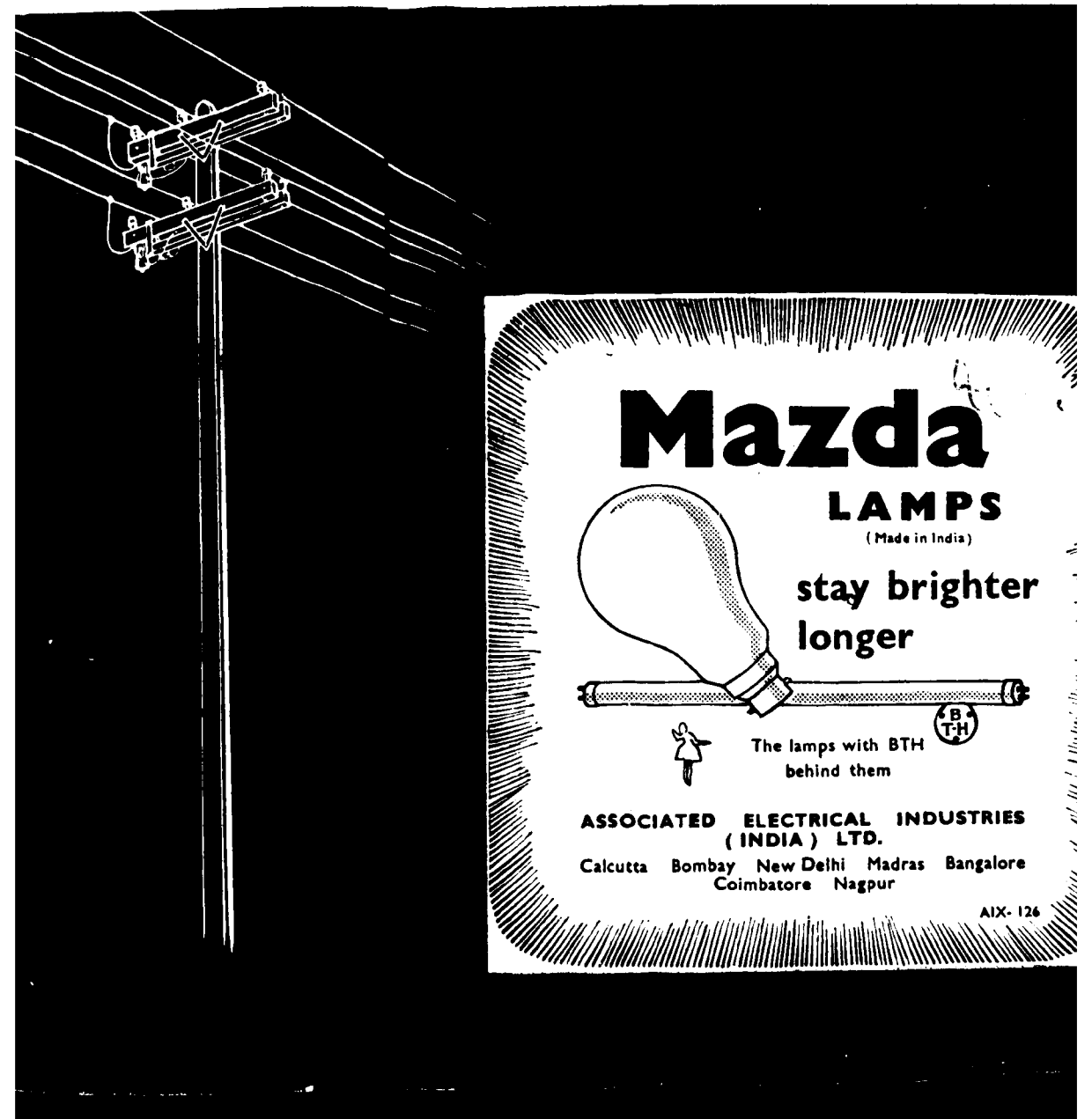


ELECTROLITE

A JOURNAL OF ELECTRICITY SUPPLY & UTILIZATION



The advertisement is set against a dark background. On the left, a utility pole with cross-arms and insulators is shown, with several power lines extending from it towards the right. On the right, there is a rectangular advertisement for Mazda Lamps. The advertisement has a white background with a black border. At the top, the word "Mazda" is written in a large, bold, sans-serif font, followed by "LAMPS" in a smaller, bold, sans-serif font. Below this, in a very small font, it says "(Made in India)". To the left of the text is a drawing of a light bulb. To the right of the bulb, the text "stay brighter longer" is written in a bold, sans-serif font. Below the bulb and text is a horizontal line representing a wire. A small figure of a person is standing on the wire, looking up at the bulb. To the right of the figure, the text "The lamps with BTH behind them" is written in a small, sans-serif font. To the right of this text is a small circular logo with "BTH" inside. Below the wire, the text "ASSOCIATED ELECTRICAL INDUSTRIES (INDIA) LTD." is written in a bold, sans-serif font. Below this, the cities "Calcutta Bombay New Delhi Madras Bangalore Coimbatore Nagpur" are listed in a small, sans-serif font. In the bottom right corner of the advertisement, the code "AIX-126" is written in a small, sans-serif font.

Mazda
LAMPS
(Made in India)

stay brighter
longer

The lamps with BTH
behind them

ASSOCIATED ELECTRICAL INDUSTRIES
(INDIA) LTD.
Calcutta Bombay New Delhi Madras Bangalore
Coimbatore Nagpur

AIX-126

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Electricity in the ECAFE Region

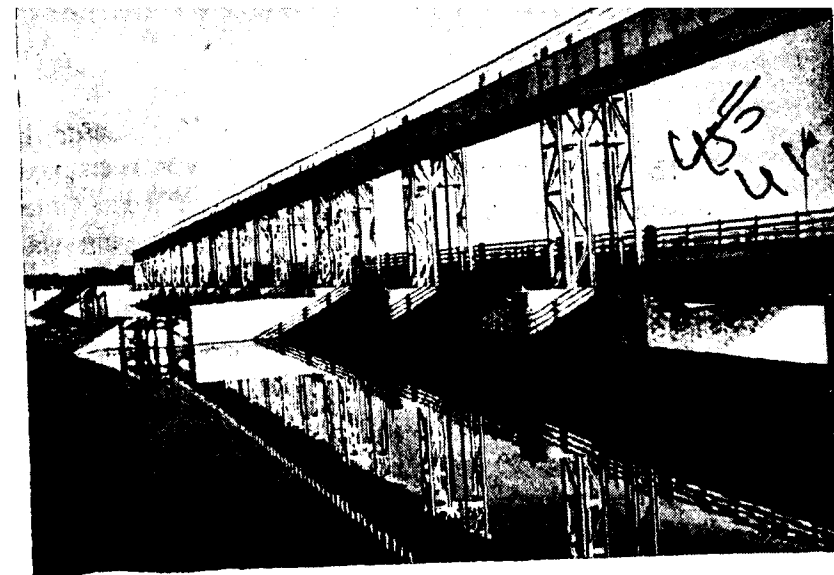
THE FIFTH MEETING of the ECAFE Power Sub-Committee held recently in Bangalore turned the spotlight on the subject of atomic power generation in Asian countries. With apparently vast undeveloped hydro-electric power resources, it would appear, at the first blush, that atomic power development in Asian countries was not much of an urgent problem. Nevertheless, if industrial development in this region is to catch up with development in western countries, the available hydro-electric potential in the region would scarcely be adequate. Even fuels like coal and oil are not over-plentiful in the ECAFE countries. Hydro resources are, of necessity, seasonal, and cannot be considered a source of continuous power supply. Atomic stations of moderate sizes (from 5000 to 20,000 kW) would, therefore, make for ideal units to supplement the conventional power stations.

Yet another point made at the Bangalore session was that countries of the region should exploit and utilise conventional power resources fully and efficiently and that they should also seek to promote industrialisation by setting up an adequate number of nursery schemes for the development of small-scale and medium-sized industries.

Gratifying progress has been made in our own country in power development and industrialisation in the last decade and an atomic research station has also been set up. In the future programmes of the ECAFE countries, India is no doubt cast for a dynamic role.

MAYURAKSHI PROJECT

A little over 20 miles below the Massanjore Dam, at Tilpara, the headworks of the canal system were completed in 1951. The barrage is 1,013 ft. long.



THE State of West Bengal is situated in a region where rainfall is uneven. Precipitation occurs mostly in the monsoon months, and then rivers flow full, sometimes even overflow. In the dry seasons the rivers dwindle into lean streams. The result is that in most parts of the State only the monsoon crop can be raised with any reasonable hope. The obvious solution lies in holding up the monsoon precipitation behind dams and carefully utilising the storage as needed. This moderates monsoon floods below the dam, providing at the same time, irrigation and power generation facilities. Amongst the several schemes undertaken by the West Bengal State, perhaps the most important one is the Mayurakshi Project.

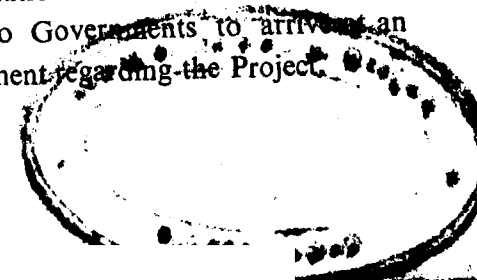
CROP FAILURES

The Mayurakshi river is a hill-stream. Taking its birth in the uplands

of Santhal Parganas district in Bihar, it flows in a north-eastern direction entering West Bengal territory in Birbhum district. After a total run of 150 miles it joins the Bhagirathi near Duttabati.

