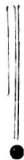


MINISTRY OF WORKS, MINES AND POWER



REPORT
ON THE WORK OF THE
MINISTRY OF
WORKS, MINES AND POWER
:: SHOWING ITS SALIENT ACTIVITIES ::

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24TH FEBRUARY 1949

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I—MINISTRY

The Ministry of Works, Mines & Power, as its name suggests, is concerned generally with three distinct types of activities relating to Works, Mines and Power. It is also concerned with activities such as those relating to Stationery, Printing and Explosives, which do not come under the category of any of the broad headings mentioned above. The Secretariat of the Ministry is the unifying factor for all these activities. This Secretariat deals with all policy and broad administrative matters, prepares, presents and controls the budget, controls all Class I and most of the Class II appointments and generally directs the activities of the various subordinate organisations.

The executive work of the Works side of the Ministry is entrusted to the Central Public Works Department including its Civil Aviation Wing and some estate work in connection with works is entrusted to the Estate Office.

On the Mines side, the work connected with Geological Survey is entrusted to the Geological Survey of India, works in connection with the development of Mines and minerals entrusted to the Indian Bureau of Mines. The problem of higher training in Mining Engineering and Applied Geology is tackled by the Indian School of Mines and Applied Geology. As a temporary measure the control of export, import and regional distribution of Petroleum and Petroleum products is done by the Petroleum Division of the Ministry.

On the Powers side the Central Electricity Commission is charged with the general responsibility for co-ordinating and furthering all schemes of electric power development, transmission and utilization. The Central Water-power Irrigation and Navigation Commission is concerned as its name suggests, with the development of Hydro-electricity, Irrigation and internal navigation through what are called the Multi-purpose River-valley development schemes.

On the miscellaneous side of the Ministry fall the following organisations, which are described in the relevant portions of the Report:—

1. Explosives Department
2. Stationery and Printing Department.

Besides the Government Organisations mentioned above, the Ministry is also concerned with:—

- (i) The Central Board of Irrigation

- (ii) The Coal Mines Stowing Board
- (iii) The Damodar Valley Corporation; and
- (iv) The De'hi Central Electric Power Authority Ltd.

II — SECRETARIAT

The general administrative set up of the Ministry of Works, Mines, and Power comprises a Secretary, a Joint Secretary, 5 Deputy Secretaries, 7 Under/Assistant Secretaries and a staff of 11 Supdts., 86 Assistants (including 7 Assistants-in-Charge) and 78 clerks. There are 20 branches into which the Ministry is divided. Four of these are works branches dealing with planning and construction by the Central Public Works Department and allotment of residential and office accommodation, requisitioning and therequisitioning. Another deals with the Central Public Works Department accounts and Budget while two deal with establishment. Two branches deal with Geological Survey, the Indian Bureau of Mines, Mica and other minerals. Two deal with multi-purpose power projects and River Valley Schemes, two with electricity, one with stationery and printing another with explosives and petroleum, while there are other branches dealing with cash, library and general matters. Appointments, transfers, promotions, postings, leave arrangements and super-annuation questions within the Ministry are dealt with in the Administration Branch which for many purposes acts as a co-ordinating agency adjusting the requirements of different branches. It has to do a good deal of confidential work and senior officers are generally placed in charge of it.

III—CENTRAL PUBLIC WORKS DEPARTMENT

The Central Public Works Department looks after the maintenance of Central Government's civil buildings, aerodromes and roads and is the executing agency for the civil works of the Central Government and the Chief Commissioner's Provinces excluding the National Highways and the multi-purpose river development projects.

2. The outstanding achievement of the Central Public Works Department, last year, was the construction of the Pathankot-Jammu Road at a total cost of about Rs. 3 Crores, in record time and in a territory very close to the theatre of war. The assistance which our military operations derived from the construction of the road is too well-known to need repetition. The other important works undertaken were the construction of the refugee camps at Kurukshetra and Jammu, the Fertiliser Factory at Sindri, the bridges on the Kuakhat and Katjuri rivers in Orissa, in connection with one of the National Highways, houses for refugees in Delhi, augmentation of water supply in Delhi, water supply at Ajmer, completion

of the Calcutta Mint, shifting of Jorbagh Nursery to its new site, planning for Greater Delhi with a view to meet the increased requirements, and a huge building programme of constructing 200 officers' flats, 2,000 clerks' quarters and 1250 peons' quarters in Delhi was also commenced. Many of the above works have not made the expected progress mainly due to lack of basic materials and the transport bottleneck and will have to be continued during the next financial year.

