;
- (f) to advise the High Commissioner on all matters relating to the generation, transmission and distribution and use of energy.

The Board is empowered to grant licences to persons to operate electrical installations for the supply of electrical energy for private or public purposes, and is required to set out in such licences the period of duration of the licences, the area of supply, the declared voltage and the variation permitted therefrom, the maximum charges payable by consumers, and such other matters as the Board may consider desirable. Special provision, however, was made in the Ordinance enabling the Municipal Commissioners of George Town, Penang, to continue to operate their undertaking.