The highest flood discharge recorded is 2 lakh cusecs against the lowest discharge of 500 cusecs in dry months.

The history of the project dates back to 1928 when investigations started following a sad record of periodic crop failures in Birbhum. A scheme was finalised before the Second World War, but was put aside due to war conditions. As in the case of D. V. C. projects, the dam site lay in Bihar territory, but most of the benefits would go to West Bengal. Negotiations had to be held between the two Governments to arrive at an agreement regarding the Project.



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COMPONENTS

The Mayurakshi Project comprises a dam at Messanjore in Bihar with a power house at its foot, a barrage at Tilpara in West Bengal and a major canal system taking off from the Tilpara barrage.

The dam is situated in Bihar area at Messanjore, 20 miles north-west of Suri, the headquarters of the Birbhum district. At this place the river flows through a narrow valley providing a suitable dam site. The dam measures 2,100 ft. from abutment to abutment, out of which a length of 740 ft. is made up by the spillway. The top of the dam stands 150 ft. above the deepest foundation level.

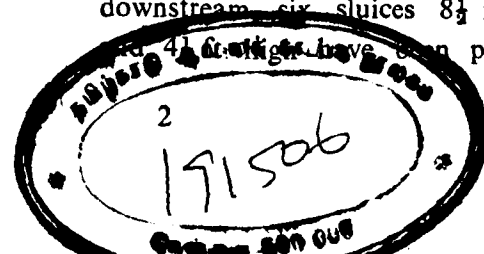
MASONRY DAM

The right type of rock suitable for constructing a masonry dam was at hand. Apart from enabling the immediate commencement of work, the rock meant 40 per cent less cement than a concrete dam. A masonry dam was therefore the obvious answer.

SPILLWAY

The dam has a 740-foot long spillway divided into 21 bays fitted with radial gates 30 ft. 4 inches high.

To feed the irrigation system downstream six sluices 8½ ft. wide and 4½ ft. high have been provided.



Three more sluice valves, which have also been provided will enable release of water into Bihar territory. For supplying water to the power plants, two steel penstocks each of 6 ft. diameter have been embedded in the dam.

A 22-foot wide roadway runs at the top of the dam with a bridge on the spillway.

The reservoir, in which water is collected from 718 sq. miles of catchment area, spreads over 16,650 acres. A distinctive feature of the reservoir is that it will store 5 lakh acre feet of water, 90 per cent of which is usable. (live storage.)

The irrigation barrage is situated across the river 20 miles downstream of the dam and 2 miles from Suri in West Bengal. It is 1,013 ft. long and consists of 15 bays of 60 ft. width and can safely discharge 290,000 cusecs of peak flood.

On either side of the barrage two head regulators have been provided. Each head regulator has five vents, 20 ft. wide. These regulators divert the water headed up by the barrage into the canals on the two banks.

CANALS

Two main canals known as the North bank and the South bank

canals take off from the head regulators on either side. Each is about 75 miles long and capable of carrying a discharge of 3,500 cusec about 13 lakh gallons per minute. The total length of the canal system with the distributaries is about 850 miles. There will be also 1,426 canal structures such as regulators, aqueducts, canal falls, syphons, bridges, etc., scattered over an area of 1,340 square miles.

Of the canal structures the Dwarka and Brahmini barrages on the North canal and the Bakeswar and Kopal barrages on the South canal are the most important. Between them, the two will irrigate an area of six lakh acres

POWER PRODUCTION

In addition to the canal system that stems from the Tilpara barrage another springs from the dam and irrigates areas in Bihar. The Mayurakshi Left Bank Canal, shortly to be completed, is 12½ miles long and irrigates 23,270 acres of land lying in Santhal Parganas. In addition to this, 750 acres of land lying at a level higher than the canal are proposed to be irrigated by pumping water from this canal. At its recommencement, the canal carries 260 cusec of discharge.

A power house is also rising at the foot of the dam with two units of 2,000 kW each. This will generate

PROJECT FEATURES AT A GLANCE

Dam—A masonry dam 2,100 ft. long at Messanjore in Bihar across the Mor (Mayurakshi).

Barrage—A barrage 20 miles down the dam, known as the Tilpara barrage, 1,013 ft. long.

Canals—Two canals taking off from either side of the Tilpara barrage and a canal taking off from the dam.

Irrigation—6 lakh acres in West Bengal and about 23,000 acres in Bihar.

Power—4,000 kW generated by the power house at the foot of the dam.

Cost—About Rs. 16.1 crores.

2,000 kW of seasonal power. To meet these fluctuations, it is proposed to link up this power house with the D. V. C. grid. The D. V. C. grid is inter-linked with the thermal station at Bokaro, which will make up for the variations of the hydro-power stations.

The cost of the project was estimated at Rs. 15.5 crores in 1949-50. Due to rise in price of cement and other construction materials, this had to be raised to Rs. 16.11 crores in 1953. The Mayurakshi has the distinction that it is one of the projects in the country where the estimates did not differ much from the final expenditure.

PROGRESS OF WORK

The power house at the foot of the dam will generate 2,000 kW of power round the year and 4,000 kW of seasonal power.

Construction of the Tilpara barrage started early in 1948 and was completed by June 1951 at a cost of Rs 1.1 crores. Excavation of canals was also progressing along with the barrage construction. The Canal System was declared open by Dr. B. C. Roy, Chief Minister, West Bengal, in July 1951 and about one lakh acres of land was brought under irrigation in the same year.

Of the canal structures the Brahmini barrage was completed in June 1954 and Dwarka barrage in June 1953. All the other barrages along with canal head regulators have already been completed.

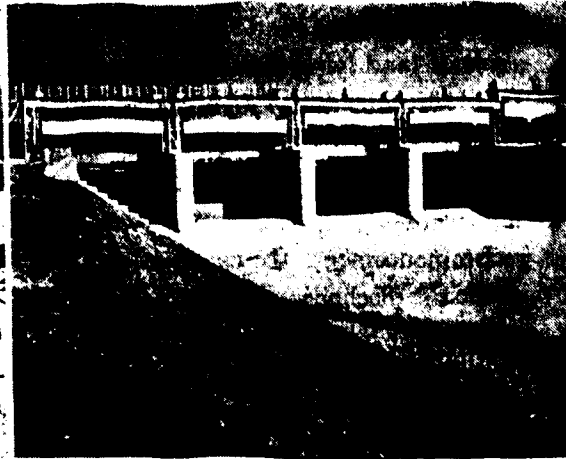
The dam was completed this year. In a single year 60 lakh cubic feet of masonry was laid into the body of the

dam, creating an impressive record for masonry dams. The power house is expected to be ready shortly.

"CANADA DAM"

The hydro-electric equipment for the power house is being supplied by the Canadian Government under the Colombo Plan. Sale proceeds from wheat imported from Canada during 1951-53 were also earmarked to finance the project by the Canadian Government. Thus wheat grain has helped the construction of the dam and enabled the multiplication of rice grains.

The new Messanjore Dam was formally opened on November 1, 1955 by Mr. Lester Pearson, Canada's Secretary of State for External Affairs. Opening the dam he observed that Mayurakshi Project bore witness to the success of the Colombo Plan and the friendship between the peoples of Canada and India—to signify which the dam was renamed "Canada Dam".



Dwarka Barrage (right) and the Kopal Barrage (left) are major cross-drainage works built as a part of the Mayurakshi Project.

Let us spare a thought for **JAMES WATT**

THE MAN WHO MADE STEAM POWER STATIONS POSSIBLE



James Watt

meaning the practical unit of electrical activity in power. Watt was not the inventor of steam engine as is popularly believed; the story of the kettle lid blowing off and a pensive boy jumping to a momentous conclusion has no foundation in recorded fact.

All that Watt did was to effect improvements on "steam." His ingenious invention of a separate condenser made steam a "great practical prime mover for every sort of purpose."

Born of poor parents at a village in Scotland in the year 1736, James was weak in constitution and timid by nature, but endowed with remarkable mental powers. At nineteen he journeyed to London to become apprenticed to an instrument maker, but poverty and continued ill-health forced him to return to Glasgow. Here, he accepted the post of official instrument maker to Glasgow College in which capacity he first made contact with the vital force that was to revolutionise not only his own life, but through his efforts the life of the whole world. Some sixty years before, one Mr. Thomas Newcomen, a Dartmouth blacksmith, had invented an "atmospheric engine" designed to lift water

"I am not enterprising", moaned a boy, who was later to become a celebrated inventor—James Watt, the man who has given a new word to the English dictionary, *Watt*,

from the depths of coal mines. Steam was used in this engine to create a vacuum in the cylinder, the piston of which was forced down by atmospheric pressure. In order to create vacuum there was need to condense steam in the cylinder which was achieved by admitting a jet of water inside the cylinder. James Watt found that the jet chilled the cylinder along with the steam and that the major part of the steam got condensed immediately on entering the cylinder thus accounting for the loss of heat. James remedied this defect by using a separate condenser into which the steam could be allowed to escape from the cylinder to be condensed by cold water. His design enabled the heat in the cylinder to be kept up resulting in the economic use of coal.

Poor Businessman

James Watt was a great inventor, but a poor man of business ("I would rather face a loaded cannon than make a bargain".) No wonder it took him five years before he could obtain a patent for his engine. It was after he struck up an association with Matthew Boulton that the tide in his fortunes turned.