3. The new important works proposed to be undertaken are the development of about 200 acres of land in the South West part of New Delhi for allotment to the Foreign/Diplomatic Missions in Delhi, laying out a park and erecting a memorial at Rajghat, new telephone Exchange building at Calcutta, reconstruction works at Andamans, preliminary work for the alternative road to Kashmir, the construction of office and residential accommodation for the new Press and the Central Waterpower Irrigation and Navigation Commission and the Central Electricity Commission proposed to be transferred from Delhi and Simla to Nasik, the construction of a building for the Federal Court and additional residential accommodation for Members of the Parliament at Delhi.

IV.—ESTATE OFFICE—ACCOMMODATION

The acute shortage of accommodation in Delhi, Simla, Calcutta and Bombay has in no way eased, and the demands for office and residential accommodation are on the increase. In 1939, the total office-accommodation necessary for Central Government offices was 8 lakhs sq. ft., but in 1949, this figure rose to nearly 60 lakhs sq. ft., the total accommodation now available being only 57 lakhs sq. ft. There are at present about 16,000 residential quarters, and the number of applicants 70,000; the corresponding number in 1939 was 7,000 houses and 11,000 applicants.

2. The problem is most acute in Delhi. The establishments of Foreign Embassies, the large influx of refugees from the Pakistan areas, the creation of new Organisations such as the Relief & Rehabilitation Ministry and the expansion of some of the existing Ministries and Organisations and finally the Government of India's decision to help the East Punjab Government by bringing down to Delhi some of Central Government offices from Simla have increased Government's responsibility regarding office and residential accommodation. We have at present got nearly 27 lakhs sq. ft. of office-accommodation in Delhi, and despite the utmost economy having been exercised in the use of this accommodation, the outstanding demands amount to nearly 2 lakhs sq. ft. As for residential accommodation, nearly 70 per cent. of Government personnel are on the waiting list as against only 20 per cent in 1939.

3. Finding additional accommodation is a very pressing problem. While in Bombay and Calcutta, we have had to depend on Provincial Governments for requisitioning of buildings and quarters, the following measures have been adopted to meet the situation in Delhi:—

- (i) The Delhi Premises (Requisition and Eviction) Act, 1947 was passed to give Government powers to requisition premises in Delhi for their purposes. The said Act, besides providing powers for requisitioning premises, also empowers the Government to evict unauthorised occupants. There are at present 934 Government quarters in unauthorised occupation of the refugees for whom it has not been so far possible to find alternative accommodation. The number of houses requisitioned in Delhi and New Delhi is 254.
- (ii) It has been decided to shift to Nasik some offices under this Ministry viz. Central Water-power, Irrigation & Navigation Commission, Central Electricity Commission, and New Press. We have also requested other Ministries to consider the possibility of sending some of their attached and subordinate offices out of Delhi.
- (iii) The question of acquiring the Indian Rulers' houses in Delhi and Simla is also under consideration.
- (iv) 2,000 quarters for the ministerial staff, one thousand quarters for the Class IV Staff, and 200 flats for officers are under construction.

4. The Estate Office which deals with accommodation was separated from the Central Public Works Department in 1944 on account of the increase of work and the desirability of relieving technical Engineering personnel from this work. This office allots office and residential accommodation in Delhi, New Delhi, Simla, Bombay and Calcutta amounting to 56,33,885 sq.ft. and 15404 units respectively. The applications received number 70,590 and the rent amounts to Rs. 64,12,189. It requisitions and leases buildings when required; caters in Government hostels; manages the Orphanage Market in Calcutta which yields an annual revenue of Rs. 1½ lakhs and allots refrigerators, air conditioning units and desert coolers.

5. Last year it was engaged in providing accommodation for Pakistan refugees. Many Government premises were forcibly occupied by these people and it was not found possible to evict most of them. About 1000 quarters are in such unauthorised occupation. It was decided to recover compensation in lieu of rent from these refugees but not much progress has been achieved in this direction as the refugees are amenable neither to Estate Office orders nor to police threats in the generality of cases.

V. GEOLOGICAL SURVEY OF INDIA

(i) *Work of the Geological Survey of India.*—The Geological Survey of India is engaged in the preparation of an accurate geological map of India on the standard one-inch to a mile scale, which is the basis of all geological work, including appraisal of the mineral deposits of the country. In addition to this fundamental work, the Geological Survey of India undertakes special investigations of an economic nature *vis.* exploration and testing of mineral deposits by modern methods including geophysical prospecting, drilling or exploratory mining, water and engineering problems, in Provinces and States both on behalf of Government and private parties; in the case of private parties on payment. Much of the work that the Department does forms the first stage in the planning of large projects. This is particularly so in the case of (1) Engineering projects now being planned by C.W.I.N.C., the D.V.G. and the Provincial Governments (2) Large industrial projects such as the proposed new iron and steel plants, coal-petroleum plants, and ceramic and glass industries which are now being actively planned and (3) investigation and location of deposits of uranium and other radio-active minerals of strategic importance.

The Mineral Information Bureau of the Geological Survey of India gives publicity to the large amount of information about minerals which has accumulated with the Department. It has been attending to an average of over 200 inquiries per month from the public. The Bureau also publishes a semi-popular quarterly journal entitled "Indian Minerals", five issues of which have so far been published and have been very well received.

The Department also provides for practical training of a limited number of post-graduates students in Geology.

(ii) *Achievements during the last year.*—Besides attending to the work of geological mapping, the field programme of the Geological Survey of India for the current field season includes 211 special investigations. These relate mainly to prospecting for oil, coal in connection with the synthetic petroleum plant, Gypsum in connection with the Sindri Fertiliser Factory, investigations of dam sites, water supply and underground water, and prospecting for minerals *e.g.* Bauxite, iron ore, copper, graphite, mica, beryl, gold, diamonds, manganese ore and raw materials required for glass and ceramic industries.

(iii) *Problems to be tackled in the coming year.*—In the coming year, on account of the increased strength of the Department, the Geological

Survey of India will be in a position to undertake a still larger number of investigations of a similar nature. Greater attention will be paid to the work of geophysical prospecting for minerals including oil, and the work of the Rare Minerals Section.

(iv) *Difficulties encountered and remedial measures taken.*—The main difficulties encountered relate to the non-availability of some technical personnel and equipment. As regards personnel the difficulty has been partly met by the recruitment of experts on contract from overseas. Steps have also been taken to train a sufficient number of Indians to replace them in due course. As regards equipment, there has been some delay in the supply of equipment from overseas, but it appears that the situation is improving.

VI. INDIAN BUREAU OF MINES

The Indian Bureau of Mines was set up with effect from 1-3-1948 in pursuance of the decision arrived at in the Mineral Policy Conference held in January 1947.

2. It was envisaged at that time that the Bureau would be only a small Advisory Body handling the minimum of such information and statistical data as would enable it to advise the Government on questions of mineral development and policy. At present the Bureau's activities are confined mostly to advising the Government on mineral matters.

3. With the achievement of independence, ideas relating to the functions of the Bureau of Mines have undergone a change, and in view of the imperative need of statutory rules for the conservation of mineral wealth and for regulating the grant of mineral concessions the Mines and Minerals (Regulation and Development) Act was passed by the Constituent Assembly (Legislative) in September 1948. Under this Act, the Central Government have assumed responsibility for co-ordinating the policy of the Provinces in matters of mineral development and the issue of leases etc. The Central Government are also following an active mineral policy concerned with the control of mining and consumption of minerals of fundamental and strategic importance e.g. Coal, Petroleum, Iron-ore, manganese-ore and raw materials for the development of atomic energy, the conservation of high grade minerals by restriction of unplanned exploitation; the elimination of waste in mining, the organisation of statistics of mining and mineral industries, and the control of exports and imports of minerals and metals, and related matters.

4. In order to advise and assist the Central Government in implementing the above obligations, the Bureau will have to perform in future the functions enumerated in the annexure.

5. The staff at present sanctioned for the Bureau consists of one Director, one Joint Director, three Deputy Directors and four Assistant Directors, with necessary ministerial and other staff, but this will be entirely inadequate if the Bureau has to discharge all the functions enumerated in the annexure, and further expansion will be necessary before long.

6. The estimated expenditure of the Bureau for the year 1949-50 is Rs. 2,81,800 (although the demand for grant includes only a sum of Rs. 1,80,000).

ANNEXURE

(a) Inspection of mines with a view to effect a general improvements in mining methods;

(b) Gathering of data on all working and abandoned mines relating to the nature, grade and distribution of minerals so as to serve as a basis for planned development;

(c) Conservation of mineral wealth by planned working and recovery of the largest possible quantity;

(d) Elimination of waste in mining, processing and utilisation, or at least reduction of all avoidable waste;

(e) Proving of mineral deposits by the use of modern methods of prospecting (including geophysical methods) and drilling; estimation and valuation of reserves;

(f) Keeping up-to-date records of all working or workable mineral properties and licenses and leases relating thereto;

(g) Maintaining of census of current mining operations, equipment used; transport facilities and developments taking place from time to time;

(h) Collection of mineral trade statistics, market prices, tariffs, freights and other data;

(i) Advising Government—Central and Provincial—on questions relating to Mineral Concessions, royalty, rents, taxation and tariffs, export policies, etc.

(j) Advising and aiding the mining and mineral industries in regard to advances in mining practice, technology, mining plant and equipment;

(k) Organising research on problems relating to mining and for improving mining practice, mine equipment and related matters;

(l) Organising research on mineral beneficiation and concentration and on mineral utilisation in collaboration with other research organisations in the country;

(m) Provision of analytical and testing facilities for producers of and traders in minerals and issue of analysis and test reports required by the trade;

(n) Publication of mining and mineral statistics; reports of investigations in the field and laboratory; monographs and bulletins on special subjects in the realm of mining and mineral matters.