Boulton had a genius for commerce. He left Watt happily engaged in his experimental workshop untroubled by the commercial and financial negotiations he found so painful

A strange contradiction in Watt's genial nature was that he felt that the steam engine should remain stationary. In spite of the successful work of Stephenson culminating in the use of the first locomotive for coal haulage, Watt frowned on it and similar experiments.

When Watt died in 1819, the steam engine was a practical prime mover for every sort of purpose. Indeed, Watt made the industrial revolution possible; he made the steam-ship a means whereby the wealth of the colonies could be rapidly brought home to the mother country; he set in motion the means for the development of the world's railway systems; he made large-scale generation of electricity practicable—although this did not occur until long after his death in 1819.

Without Watt's famous condenser and all the other improvements he and he alone made to the early engine, we might still be living in the Victorian era as regards the harnessing of natural resources to improve our standard of living.

(Condensed from an article in *Northern Lights*, house magazine of the *North West, Merryside and North Wales Division of the Central Electricity Authority, England*.)

First Five-Year Plan

SUBSTANTIAL PROGRESS IN POWER AND IRRIGATION

Now that the country is about to complete the First Five-Year Plan, and is on the threshold of the Second Five-Year Plan, a brief assessment of achievements in the First Plan period will be in order. In the First Plan, stress was rightly laid on the development of power and irrigation as the surest means of laying the foundation for an accelerated economic development. At the beginning of the First Five-Year Plan in 1951, India cultivated 290 million acres of land out of a total land area of 800 million acres. Of the acreage cultivated, only 51 million acres enjoyed irrigation facilities. Food production was inadequate and 4.7 million tons of food grains had to be imported, thereby resulting in the loss of much valuable foreign exchange.

MORE LAND UNDER THE PLOUGH

As a result of the implementation of several irrigation and power schemes, food production increased to about 65.8 millions tons in 1954-55, exceeding the target set by 4.2 million tons. Food imports fell to 0.77 million tons

in 1955. This remarkable result was possible to be achieved because of new irrigation facilities opening up to over 4 million acres. The First Plan envisaged an area of 8.5 million additional acres of land under irrigation through major schemes, and another 11 million acres through minor schemes. It is now estimated that by the end of the Plan period, seven million acres will be brought under irrigation through major schemes, and about 10 million acres through minor schemes, thereby increasing the total irrigated area by 17 million acres.

HYDRO-ELECTRIC DEVELOPMENT

As regards power, the total installed capacity (excluding installations in self-generating industries) in the country at the beginning of the First Plan was 1.7 million kW of which 32 per cent was hydro-electric. The total volume of un-utilised river waters flowing into sea was estimated at 1356 million acre feet, of which 76 million acre feet or 5.6 per cent, was used for power development. In other words, out of India's potential water power

of about 35 to 40 million kW only 1.7 million kW had been developed.

In order to harness this vast reservoir of power, the Plan formulated 200 irrigation schemes of which 11 were what was called "multi-purpose." Up to the end of March 1955, the total installed capacity had risen to 2.6 million kW recording an increase of nearly one million kW during the first four years of the Plan period. By the end of the Plan period, it is estimated that the total installed capacity will be around 2.9 million kW in public utility undertakings.

The provision for irrigation and power in the First-Five Year Plan was Rs. 614 crores. Later another Rs. 115 crores was provided for minor irrigation works, bringing the total outlay on irrigation and power to Rs. 729 crores. During the four years of the Plan ending March 1955, a sum of Rs. 430 crores was spent on major works leaving nearly Rs. 184 crores to be spent in the financial year 1955-56, and representing roughly 70 per cent achievement of the Plan target.

There is ground for satisfaction with regard to the prospect made in the completion of the multi-purpose projects. Initial handicaps due to the paucity of technical personnel have all

been overcome and inter-state arrangements have taken care of smooth working of the joint schemes.

The major multi-purpose projects are Bhakra-Nangal, Damodar Valley, Hirakud, Tungabadra, Kosi, Chambal and Rihand. The total provision made in the Plan for all these projects was Rs. 224 crores, but expenditure on them is expected to reach Rs. 241 crores at the close of the First Plan.

BHAKRA-NANGAL

The Bhakra Nangal is a gigantic project calculated to bring on completion an area of 6 million acres of land under irrigation. As a result, food production will increase by one million tons, cotton by 800,000 bales, sugarcane by 500,000 tons and pulses and oil seeds by 100,000 tons. In this project so far, the Nangal Dam, the Nangal hydel channel, the Bhakra-Canal system and the power house at Ganguwal, have been completed. The Kotla power house is expected to be commissioned by the middle of this year. Work on the 680-foot high Bhakra Dam has commenced. Water from Nangal dam has begun to flow through the Nangal channel, irrigating an area of 3 lakhs acres of arid land and the 48000 kW power house at Ganguwal has also begun supplying power to Punjab and Pepsu. Transmission lines erected total up to a length

of 1245 miles of which 1072 miles have been energised.

DVC

In Damodar Valley, the Durgapur barrage has been completed, resulting in an extension of irrigation facilities to a large area, which will add 350,000 tons of extra food grains to the country's total of food production. Besides the Tilaiya and Konar multi-purpose storage dams have been completed. Work on Maithon Dam is behind schedule, affecting progress on Panchat Hill also. Bokaro thermal station, with an installed capacity of 150,000 kW and the Tilaiya hydel station with 4500 kW capacity have been commissioned.

HIRAKUD

The Hirakud Dam is the largest of its kind in India and the progress made on it so far is also of the most spectacular kind. There are two stages of construction, stage one comprising the construction of (1) a three-mile concrete-cum-earth cum-masonry dam (2) a canal system (3) power house and (4) 506 miles of high voltage transmission lines. The total cost of project is 100 crores. The first stage covers 71 crores. Up to March 1955, Rs. 42.53 crores had been spent and another Rs. 17.38 crores was sanctioned for the financial year 1955-56. The project on completion will irrigate

448,600 acres. It is expected that power production by July 1956 will be 30,000 kW and that it will be increased to 85,000 kW firm power by the middle of 1957. Hirakud power will be available to the steel factory at Rourkela and the new factory of the Indian Aluminium Company Limited and certain other industries.

TUNGABADRA

Down south the Tungabadra Dam and its appurtenant works have been completed at a cost of Rs. 21 crores. Irrigation will be extended to 8,20,000 acres and the power house will give 45,000 kW. In the Madras State, the Malampuzha project has been completed bringing new life to 40,000 acres of land in Malabar district. The Lower Bhavani scheme is bearing fruit, irrigating two lakhs of acres in Coimbatore district.

Work on the Kosi Project and the Rihand Dam in Uttara Pradesh has been initiated. Excavation work in the Chambal multi-purpose project in the States of Madhya Bharat and Rajasthan is proceeding vigorously.

The progress made in the First Plan period is substantial, even spectacular; it is, in fact, the prelude to a better, richer tomorrow, for which the Second plan holds forth even brighter promise.

E C A F E



Session in Bangalore

by

*H. K. RAMASWAMI, B.A., Mem. A I.E.E., M.I.E.

THE FIFTH MEETING of the Power Sub-Committee of the ECAFE was held in Bangalore City at the "Puttanna Chetti Town Hall" from March 7 to March 12. Among other duties with which the ECAFE is charged, not the least important are those relating to the development of power resources, planning, promotion and utilisation of electric power entrusted to the Power Sub-Committee, a specialised wing of the ECAFE. Headed by a Chief Executive (who has his office in Bangkok) the committee is

*Dy. Chief Engineer, S. M. E. S. C. Ltd.

Picture above shows (from L to R) Mr. Das of I L O, Mr. R. P. Aiyar of the Federation of Electricity Undertakings and Mr. H.K. Ramaswami.

comprised of delegates from the ECAFE countries, observers from interested countries outside the ECAFE region (like U. K., U. S. A., U. S. S. R. and France) and from such specialised agencies as the International Chambers of Commerce, the International Labour Organisation and the International Organisation of Employers. Meetings are held periodically in various countries. The work done in the past is reviewed and a programme for the future is chalked out.

The fourth meeting was held in Tokyo. The present (Fifth) Meeting held at Bangalore on the invitation of the Government of India followed closely the pattern of the general sessions of the ECAFE also held in Bangalore.

Objective — Overall study of problems

The terms of reference of the Power Sub-Committee embrace a study of the power problems of the ECAFE region as a whole, but do not envisage any specific assistance to any individual country. Statistics relating to power generation, utilisation, hydro-electric surveys and development, as well as results of industrial surveys, are collated and published regularly, a general review of the problems and the progress of member-countries is made and so on.

The publications are made available to the member-countries, and through the member-countries, to individuals and organisations who might be interested.

The periodical meetings of members serve as a useful clearing ground for a personal exchange of information and the chalking out of future programmes of work. This "background" information is given so as to help readers get the proper perspective of the Bangalore session. Most of the ECAFE countries had sent in strong delegations—India, Pakistan, Thailand, Malaya, Australia, China, Japan and Phillipines, among others. Agencies like the International Chamber of Commerce, the International Labour Organisation and the International Organisation of Employers* were also represented. Interested countries who had also sent in delegates were U. K., U. S. A., U. S. S. R., France and West Germany.

Mr. M. Hayath, Leader of the Indian Delegation and Member of the Central Water & Power Commission (Government of India) was elected Chairman of the session. Leaders of the Japanese and Phillipine delegations were elected as Vice-Chairmen.

Chief Minister's Welcome Speech

Mr. Hanumanthaiya, Chief Minister of the Mysore State, who inaugurated

*I C C — Mr. R. P. Iyer, Secretary, Federation of Electricity undertakings.

I L O — Mr. Das of the I L O Office, Bangalore. IOE—Mr. H. K. Ramaswami.

the session said that for overall economic development, industrial expansion was essential, and as such emphasis was being laid on the development of the electric supply industry in the plans that were being prepared and implemented by the various countries. India had rightly given an important place in its Five-Year Plan for the development of the industry.

The Chief Minister also said that the power development of India was meagre as compared with the plans of some of the highly industrialised countries, but none-the-less compared with power programmes undertaken earlier than 1947, development was quite appreciable. "We have accomplished a tremendous task during the First Five-Year Plan, but there is no room for complacency," he said.

Referring to the need for extension of electricity to rural areas, Mr. Hanumanthaiya said: "Unless electricity is made available to the remotest corners of our countries, the lot of the common man cannot be improved. It is indeed a challenge to electrical engineers, and I have no doubt that they will make every effort to see that electricity reaches every humble home. Surely, they will be benefited by the counsel, advice and assistance that will be forthcoming from the industrially-advanced countries which have faced similar problems during the various

stages of their economic development. I call upon the engineers of the countries of the region, not to rest on their oars until this objective is achieved."

The regular business of the session was conducted on March 8 and March 9, the Committee sitting continuously from 9 a.m. to 1-30 p.m., and again from 2-30 p.m. to 5-30 p.m.

Atomic Power Stations

The more important matters discussed at these meetings could briefly be summarised as follows :-

(1) Study tours of expert engineers from the ECAFE region should visit European countries to study the latest techniques in high voltage power transmission, system operation and protections, hydro-electric stations, and the manufacture of equipment for use in tropical countries. Such a tour could be arranged under the auspices of the United Nations. The report that they would be submitting might be circulated among all members.

(2) Statistical data of the ECAFE countries should be prepared according to certain set standards, and published in an annual or periodically in bulletins along with a review of the progress made by each country.

(3) It was recognised that the ECAFE countries were short of both hydro-electric power and fuel resources,

though at the present state of power utilisation, resources might appear abundant. Hence atomic power stations would be the solution to be looked for to meet the growing demands of this region.

It was, therefore, suggested to members that they should take on hand power surveys and assessments and also study the techniques of power generation by atomic reactors with the co-operation of the European countries —which co-operation had been offered by U. S. A. U. K. and U. S. S. R. It was, however, stressed that atomic power stations would only supplement conventional power plants (hydro and steam) as costs of power from atomic station would not be so low as to render conventional stations obsolete.

Observers from interested countries—namely, U. S. A., U. K., U. S. S. R., France and West Germany (who participated in the discussions) traced the progress in atomic power stations in their countries. It was stated that at the present stage of development, only power stations of over 50,000 kW were deemed comparable in production costs to conventional steam or hydro stations. But as in the U. S. S. R. an experimental station of 5,000 kW had been put up, it was felt that the operating data of this station would be of particular interest to ECAFE countries, as stations of 5000 to

20000 kW would probably be the sizes of stations that would be needed in this part of the world.

Atomic fuel is the monopoly of U. S. S. R., U. K., and U. S. A. The construction of atomic power stations would, therefore, mean dependence on these countries for fuel, and these countries were themselves in need of all the fuel they produced. Their delegates, however, said that they would be very willing to help the ECAFE countries, both in research and the supply of fuel to the extent possible.

The U. S. S. R. delegation showed an interesting picture of a 5000 kW atomic power station; the film was later presented to the ECAFE Secretariat.

Visits to places of interest

The Government of India and the Government of Mysore had arranged for a study tour by the delegates to Shimoga and Sivasamudram Power Stations as well as to Krishna Raja Sagara Dam and the Mysore Silk Factory at Channapatna. The delegates also visited the Hindustan Aircraft Factory, Hindustan Machine Tools, Bharat Electronics, the Indian Institute of Science, Kirloskar Electric Works (transformer factory), Mysore Government Electric Factory, the

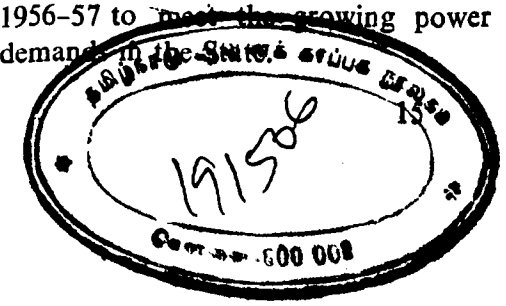
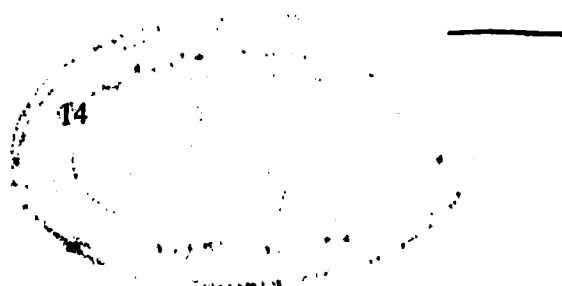
On the whole the session was a tremendous success, though somewhat strenuous. The conference arrangements were in the capable hands of Mr. V. R. Raghavan, a Director of the Central Water & Power Commission (Power Wing) who was also for sometime Chief of the ECAFE Power Sub-Committee at Bangkok. Messrs. U. Nyun and Kulkarni (the Executive Officers of the Power Sub-Committee)

The Chief Engineer Mr. Chandy and his colleagues of the Mysore Electricity Department contributed considerably to the perfection of the arrangements at the conference hall and to the success of the tours, cultural and fellowship programmes. Special mention should be made of the assistance rendered by Mrs. D'Sa, wife of Mr. D'Sa, Superintending Engineer of the Mysore Electricity Department, who took care of the wives of the delegates who had come for the sessions. She was the life and soul of the touring parties, and her singing and witticisms made otherwise tedious bus trips extremely pleasant journeys.

During the current year, an increased tempo marked the activities of the Electricity Department particularly in the rural electrification field, in which this State could legitimately claim to lead the rest of the country. The Electricity Department had set up a record by extending supply of electricity to over 600 villages during the current year, bringing the total number of villages electrified in the State to about 3,000.

Continuing, the Minister said that as already indicated in the budget speech of the Finance Minister, it had become necessary to enforce a power cut in the hydro-electric areas of the State with effect from April 1, on account of the low water storages in the hydel reservoirs. This vulnerability of the grid to the vagaries of the monsoons would be, it was hoped, tided over shortly with the availability of power from the lignite burning thermal station of 200,000 kW capacity proposed to be set up as part of the Lignite Mining Scheme of the Government of India. Besides, negotiations were under way with the Travancore-Cochin Government to avail of bulk supply to the extent of 25,000 kW at the Udumalpet border by the end of 1956-57 to meet the growing power demand in the State.

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PROPOSED SAFEGUARDS TO ENSURE SUPPLY

It was essential in the present context of the developing economy to safeguard against power demand in the State outstripping the availability of supply. With a view to meeting such a contingency apart from the schemes to be included in the Second Five-Year Plan, the Electricity Department had already undertaken the detailed investigations of the Kumbhar-Amaravathi, Palar-Porandalar and Coonoor - Karteri - Kallarpallam - Kolakambe hydro-electric schemes. During the budget year it was proposed to undertake detailed investigations of the Mettur Tunnel Scheme for seasonal power development by utilising the irrigation discharges at the Mettur Dam.

The policy of the Government to give priority for supply of power for agricultural purposes and various concessions had already been granted to agricultural consumers in the matter of supply of power. Recently, the Government had also set up a Committee to examine the prevailing rates for supply of electricity with a view to recommending uniform revised rates for all the systems. In the process of revision of existing rates the possibility of affording any relief to the agricultural consumers would also be examined.

ELECTRICITY BOARD

Referring to the State's objection to the constitution of an Electricity Board under the Electricity Supply Act, 1948, the Minister said the main objects underlying the Board idea, improvements, co-ordination and rationalisation of production, bulk transmission and distribution of power had already been achieved in this State, as over 99 per cent of power now consumed in this State was generated in plants owned and operated by the State.

The Minister added that it was a matter for doubt whether the Board, if one had been in existence in this State, could have achieved as much progress as had been achieved by Government during the period of the First Five-Year Plan. As regards the demand for working expenses of electricity schemes actually in operation, the gross revenue expected in 1956-57 amounted to Rs. 8.49 crores as against the Budget Estimate for Rs. 6.45 crores for 1955-56. The Budget estimate for net expenditure on the working of this Department for 1956-57 was Rs. 5.13 crores as against Rs. 3.25 crores last year. The increase in the working expenses was mainly due to the increased contribution to depreciation and special reserve funds based on increased capital outlay. While the gross revenues had been going up steadily, as was to be expected, the working expenses had not shown any undue increase.

"Office relations with consumers"

RICHARD GORDON, the anaesthetist turned best-selling author, makes a passing reference in his latest novel *Doctor at large* to patients who are willing to pay a fantastic fee...provided they could have manners along with their medicine.

Manners are important in any field, be it the practice of medicine or the supply of electricity. Most of a company's efforts to build good-will among consumers, it is true, must be made around the sale of its products or service, but the consumer would like, in addition, to feel that he is dealing with a friend who has a *personal interest* in him.

How employees in electricity undertakings should deal with consumers forms the subject matter of an excellent publication by Mr. A. L. Burnell, Secretary, South Eastern Electricity Board, Sussex, England.