VII. INDIAN SCHOOL OF MINES AND APPLIED GEOLOGY

The Indian School of Mines and Applied Geology, Dhanbad imparts high grade technical education in Mining Engineering and Geology. It was established in 1926 and since then 372 students have already completed their studies. It offers 4 years' courses in Mining Engineering as well as in Geology, and on the successful completion of these courses, the students are awarded a Diploma. Admission to the School is made on the results of an Entrance Examination and all students who have passed the Intermediate or Equivalent examination of a University with Physics, Chemistry and Mathematics are eligible to take that Examination.

During the last 3 years, additional accommodation was provided by extending the East and West Wings of the first floor of the School buildings. The Chemistry and Physics Departments which had insufficient accommodation were shifted to the new building and laboratories attached to these Departments were better equipped. Lecture rooms of the School were furnished properly. The staff of the School was strengthened by the creation of additional posts.

The School has recently been re-organised on the lines recommended by the Reorganisation Committee of the Indian School of Mines appointed by Government in October 1945. As a result of this, the annual intake of students has already been raised from 24 to 48 and is eventually intended to be raised to 60. Extensions to the hostel and main buildings of the School as well as provision of additional staff quarters have been undertaken. Considerable progress has already been made in the construction work. A number of additional posts have been created to provide the School with adequate staff to cope with the increased activities. Recreational amenities for students have also been considerably enhanced.

In the next few years, it is intended to devise a suitable machinery for the post-graduate practical training of the students of the School with a view to equip them for managerial posts. Attention will be directed to see that the building programme is completed in time. Efforts will also be made to reach the target of 60 admissions as early as possible.

VIII. PETROLEUM DIVISION.

Background Information:—

The Petroleum Division is the co-ordinating executive authority in India for all users—Civil and Military—on all policy questions connected with the supply of petroleum products of all kinds *e.g.* provision, storage, location, transport, distribution etc. It determines from time to time the quantities of petroleum products which will be available for civil market, decides about imposition, retention or removal of controls and rationing, and in the case of Motor Spirit and Kerosene advises the Transport Ministry and Provincial Governments respectively of the quantities to be released. In the case of other products it administers such controls as may be found necessary. It also obtains and records all statistical information on petroleum products and submits appreciations on petroleum schemes and situations to Government.

Work done in 1948-49:—

(1) *Supply position.*—There was an all round shortage of petroleum products due partly to shortage of available supplies and partly to the shortage of railway transport facilities. Control had to be introduced over the distribution of High Speed Diesel Oil which is required for mechanical cultivation and industrial purposes.

(2) *Dollar Exchange.*—On account of the closure of Haifa refinery and other causes it was found necessary to import some tanker loads of Motor Spirit, Kerosene and High Speed Diesel Oil in 1948 against dollar payment. The dollar position ^{and} having worsened towards the end of 1948 ^{and} we were successful in obtaining our allocation of major petroleum products for the calendar year 1949 almost entirely from sterling sources.

(3) *Oil prospecting operations.*—Burma Oil Company continued their prospecting activities with such assistance from Government as required in the movement of materials and equipment. In certain localities they suspended their operations on account of some technical difficulties which are under Government's consideration.

(4) *Customs Difficulties.*—With the declaration of Pakistan as foreign territory with effect from 1st March 1948 for purposes of customs, enormous difficulties were encountered in the receipt of oil *ex*-Karachi and from Assam to the Indian Union *via* Eastern Pakistan resulting in shortages in areas normally fed *ex* these sources. An agreed transit procedure on reciprocal basis was worked out with the Government of Pakistan.

(5) *Refineries.*—Government are considering the feasibility of setting up refineries in the country to treat imported cude. The oil Companies

at the suggestion of Government brought in a committee consisting of technical experts to examine this project. The Committee has made their survey and their report is awaited.

(6) *Disposal of petroleum installations hired/acquired by Government during the war.*—Most of the commitments arising out of the Defence Department projects undertaken by the Petroleum Officer during the war were liquidated during the year.

Problems to be tackled during the coming year:—

(1) *Supplies and Controls.*—Action has to be taken to plan forward imports and to make arrangements to ensure adequate supplies for Government sponsored schemes/projects and other essential needs of the country. According to the information available prospects of oil supplies are steadily improving. But there is still a bottleneck in transport. The removal or retention of controls over the various petroleum products largely depends upon improvement of internal transport.

(2) *Refineries.*—On receipt of the expert committee's report on setting up of refineries, the question will be developed further during the year.

(3) *Oil prospecting operations.*—The technical difficulties experienced by Burmah Oil Company in continuing their activities will have to be tackled and steps taken to enable them to resume their activities.

(4) *Disposal of petroleum installations hired/acquired by Government during the war.*—The remaining war time commitments will have to be liquidated.

Difficulties in implementing the work:—

The chief difficulty in making petroleum products freely available is the shortage of railway transport facilities. A large number of tank wagons have already been ordered for meeting the current demand but a phased programme of future requirements of additional tankwagons will have to be worked out so that provision action may be taken in good time.

Another difficulty is the shortage of iron, steel, cement etc. which is retarding oil companies' plans for extending storage facilities to cope with the rising demand.

Conclusion.—The Petroleum Division is at present a temporary organisation, but in view of the growing importance of petroleum products in the economic development of the country it will be necessary to have a permanent central organisation to deal with the subject.

IX. EXPLOSIVES DEPARTMENT

This Department is concerned with the work connected with the Explosives Act as well as the enforcement of the Petroleum Act and the rules framed thereunder. The Department functions as an expert advisory body to the Government, the Railways, the port trust and the Commercial and Industrial concerns in the country in all matters relating to the handling, storage, transport, import and manufacture of dangerous substances. The Department's assistance is frequently sought for the investigation of explosions all over the country, and it is required to help the Government, the Port Trusts, the Municipalities and the Railways in the framing of regulations for the prevention of such occurrences.

In order to minimise the danger of accidents through faulty storage of films, the Cinematograph Film Rules, 1948 were promulgated in March 1948 under the Petroleum Act, 1937, for regulating the storage and transport of Cinematograph films throughout the country.

The question of manufacture of explosives in India for both civil and military purposes has been taken up, and the subject was discussed in an inter-departmental meeting convened by this Ministry, and a Sub-Committee was set up to pursue the scheme.

X. CENTRAL ELECTRICITY COMMISSION

The Central Electricity Commission was constituted on the 1st March 1948 by the amalgamation of the office of the Electrical Commissioner with the Government of India and the Central Technical Power Board. The Commission is charged with the general responsibility for co-ordinating and furthering all schemes of electric power development, transmission and utilization throughout the country in consultation with the Provincial and State Governments concerned. In exercise of these responsibilities, the Commission performs the following functions:—

- (i) to advise the various Governments on the administration of electricity legislation, matters relating to electric power development and public electric utilities;
- (ii) to assist Provincial/State Governments in the investigation, survey & Preparation of schemes of power development for particular regions, survey of potential sources of load, forecasting of revenue from electricity supply and the formulation of electricity tariffs;
- (iii) to prepare, when required by Central Government project reports outlining electric power development schemes and to execute them, if so directed.

- (iv) to review and lay down for the whole of India standard voltages and practices for generation, transmission and distribution of electrical energy;
- (v) to conduct experiments, researches propoganda and carry out other activities to promote the use of electricity particularly in semi-urban and rural areas;
- (vi) to collect, maintain and publish statistical data relating to generation, distribution and utilisation of electricity throughout the Dominion of India and act as the Central bureau of information on all matters relating to the public electricity supply.

The activities of the Central Electricity Commission come under the following categories:

I. *Planning*

II. *Utilisation*

III. *Commercial*

I—PLANNING

(i) *D. V. Power System.*—The most important work of this Division has been in connection with the Damodar Valley Power System which was originally investigated and initiated by this Commission. The first stage of this project costing approximately Rs. 12 crores has now been finalised as regards planning, design and preparation of detailed tender specifications. Contracts have recently been placed for the Bokaro Steam Power Station (initial capacity 150 mw), the transformers and switchgear for the Sindri Power Supply System at 66 kv and also for 205 miles of 132 kv double circuit Transmission lines. The total amount of the order placed is about Rs. 9 crores. Specifications have also been prepared for the Tilaiya Power Station forming part of the initial stage of the Damodar Valley Power Development and tenders which have been recently received are now under scrutiny. It is expected that orders will be placed for this item within about two months.

The main work for the next year will be in connection with the construction of the Bokaro Thermal Station, the Transformer Sub-Stations and the transmission lines etc. referred to above. The actual construction will be carried out by the Damodar Valley Corporation under the advice and co-ordinating direction of this Commission. It is also expected that the preparation of tender specifications for the Maithon and Konar I Hydro Electric Stations of the D. V. Project will also be taken up next year.