TURN THE OTHER CHEEK

Mr. Burnell gets off to a beautiful start thus:

"We who work in the offices of electricity boards are liable at any time to be called bureaucratic. This is an occupational risk which we have

to face. It does not matter that the people who call us bureaucrats may not know what the word means. They will intend it as criticism—possibly as an insult—and as good servants of the public we should of course, turn the other cheek.

"Turning the other cheek is not a particularly attractive pastime—albeit advancing our hopes of heavenly reward—and it is better, I suggest, that we should, if possible, avoid the sort of conduct which makes the consumer cry 'bureaucrat!'

"Few consumers, I suggest, are by nature unreasonable until we make them so. It is generally a lack of understanding on their part which makes them think us—and not themselves—unreasonable. So that our first task is to assist their understanding. This calls for patience and courtesy so that they may be in the right frame of mind. It calls for a sympathetic approach to their difficulties—not to our own—so that, whatever the outcome of any dispute they are made to feel that we have not been unreasonable in our handling of it."

Mr. Burnell then goes on to describe who a bureaucrat is. According to him, a bureaucrat is one "who is insensitive to public opinion," a highly qualified practitioner in red tape. "It is fatal to our good relations with our consumers if there be any appearance of red tape," he says.

NOT AS WELCOME AS A DOCTOR

Stressing the importance of all workmen (particularly those who come in touch with consumers) being imbued with a sense of public relations, Mr. Burnell says that "workmen go into a house and make a mess—and may or may not clear it up satisfactorily. They often arrive when the householder is already under stress because of a failure...and may not always be as welcome as the doctor coming to see an ailing patient.

Mr. Burnell also emphasizes the supreme need (on the part of office) for not letting an electrician down. If no part of the organization ought to be considered bad by the consumer, it is necessary that the skill of the electrician should be matched by the efficiency of his organisation, says Mr. Burnell. "If suitable materials are not made available to the electrician, or for some reason, he is involved in unnecessary trouble or delay or an extra journey because of an office

failure, then you may be quite certain that, unless the electrician is a paragon of virtue, relations with the consumer will be impaired."

WEAR AN ANGELIC HALO

Dealing with another important point of contact with the public—namely, the telephone, Mr. Burnell says: "It is a nuisance not only to you. It is a nuisance to the consumer also." Mr. Burnell therefore suggests that "in all our telephone contacts with consumers we should try to wear that angelic halo of forbearance which will probably earn for us good marks in a future world—even if it does not improve our grading in the Board's service!"

Finally—and rightly too—Mr. Burnell devotes a good deal of attention to letter-writing. A personal contact or telephone call is not recorded imperishably for all time in black and white, whereas a letter can offer much incriminating evidence. "What we have to write," says Mr. Burnell, "is the sort of letter which is first of all absolutely honest; secondly, simple to understand without being patronising; as sympathetic as possible with the consumer's point of view without being servile; and at the same time designed to secure the result which the Board wants."

Current TOPICS

POWER SUPPLY TO RURAL AREA

Mr. V. T. Krishnamachari, Deputy Chairman, Planning Commission said on February 22, (in a radio talk) that the output of electrical energy is expected to increase from 11,000 million units in 1955-56 to 22,000 million units in 1960-61, representing an increase of 100 per cent. Mr. Krishnamachari further stated that a provision for 35,000 miles of new transmission lines of 11 kW and above had been made. About 7500 additional small towns and villages would be provided with electricity. The Second Five Year Plan included 42 power generation schemes of which 23 were hydro-electric schemes and 19 steam power stations. By the end of the First Five Year Plan Mr. Krishnamachari said all medium and large towns with a population of 20,000 would receive electric supply.

Referring to the First Five-Year Plan, Mr. Krishnamachari said at the commencement of the Plan the total installed capacity of all generating plants in our country was 2.3 million kW. Of this 1.7 million kW was in public utility undertakings and 0.6 million in self-generating factories.

Works on power plant with an aggregate capacity of 0.2 million kW would be almost completed, but supply from these would begin only in the first few months of the Second Plan. Referring to electrification of towns and villages, he said by the end of the First Five-Year Plan more or less 6,500 places would receive electric supply. He added about 3.4 million kW of power plant would be required to be installed during the next five years. Of this additional 3.4 million kW, 2.9 million kW would be installed by State undertakings, 0.2 million kW by private supply companies and 0.3 million by certain industries like the lignite mines, steel factories, cement and paper mills. Mr. Krishnamachari further stated that an expenditure of Rs. 435 crores would be required for the completion of these targets for power generation.

Concluding, Mr. Krishnamachari remarked all medium towns and villages with a population of above 20,000 would get electric supply by the end of the Second Five-Year Plan. There is also provision in the Second Plan for small villages and towns in the population group of 20,000 and 50,000 to receive electric supply. It is intended

to supply electricity to at least 6,500 additional villages in the country in the coming five years.

NAGARJUNA PROJECT IN SOUTH INDIA

Work has begun on South India's largest river valley project—the Nagarjuna Sagar multi-purpose project. This is a joint venture by the Andhra and Hyderabad Governments and is estimated to cost about Rs. 122 crores. It comprises a 387 foot high dam across the river Krishna at Nagarjuna Konda to form a reservoir of 9.3 million acre feet storage capacity. This would bring under cultivation 31.83 lakh acres of land and would also generate 75,000 kW at 60 per cent load factor. Mr. Jawaharlal Nehru formally inaugurated work on this Project in December 1955.

NATIONALISATION OF ELECTRICITY UNDERTAKINGS

The Government of Andhra have resolved to nationalise the remaining eleven privately—owned electricity undertakings in the State before March next year.

Mr. G. Latchanna, Minister for Electricity, said that two generators each of 90,000 kW would be commissioned at the Tungabhadra Project by June 1956 and two more by the middle of 1957. The rural electrification programme will be speeded up and

before the end of the current financial year 150 more villages would get power supply.

HEAVY PLANT INDUSTRY

The proposed new heavy electrical plant factory for India will employ about 10,000 people and cost approximately Rs. 27 crores to build and equip. This information is included in the further details that have now been released of the agreement under which Associated Electrical Industries Limited have been appointed by the Indian Government as consultants in the establishment of a heavy electrical manufacturing industry in India. The Government of India intend to build up an independent industry capable of meeting a substantial portion of the country's requirements for hydro-electric plant, electric traction equipment, generating plant and distribution gear. A E I's appointment is for a basic period of 15 years, during which the company will act as consultants in the design, layout and construction of the factory or factories, the general arrangements and procurement of plant, machines and equipment, and the preparation of a training scheme.

POWER SURVEY

A load survey of power projects on an all-India basis is shortly to be undertaken by the Government's Central Water Power Commission. It is

proposed to conduct the survey to ensure timely planning for the adequate provision of supplies of electricity vital for industrialisation, and to assess the amount of power likely to be required in the future. The idea is to establish regional offices which will co-ordinate the activities of the various agencies concerned with planning, electricity, agricultural and industrial departments of State Governments, large private undertakings and local bodies. Four standing committees will secure appraisals of power requirements, the possibilities and potential of various regions, and take steps for development of power and its utilisation. Standing committees would comprise the Directors of Industries of States and the Chief Electrical Engineer to the Government. Where State Electricity Boards are in existence, the Boards' representatives would replace the Chief Electrical Engineers.

WEST BENGAL SCHEME

Work on the scheme to supply electricity to the rural areas of West Bengal to encourage small-scale and cottage industries and thus expand employment possibilities is said to be progressing satisfactorily. Under the scheme 60 places spread throughout the 14 districts are to get electricity by the end of the current financial year. The cost of the scheme — Rs. 1.63 crores — will be borne by the Government of India.

PROGRESS IN HYDERABAD

Electricity supply projects in Hyderabad were recently reviewed by a Government spokesman. The first stage of the Nizamsagar project had been completed and the other two would be complete by the end of the year. The erection of 33 kV transmission line from Erragonda substation to Hussainsagar was in its final stages. Looking more to the future it was stated that orders for machinery and the erection of transmission lines in the Tungabhadra hydro-electric scheme would be placed soon. The Government had undertaken the electrification of 17 towns and villages and a sum of Rs. 29 lakhs had been allotted for replacing plant which was wearing out at various power stations. In addition a scheme for electrifying Vikrabad and the establishment of a power station had been sanctioned.

A. C. SUPPLIES IN MADRAS

The Madras Electricity Department, is to extend A.C. Supplies to all consumers in the city. At present power is supplied through a complicated network of D. C. and A. C. mains, but the former has served its useful and economic life, it is stated. Consumers are being asked to cooperate and change over to A. C. as and when the occasion warrants without waiting for the D. C. supply to fail.

The "Kundah Project"

WITH reference to the news item published under this head in the last issue of ELECTOLITE, the Chief Engineer, Government Electricity Department, writes:

"The Kundah Hydro-Electric Scheme is the biggest of the new schemes of the Second Plan and will be the biggest of all the hydro electric schemes of the State. The development of the Kundah basin in the Nilgiri Hills is proposed to be taken up in four stages. Only the first two stages have been investigated, and will be taken up during the Plan period. The first stage involves the construction of two power houses, the first with an installed capacity of 40,000 kW with a gross head of 1180 feet. The storage will be built by constructing a dam across the Avalanche and Emerald streams at an elevation of about 6,500 feet.

The tail waters of the first power house and the free flow from the Kundah basin below the Avalanche-Emerald dam will be utilised for generating power in a second power house with an installed capacity of 105,000 kW comprising three units of 35,000 kW each. The gross head for this station will be 2,800 feet.