(ii) *Bihar Emergency Irrigation Scheme.*—Another important work carried out by the Planning Section has been the design and lay out of the power distribution system for the emergency irrigation project of the

and a population of 3.9 lakhs. The initial report on this work was prepared in April 1947, but as a result of further discussions with the C. P. Government, Electricity Department, and based on the increased cost of materials, revised proposals and estimates were prepared early in December 1948. These came up for discussion at a Conference at Nagpur on the 11th December 1948 presided over by the Hon'ble Minister for Works, Mines and Power. As a result of these discussions it was decided that the rural electrification scheme as worked out by the Commission should be integrated with the major power development in the Province and the Provincial Government would undertake the responsibility for the construction and operation of the rural electrification with such assistance as the Centre may agree to give on the question of finance. The revised estimate of the Project as prepared by the Commission is for about Rs. 51 lakhs, and the Commission's proposal was to execute the work spread over a period of ten years. The implementation of the project now, however, rests with the Government of the Central Provinces and Berar.

(b) *Assam Electrification Project*.—At the request of the Government of Assam, the Commission investigated the scope of the electrification of certain areas in the Gauhati Sub-division of Kamrup District, and submitted a report to that Government in May 1948. This project covers supply to 57 towns and important villages in an area of 1200 sq. miles. After further investigations in the light of the load developments that is immediately envisaged, a more elaborate scheme has since been worked out which involves the capital expenditure of Rs. 45 lakhs initially, and Rs. 101 lakhs by the end of the 10th year of operation. The scheme as now worked out provides for the installation of one 5000 kw Steam Station initially to cater for the main industrial loads in and around Gauhati, Pandu and Amingaon. This scheme is now under the consideration of the Assam Government. It is expected that the Commission will have to undertake the construction and operation of the Project for the first five years, and the Assam Government's approval of the proposal is now awaited.

(c) *Electrification of Port Blair, Andamans*.—It is expected that the Utilisation Division of this Commission will have to carry out this scheme, the details of which have been worked out by the Planning Division. This will also form part of the activities of this Division for the next year.

(ii) **Regional Load Surveys**

(a) *Damodar Valley Power System*.—Based on the field study made earlier, a comprehensive report on the regional load survey of the Damodar Valley and adjoining areas covering approximately 53,000 sq. miles

with a population of 22 million inhabitants, was prepared and sent to the Damodar Valley Corporation. This report (in two volumes) gives detailed particulars of domestic, industrial, coalfield, mica-mining, railway electrification and other loads envisaged in that area during three stages of development covering fifteen years. Based on the results of this load survey it is anticipated that the Damodar Valley Projects initially planned power supply capacity of 350 mw would be loaded up before then and it would therefore be advantageous to import power into this system from the adjoining hydro-electric power developments like RIHAND in U. P. and HIRAKUD in Orissa.

(b) *Ranchi Area.*—A detailed report regarding the important mineral resources and the types of industries to be developed in Ranchi and adjoining districts for the purpose of planning the new railway project in the area was sent to the Railway authorities concerned, at whose instance this investigation was taken up.

(c) *Miscellaneous.*—Proposals for the power supply to construction camp at Tilaiya (Damodar Valley Project) and for supply of power to the Bihar Government for the distribution of surplus Tilaiya power to adjoining mica-mining areas were prepared for the purpose of devising a suitable bulk supply tariff.

An estimate of the power requirements of the proposed railway electrification scheme from Howrah to Mogulsarai, and of the steel factory in the D. V. C. area were also worked out in consultation with Railway Board and the Ministry of Industry & Supply respectively.

A report was prepared on the availability of power supply for the proposed State-owned Machine Tool Factory at Panagarh, at the request of the Ministry of Industry & Supply.

A report on the power requirements for the Ganga Bridge Construction at Mokameh Ghat was prepared at the request of the Engineer-in-Chief of this construction.

The regional load survey programme for the next year includes the following two main items:—

(a) The Chambal river Hydro Electric Project covering the States of Madhyabharat, Rajasthan and the Centrally Administered Area of Ajmer.

(b) The Load Survey of North Bihar covering five districts in connection with the proposed construction of 1200 tubewells in that area. This work is being taken up at the request of the Bihar Govt.

Proposals for similar load surveys in certain States and Unions of States are envisaged in the next year's programme.

(iii) **Reserve Pool Section.**—

One of the important items of work relating to this Utilisation Division is the administration of the All-India Reserve Pool of Electrical Generating Plant. The Reserve Pool was established in 1942 to meet the abnormal and emergent conditions created by the last War and served an extremely useful purpose. The acute scarcity of generating Plant in the country even after the termination of the War and certain urgent demands from Provincial Governments for generating plant in connection with their "Grow more Food" campaigns, coupled with the availability of certain plant on immediate delivery in the U.K. and U.S.A. led to the continuance of the Pool for a period of 3 years with effect from the 1st April, 1946. The plant procured by the Reserve Pool Organisation during this period has been usefully utilised in connection with:—

- (i) emergency "Grow More Food" projects in the U.P.;
- (ii) refugee rehabilitation schemes in the East Punjab;
- (iii) meeting Power shortages in Delhi and certain areas of Madras; and
- (iv) providing construction power ^{for} priority Government projects, e.g. Sindri Fertilizer Factory, Damodar Valley and Hirakud Schemes.

Although no fresh plant was ordered for the Reserve Pool during the current year (1948-49), the consignments of 13 transportable power stations having an aggregate capacity of 29,250 kw, started arriving during this period and were being despatched to the destinations, as instructed by the various Provincial Governments to whom these stations were allotted. The value of the stores received during this period was approximately Rs. 26.5 lakhs. In addition to the above, the Reserve Pool Section handled all the technical work connected with the purchase of 2-1000 kw transportable power stations for the Government of U. P. and 3-1000 kw transportable power stations for Hirakud Project of the Central Waterpower, Irrigation & Navigation, Commission through the India Supply Mission, Washington.

In all 64 complete power plant, 106 transformers and other machinery was procured by the Pool. Of this, stores worth Rs. 34.48 lakhs are in stock at present and will be disposed of during 1949-50.

(iv) **Erection & Construction Section.**

The Erection of 2-500 kw diesel generating sets at Bela Road, New Delhi for Delhi Central Electric Power Authority was completed. With

the installation of these sets, the capacity of the station has reached 3000 kw. The Erection of 1-500 kw transportable power station at Sindri was completed by the end of 1948. The erection of 1-2500 kw transportable steam Turbo alternator set for the D.C.E.P.A. and of 2-345 kw and 1-475 kw diesel sets at Sambalpur for the Hirakud Project is in progress. During 1949-50, this Section expects to handle the erection of generating plant for seven projects totalling about 15000 kw.

(v) **Plant Procurement Section**

In addition to giving advice to the Chief Controller of Imports on the issue of import licences for heavy electrical plant and other requirements of public electric utilities, this section co-ordinated the requirements of steel and cement for the various electric power projects. The quantity of steel available from indigenous sources is less than 25 per cent of the actual requirements of the various Electric Power Projects under execution by the Provinces and States. This Commission had the extremely difficult task of allocating such limited supplies as were available in accordance with the relative urgency of the different Provl. Projects. The Ministry of Industry and Supply are investigating the possibility of importing steel from Belgium & France. If this fructifies, the position may be slightly eased. Owing to the shortage of locally produced steel supports and scarcity of wood poles, the availability of second-hand rails in America for use in Transmission and Distribution System was investigated through the India Supply Mission, Washington, and the purchase of 4775 tons of steel rails worth Rs. 11.8 lakhs for various electric power projects was co-ordinated. Besides the above, the distribution of 6400 tons of second-class rails available from the steel mills in India to various electric power projects was also handled by this Section. Deliveries of generating plant, particularly steam boilers and turbines from the U. K. are of the order of 3 years and more. The Commission is keeping in touch with the India Supply Mission in Washington in respect of the supply position of items urgently needed for Electric Power Projects, and indentors were advised of the procedure for procurement where such items could be obtained from the U.S.A. The possibility of procuring power plant from Japan is also under investigation through the Indian Liaison Mission, Tokyo.

III—COMMERCIAL DIVISION.

(i) *Electricity (Supply) Act, 1948.*—The Electricity (Supply) Bill introduced in the Assembly last year was passed into law in August 1948. This measure empowers Provinces to set up semi-autonomous Boards entrusted with the task of rationalising development of electricity production and distribution. The Boards themselves will undertake the development of natural power resources in the Provinces and devote particular

attention to extension of electricity into rural and undeveloped areas. The Boards are given wide powers to co-ordinate and direct the activities of private undertakings ^{and} ~~also~~ thereby achieve most of the benefits normally associated with nationalisation without causing interim dislocations or incurring the heavy expenditures that would be involved in nationalising the whole range of the industry. The Act also provides for the constitution of a Central Electricity Authority to examine and co-ordinate proposals for large schemes, frame central power development policy and assist in the speedy and competent settlement of the many technical and quasi-technical differences that might arise between Provincial Boards and private undertakings.

The constitution of Central Electricity Authority in the near future and also of the Provincial Electricity Boards is expected to result in a greater demand for assistance from this Commission, especially at the initial stages. It is also expected that consequent on the financial control imposed on private licensees in terms of the Electricity (Supply) Act, greater attention would be paid to the scrutiny of existing tariff structures and their revision where found necessary.

(ii) *Indian Electricity Rules*.—During the year a complete revision of the Indian Electricity Rules was taken on hand by a sub-committee appointed by the Central Electricity Board, and the bulk of the work is being done by the Commission. The preparation of a National Electrical Code laying down standards of practice for electrical construction work as well as the revision of the I.E. Act 1910, is expected to be taken on hand next year.