The first stage of the scheme is expected to be completed by the end of 1960-61 bringing in an installed capacity of 145 mW. The second stage contemplates an additional storage of about 3000 m. cft. at the Upper Bhavani catchment at elevation. 7470 ft., and extension to Power House No. II with a fourth 35,000 kW generating unit.

Out of the total cost of Rs. 35 crores for the scheme, a sum of Rs. 23 crores is expected to be spent during the plan period 1960-61.

Industrial Estates

THE first five industrial estates in India are expected to be completed during the financial year 1956-57. The construction of these estates, expected to stimulate the growth of small industrial units, was sanctioned during the current financial year.

These five estates are being set up at Okhla in Delhi, Rajkot in Saurashtra Guindy and Virudhunagar in Madras and Quilon in Travancore-Cochin. At the same time proposals of the Uttar Pradesh Government to set up industrial estates in Kanpur and Agra, are being examined by the Union Ministry of Commerce and Industry. Proposals for more such estates during 1956-57 are expected from State Governments.

Sites in industrial estates are offered to small industrial units for outright purchase or on a rental or hire-purchase system. Those who take the sites on rental basis are to be encouraged to change over to the hire-purchase system in course of time. For general services rendered in the estates such as provision of roads, sewage, supply of water and electricity, etc., a charge would be levied on all users. However, if the rents to be charged have to be subsidised the Government of India will give 50 per cent of this expenditure as a grant for a period of five years.

The construction and management of industrial estates is the responsibility of State Governments.

Strictly Personnel

Republic Day:

On January 26, we celebrated Republic Day with appropriate ceremony. After prayer by T. K. Srinivasan, Junior Engineer, and a brief welcome speech by R. Vaidyanathan, Meter Inspector (and Joint Secretary of the Staff Association) Mr. K. K. Raman, Director, unfurled the national tricolour in the presence of a large gathering of employees and children.

Speaking on the occasion, Mr. Raman observed that the country had won its freedom through sacrifice by several noble sons. India had secured an honoured place in the comity of nations, thanks to the dynamic leadership of Pandit Jawaharlal Nehru and it was the duty of every one of us to try our best to strengthen his hands, he added.

Deploring the recent manifestations of linguistic fanaticism, Mr. Raman said that each one of us should do his bit to preserve national unity. "Let us all re-delicate ourselves to the task of national reconstruction and uplift and contribute our share to realising the targets set in the national plans," he concluded.

Sweets were then distributed to children and prizes given away to successful participants in Republic Day tournaments. (Volleyball and Badminton).

Volley Ball:

Winners:—R. Durairaj; N. Kesava Pillai, A. Lakshmanan; S. Thavasi; M. Chellappan and S. K. Swaminathan.

Runners-up:—M. R. Srikant; T. K. Srinivasan; M. Vridhachalam; Karuppan; S. Bernard; and S. Ponnambalam.

Badminton:

Winners:—Appaji Rao; R. Sivanandam; R. Santanam; S. K. Ramaswami; and T. S. Somasundaram.

Runners-up:—S. Sundaram; S. Rajai; S. Jayaraman; R. Venkataraman; and P. Subbaratnam.

Marriages:

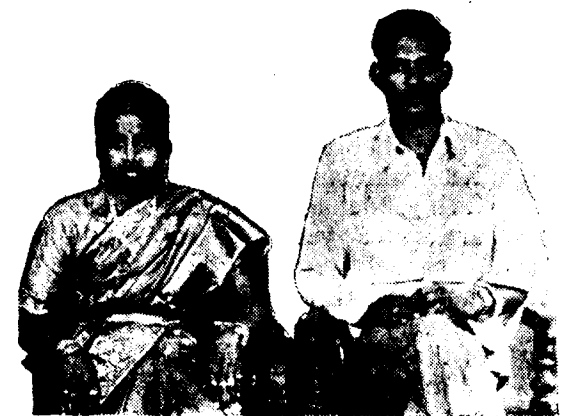
Recent weddings of special interest to us were those of:

Sowbagyavathi Vasant, alias Annapurni daughter of K. Mahadevan, Stores with T. M. Jambunathan.

Harivittaldass, Lineman, Construction with Sowbagyavathi Lakshmi-kantham.

Vridhachalam, Lineman. with Sowbagyavathi Subbulakshmi.

Miss Margaret Rita, daughter of G. A. Stanislaus, Head Lineman, Mayavaram, with Antony Selva Raj Richard.



Vridhachalam with his bride Subbulakshmi.



A. S. Richard and Margaret Rita.

Our congratulations and good wishes are extended to all these newly-weds.

We wish also to convey our respectful felicitations to Mr. A. V. Subrahmanya Iyer, Advocate (father of S. Raman, Street Light Supervisor) on his *Shashtiabdapurti* (61st birthday)

SME Ambulance :

"Wherever you go" (to borrow the deathless phraseology of a cigarette company advertisement) you will find our Ambulance boys. Whether it is Chidambaram, Srirangam or Kumbakonam, wherever pilgrims gather in their tens of thousands and lakhs, you will find our he-men, ministering angels doing their stuff.

On February 25, there came to Kumbakonam over six lakhs of people for the Mahamakam festival, held once in twelve years. Our Ambulance personnel were on duty at the two tanks and the bathing ghat of the river Cauvery — dips in the sacred waters of these tanks and the river are supposed to wash off one's accumulated sins of the years gone by. Our boys did

first aid to well over 50 cases of swooning.

On Arudhra Darshan day at Chidambaram (in December) and on Vaikunta Ekadasi day at Srirangam (in January) our Divisions were present in representative strength and did excellent work.

Farewells :

To R. Krishnamurthy, Stores, who retired effective from January 12, we would like to wish every happiness. Quiet and rather reserved, Mr. Krishnamurthy's excellent command of English was in evidence both in his noting and letters.

S. Srinivasan, Revenue, resigned effective from December 3.

G. Kalyanam, Line Supervisor, Tranquebar, resigned effective from January 29.

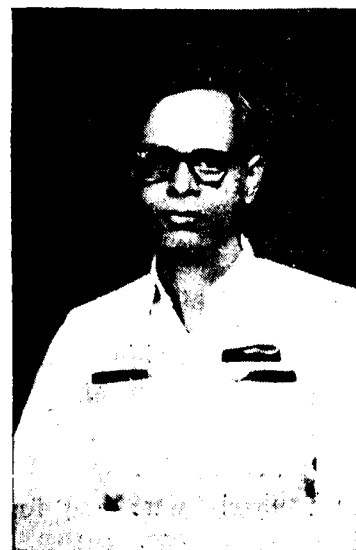
Obituary :

The death took place on January 23 of S. Vaidheeswaran, Bill Collector. He was formerly a Token Clerk in our Canteen, and an extremely popular personality with members of our staff. To the members of his bereaved family, we convey heartfelt sympathy.

And now to conclude this column with a bit of advice snipped from a trade journal: Being a so-called "live wire" is all right if you generate high voltage without burning yourself out and short-circuiting your life. But why not be just an ordinary wire that's well insulated with patience and calmness and has tight connections with things that count? This kind of wire can carry a steady sure, safe current that will keep your life humming and glowing.

OUR PEOPLE

* * * R. NATARAJAIAER



R. Natarajaiar, Resident Engineer, Manapparai, started his career with us as a draughtsman back in 1927. Between the years 1928 and 1932, he served as Lighting Superintendent and Line Superintendent. He also used this period to pass his examination in electrical engineering subjects. Earlier, Natarajaiar had taken a course in mechanical engineering at the School of Engineering, Bangalore. A former pupil of the St. Joseph's High School,

Tiruchirapalli, he was then particularly proficient in mathematics. After Matriculation, he joined college, but soon broke off this study to switch over to a course of engineering education.

In 1933, Natarajier was appointed a construction engineer and posted to Mannargudi. In 1939, he was made a Resident Engineer, and transferred to Tiruvarur where he completed several H. T. and L. T. extensions, helping our organisation in its programme of taking the benefits of electric supply to villages. Re-transferred to Mannargudi in 1940, he was posted to Manapparai in 1947.

Reading, bridge and caroms are Natarajier's off-work interests.

Mr. Natarajier has completed 25 years of service with the company, and as was mentioned in the last issue of this journal, was the recipient of a long-service award in August last.

Here's wishing Natarajier lots of happiness and several years of useful activity.

SME SUPPLY NEWS

FOUR villages in East-Tanjore Area received supply during the quarter ending December 1955. They are Vowalladi, Semmangudi, Mananthakudi, and Keeranallur.

Vowalladi, a village in Nannilam Taluk was given supply in October. A H. T. spur line tapped off pole No. 60 in Sannanallur-Thittacheri line was drawn for five furlongs. A 30-kVA pole-mounted transformer substation was erected in the village and L. T. O. H. lines were drawn for five furlongs. Fifty-pound rails, both for H. T. and L. T. lines were used — ACSR "Gopher" and all-aluminium conductor 7/1093 and ACSR "Squirrel" for L. T. were used. Twenty-one lighting services were connected up. The cost of the extension is Rs. 20,000.

Mananthakudi, another village in Nannilam Taluk, received supply in November. Single phase L. T. O. H. line was drawn from Marudavanancheri transformer substation. Eight lighting services were connected up on the day of supply. Fifty-pound rails and ACSR "Squirrel" conductors were used.

Semmangudi and Keeranallur, two villages in Sirkali Taluk, received supply in December. A H. T. spur line tapped off post No. 9 to Thiru-

mullaivasal road substation was drawn for 11,520 feet.

A 5-kVA pole-mounted transformer substation was erected and L. T. O. H. line for 4070 feet was drawn at Semmangudi village. Seven lighting services were connected up on the day of supply.

A 10-kVA pole-mounted transformer substation was erected at Keeranallur village, and L. T. O. H. line for 2610 feet was drawn. Thirty-two lighting services have come up.

Fifty-pound rails both for H. T. and L. T. were used. ACSR "Gopher" for H. T. lines and all-aluminium conductor 7/1093 and ACSR "Squirrel" were used for the L. T. lines.

Rural electrification work in and around Mettupalayam was inaugurated on October 26, *Vijayadasami* day. Mr. S. Sankaran, Superintending Engineer, formally planted the first pole of distribution in Valayaduppu and Mettupalayam areas. Valayaduppu is an important village where over sixty agricultural pumpsets are expected to come up. Mettupalayam and Thathiengarpet are two important weaving centres and, where as a result of the advent of electricity, many rural and cottage industries might spring up. The present scheme which will form the first stage of development in the area covering nine important villages



Mr. M. V. Krishnamurthi Rao planting the first post in Thinnakonam.

around Thathiengarpet will cost around Rs. 6 lakhs.

On November 5, Mr. H. K. Ramaswami, Deputy Chief Engineer, planted a ceremonial post in Thathiengarpet to mark the inauguration of electrification work in this area.

Three villages which received supply during the quarter ending March 1956 are Koppu in Tiruchirapalli Taluk, Mylrangam in Lalgudi Taluk and Pakkiri Thaikal in Sirkali Taluk. Koppu was given supply in January. Single-phase L. T. line from the Kulumani 100-kVA transformer substation was drawn for 2000 feet. Twelve lighting services were given on the day of supply. Fifty-pound rails and ACSR "Squirrel" conductors were used for the L. T. lines. The cost of the extension is Rs. 2,500.

Pakkiri Thaikkal received supply in February. Three-phase L. T. O. H.

lines were drawn from the Thulasendrapuram transformer substation for 1160 feet. All-aluminium conductor 7/0193 and fifty-pound rails were used. Six lighting services and one agricultural power service were connected up on the day of supply. The cost of the extension is Rs. 2300.

Mylrangam received supply in March. Single phase L. T. O. H. line for 4200 was drawn from the Pachampet L. T. lines. Fifty-pound rails and ACSR "Squirrel" conductors were used. Ten lighting services and five street lights have come up. The cost of the extension is Rs. 4,200.

Rural electrification work in and around Thinnakonam village Musiri Taluk was inaugurated on February 23rd. Mr. M. V. Krishnamurthi Rao, Director, planted a post in Thinnakonam to mark the launching of the work in this area.

Loads connected for the quarter ending December 1955

Area	Industrial	Agricultural
Tiruchirapalli-Srirangam area	120 h.p.	55 h.p.
East-Tanjore area	10 h.p.	3.0 h.p.

Loads connected for the quarter ending March 1956

Area	Industrial	Agricultural
Tiruchirapalli-Srirangam area	117 h.p.	65 h.p.
East-Tanjore area	112 h.p.	31.0 h.p.

எலக் டோஸ்ட்

தமிழ் அநுபந்தம்

குடியரசு தின விழா

— வே. ரங்கராஜன்.

“ஒத்தாடு முயர்ந்தாரும் தாழ்ந்தாடுமெவரும் ஒருமையுளரகி உலகியல் நடத்தல் வேண்டும்” என்று இராமலிங்க வள்ளலார் வருணித்த - விரும்பிய - உயரிய குடியரசு நிலையை பாரத நாடு அடைந்து இந்த வருடத்துடன் ஆறு ஆண்டுகள் ஆகிவிட்டன. சத்திய - அகிம்சைப் பாதையில் முன்னேறி வரும் பாரத மக்கள் ஒவ்வொரு வருடமும் போல இவ்வருடமும் ஜனவரி 26-ம் நாள் குடியரசு தினத்தை மகிழ்ச்சியுடன் கொண்டாடியதுடன் தங்கள் தாயகத்தின் உயர்வுக்குப் பணி செய்வதாக உறுதியும் எடுத்துக் கொண்டனர். நமது கார்ப்பொரேஷனிலும் குடியரசு தினம் பக்தி பூர்வமாகக் கொண்டாடப்பட்டது.

திரு. டி. கே. சீனிவாசன் இசைத்த தாய்நாட்டு வணக்கப் பாடலுடன் காலை எட்டு மணிக்கு வைபவம் தொடங்கிற்று. கூடியிருந்த மக்களையும், சிப்பந்திகளையும் கார்ப்பொரேஷன் சிப்பந்திகள் சங்கச் செயலாளர். திரு. ஆர். வைத்தியநாதன் வரவேற்றார். பின்பு கார்ப்பொரேஷன் டைரக்டர் திரு. கே. கே. இராமன் பாரத மாதாவின மூவர்ணக் கொடியை ஏற்றுவித்தார். பட்டொளி வீசிப்பறந்த நம் தாயின் மணிக் கொடிக்கு “ ஜெய்ஹிந்த் ” என்று

முழக்கமிட்டு அனைவரும் அஞ்சலி செய்தனர். கொடிவணக்கத்திற்குப் பின் திரு. இராமன் சுருக்கமான தோர் உரை நிகழ்த்தினார்.

அவர் பேசுகையில் எண்ணற்ற உத்தமர்களின் சலியா உழைப்பினாலும், தியாகத்தினாலும் தான் பாரத நாடு விடுதலை பெற்று இன்று உலகத்திற்கே நல்ல வழிகாட்டியாக இருக்கிறதென்று கூறினார். மொழி வெறியின் காரணமாக நாட்டில் பிளவைத் தோற்றுவிக்கச் சில சுயநலமிகள் முயலுகின்றனரென்றும் அவர்களின் கூச்சல்களுக்குச் செவிசாய்க் காமல் பாரதக் கொடியின் பெருமை மேலும் தழைக்கும் வண்ணம் எல்லோரும் உழைக்க வேண்டுமென்றும் அவர் குறிப்பிட்டார்.

பின்னர் “ குடியரசு தின ” விழாப் போட்டிகளில் வெற்றி பெற்ற சிப்பந்திகளுக்குப் பரிசுகள் வழங்கப் பட்டன. திரு. ஆர். வைத்தியநாதன் நன்றிகூற விழா இனிது முடிவுற்றது. கூட்டத்திற்கு வந்திருந்த குழந்தைகளுக்கு இனிப்புப் பண்டங்கள் வழங்கப்பட்டன. ஏழைகளுக்குக் கஞ்சியும் வார்க்கப்பட்டது. அன்றிரவு கார்ப்பொரேஷன் கட்டிடத்தில் தீபாலங்காரம் செய்யப்பட்டது.

செய்திக் கதிர்

மின்சார சப்ளையில் வெட்டு

நீர் விசைத்தேக்கத்தில் நிலைமை திருப்திகரமாக இல்லாததால் இவ்வாண்டு ஏப்ரல் முதற்கொண்டு மின்சார சப்ளையில் வெட்டு ஏற்படுத்தப்படலாமென்று சென்னை ராஜ்ய மின்சாரப்பிரிவின் தலைமை இஞ்சினீர் அறிவித்திருக்கிறார். ராஜ்யத்தில் தென் மேற்குப் பருவமழை பெய்து நீர் நிலைமை சீரடையும் வரை இக்கட்டுப்பாடு நீடிக்கலாம் என்றார் அவர். நிலைமை வெகு உன்னிப்பாகக் கவனிக்கப்படுவதாகவும், குறைந்தபட்சம் எவ்வளவு இயலுமோ அவ்வளவு தான் வெட்டு அமுலாக்கப்படுமென்றும், நெருக்கடியைச் சமாளிப்பதில் அனைவரும் ஒத்துழைக்க வேண்டுமென்றும் அவர் கேட்டுக்கொண்டார்.

பெருவாரி மின்சார உபயோகக் கட்டண உயர்வு

பிப்ரவரி 27-ம் தேதியன்று சென்னை கீழ்ச்சட்ட அலையில் நிதி அமைச்சர் சி. சுப்பிரமணியம் 1956-57 ம் ஆண்டு வரவு செலவுத்

திட்டத்தை (பட்ஜெட்டை) சமர்ப்பித்தார். அப்போது அவர் உரை நிகழ்த்துகையில் ‘ ஹைடென்ஷன் ’ கட்டணப்படி நீர்மின்சாரப் பிரதேசங்களில் உபயோகமாகும் மின்சாரத்தின் கட்டணம் மேலும் 30 சதவீதம் உயர்த்தப்படும் என்று அறிவித்தார். அவர் மேலும் சொன்ன தாவது. “ தற்போது அமுலில் உள்ள மின்சாரக் கட்டணம் உலகப் போருக்கு முன்னிருந்த நிலையில் நிர்ணயிக்கப்பட்டது. மின்சார உற்பத்திச் செலவைவிட அதற்கு விதிக் கப்படும் கட்டணம் குறைவாகவே உள்ளது. இப்போது வசூலிக்கப்படவிருக்கும் 30 சதவீதக் கூடுதல் கட்டணம் சென்னை மின்சார சப்ளையிலிருந்து மின்சாரம் பெறுவோரையும், இரயில்வேயையும் பாதிக்காது. புது இயந்திரத் தொழில் தொடங்குவோரும் அவற்றை ஆரம்பித்த முதல் மூன்றாண்டுகளுக்கு இவ்வரியைச் செலுத்தவேண்டிய தில்லை. இக்கட்டண விதிப்பினால் ஆண்டு ஒன்றுக்குச் சுமார் 45 லட்சம் ரூபாய் வருமானம் கிடைக்கும் ”.

தென்னிந்திய கிராமங்களுக்கு மின்சாரம்

இந்தியாவிற்கும் அமெரிக்காவிற்கும் மார்ச் 1, 1956 அன்று புது டில்லியில் கையெழுத்தான சில ஒப்பந்தங்களின்படி கென்னை, ஆந்திரம், திருவிதாங்கூர்-கொச்சி, மைசூர் ஆகிய ராஜ்யங்களிலுள்ள கிராமங்கள் புது மின்சார வசதி பெறவிருக்

கின்றன. இத்திட்டப்பிரகாரம் தென்னிந்திய கிராமப் பகுதிகளில் 6200 மைல் நீளத்திற்கு வெவ்வேறு சக்தி வோல்டேஜில் மின்சாரவசதி செய்து கொடுக்கப்படும். இதுதவிர சென்னை ராஜ்ய சர்க்காரும் கிராமப் பகுதிகளுக்கு மின்சாரவசதி செய்வதில் குறிப்பிடத்தக்க கவனம் செலுத்தி வருகிறார்கள். பிப்ரவரி 25, 1956 அன்று நன்னிலத்தில் பேசிய ராஜ்ய ரெவின்யூ அமைச்சர் மாணிக்க வேலர் இத்தகவலை வெளியிட்டார். சென்ற ஒரே ஆண்டில் 410 கிராமங்கள் மின்சாரவசதி அடைந்திருப்பதாகவும். இன்னும் 3 மாதங்களில் 150 அதிகப்படியான கிராமங்களுக்கு இவ்வசதி அளிக்கப்படுமென்றும் அறிவித்தார்.

இந்தியாவிற்கு அணுசக்தி உற்பத்தி நிலையங்கள்

உலகத்திலேயே பாரத நாட்டில் தான் தோரிய தாதுப்பொருள் அதிகமாகக் கிடைக்கிறது. கேரளத்திலும், கிழக்குக் கடற்கரையிலுமாகச் சேர்ந்து மொத்தம் சுமார் 1,80,000 டன் தோரியம் கிடைக்குமென்று நம்புகின்றனர். அத்துடன் 1,50,000 டன் சுத்த உரேனியம் கிடைக்குமென்றும் மதிப்பிடப்பட்டுள்ளது. இயற்கை அளிக்கும் இவ்வளத்தைப் பயன்படுத்தி இயங்க வல்ல அணுசக்தி உற்பத்தி நிலையங்களை நிறுவ இந்திய அரசாங்கத்தினர் உத்தேசித்துள்ளனர். இதனால் நிறைய மின்சாரசக்தி உற்பத்தி செய்ய இயலும்.

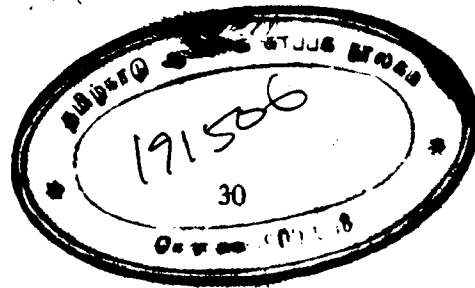
கிராம மின்சார விஸ்தரிப்புக்கு இந்திய சர்க்காரின் நீண்டகாலத் திட்டம்

இரண்டாவது ஐந்தாண்டுத் திட்டம் தொடங்கிய 20 ஆண்டுகளுக்குள் படிப்படியாக நாட்டிலுள்ள எல்லாக் கிராமங்களுக்கும் மின்சாரவசதி செய்து கொடுக்க நீண்ட காலத் திட்டமொன்றை பாரத அரசாங்கம் தயாரித்து வருகிறது. சர்க்கார் வெளியிட்டிருக்கும் ஒரு அறிக்கையில் கிராமங்களுக்கு மின்சாரவசதி செய்வதற்கு வேண்டிய மூலதனம், இயந்திரத் தேவைகள் பற்றிய முழு விவரத்தை தெரிந்து கொள்ள விரும்புவதாகத் தெரிவித்துள்ளனர். இத்திட்டத்தை வகுக்கத் திட்டக் குழுவிடம் தங்கள் கருத்துக்களைச் சமர்ப்பித்து உதவுமாறு ராஜ்ய அரசாங்கங்கள் கேட்டுக்கொள்ளப்பட்டிருக்கின்றன. ராஜ்ய அரசாங்கங்களிடமிருந்து முழுவிவரங்களும் கிடைத்தபிறகு தான் இத்திட்டத்தை நிறைவேற்றக் கடன் அல்லது உதவித்தொகை அளிப்பது பற்றி இந்திய சர்க்கார் யோசிக்கும்.

திருகு இல்லாத மின்சாரப் பல்பு!

திருகாமலே பொருத்த வல்ல மின்சார பல்பொன்றை அமெரிக்க விஞ்ஞானி அடால்ட்புகார் என்பவர் கண்டுபிடித்திருக்கிறார். திருகுக்குப் பதிலாக 'ஸாக்ஸெட்' டில் காந்த சக்தி இருக்கும். பல்பினுடைய இரும்புத்தகடு இதனருகே சென்றவுடன் தானே ஒட்டிக்கொள்ளும்.

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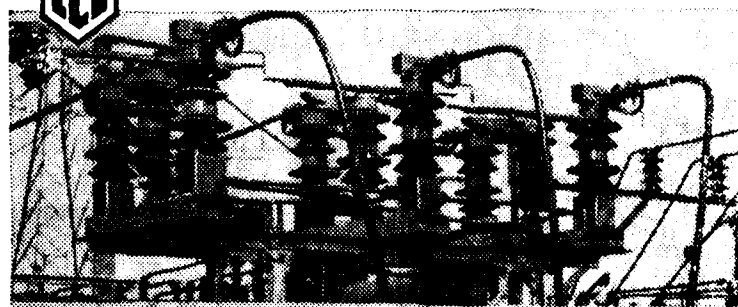
9, HARE STREET, CALCUTTA. WORKS: TATANAGAR.

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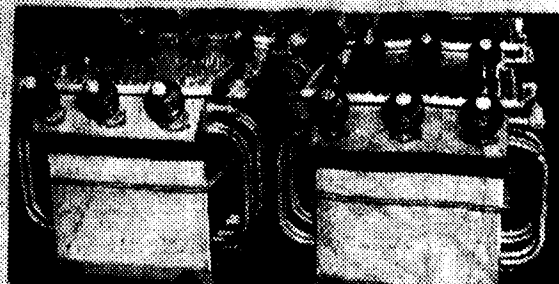




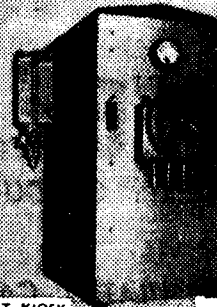
QUALITY ELECTRICAL EQUIPMENT



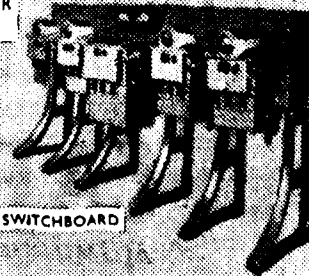
A view of ECE 33 KV AIRBREAK SWITCHES installed in Chord Road Substation of Government of West Bengal



A sectional view of ECE TRANSFORMER ASSEMBLY SHOP



H.T. KIOSK



L.T. SWITCHBOARD

**ELECTRIC CONSTRUCTION
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first time

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POWDER

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Chlorine

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Some Salient Features

Area of Supply	6997 sq. miles
No. of L. T. Consumers	43,129
No. of H. T. Consumers and Licensees } taking bulk supply }	14
No. of substations	434
Installed transformer capacity	26,151 kVa
Transmission and distribution lines :	H. T. 788.75 miles } L. T. 802.5 miles }
Units purchased per year	9,41,97,116
Agricultural pumpsets	1420
Industrial power services	1738
Installed capacity of industrial power	14,508.1 h. p.
Villages electrified	410

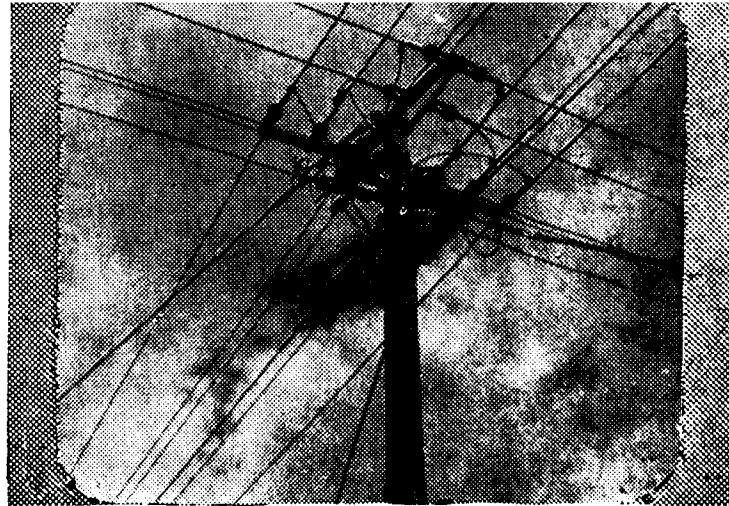


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