(iii) *Statistics*.—The collection and compilation of electricity supply and consumption statistics and their publication were extended during the year to cover a few more major industries. Financial data regarding electricity supply undertakings have been collected.

It has been felt for some time that the magnitude of the electrical development planned for the next few years calls for a closer study of the co-ordination of the progress of the projects with the development of industries to be served by such projects. Accordingly it is proposed to survey the prospective offtake of electrical power during the next ten years by the industries and collect the necessary basic data for the purpose.

(iv) *Miscellaneous*.—The Commission assisted the Provincial Governments of Ajmer-Merwara and the U.P. in examining the electricity tariffs in force in these Provinces, and also was instrumental in effecting a speedy settlement of the dispute between the Ahmedabad Electricity

Company and the Ahmedabad Municipality in connection with contracts for power supply and street lighting maintenance.

The difficulties in ensuring an adequate supply of fuel to public utilities still continue, and the rationed quantity allotted to them has to be allocated month after month to the individual utilities, ^{the Central El.} ~~there~~ ^{has to be} ~~which~~ ^{calls for a} close watch on their stocks and consumption.

In these tasks the Commission has had an important part to play and it will continue to be so in the years to come.

One of the main difficulties this Commission has to face in carrying out their work is in regard to the recruitment of proper technical personnel to fill up certain highly specialised posts in Thermal Power Engineering Section of the Planning Division. Attempts are however being made again to recruit suitable men in this country and side by side the possibility of getting suitable personnel from abroad, is also being investigated.

Another great difficulty in the execution of works for which this Commission is responsible is the inordinate delay in the delivery of plant and equipment from abroad and the shortage of indigenous steel and cement.

There is no immediate hope that the position regarding the supply of these materials will improve radically so as to enable the construction of the Power Projects in the various parts of the country being expedited. In spite of these difficulties, however, it is visualised that new Power Projects with an aggregate capacity of about 900,000 kw will be completed during the course of the next 5 years which may be considered not an inconsiderable achievement having regard to the difficult position in which we are now placed.

XI—DELHI CENTRAL ELECTRIC POWER AUTHORITY

The Delhi Central Electric Power Authority was constituted on the 14th April 1938 under the Indian Companies Act as a non-profit earning limited liability Company without share capital and financed solely by the loans granted to it by Government. The loans from the Government are secured by Debentures which constitute a first charge on the assets of the Company. The original borrowing capacity of the Authority was fixed at Rs. 46 lakhs which has since been raised to Rs. 3 Crores, against which it has taken a loan of Rs. 2,04,50,000/- so far.

When the Authority took over the generation of electricity in Delhi the installed capacity of the generating station was 10,900 KWs. On assuming responsibility the Authority was faced with the initial difficulty of shortage of plant as the ratio of the demand for electric power to the

capacity of the installed plant was far above the level at which reliability of supply could be guaranteed. The Authority therefore augmented the generating capacity by placing orders as shown below:—

Capacity of Plant	Date of Order	Date of Operation	Cost actual or estimated Rs.
7,000 kws Turbo-Alternator with requisite boiler	May 1939	February 1941	6,78,707 switchgear equipment at a cost of Rs. 3,72,153.
7,000 kws Turbo-Alternator with requisite boiler.	Aug. 1940	Middle of 1945	15,77,603
Two 37,000 lbs. per hour capacity boiler.	1942	1942	10,33,985
Two 10,000 kws Turbo-Alternators from Sweden.	May 1946	End of 1950-51	..
Four 80,000 lbs. per hour capacity boilers (for 'B' Station).	..	End of 1950-51	1.72 crores.

Bela Road Diesel Station—First Stage.—As the Authority could not meet the growing demand of electricity, the Government of India in December, 1945 decided to erect the Bela Road Diesel Station comprising of Four 500 KWs Diesel Sets, on the condition that the Authority should run the station and the Government to reimburse the extra cost of generation at this station was commissioned on the 8th March 1947.

Purchase of the D.E.S. & T. Undertaking.—In pursuance of their policy of purchasing public utility undertaking at the time of the expiry of their license, the Government bought over the Delhi Electric Supply & Traction Co. Ltd., on 2nd March 1947 at a cost of Rs. 82,11,580/- which included Rs. 12,41,760/- being the valuation of the Traction side. The working of the entire undertaking was then handed over to the Authority and the money spent by the Government on the purchase was debited to the loan account of the Authority.

Bela Road Diesel Station—Second Stage.—Despite the steps taken as stated above, the Authority's plant position was insufficient to meet the ever increasing demand for electricity in Delhi, Government, therefore, offered to loan to the Authority on hire two 500 KWs Diesel Sets and one 2,500 KWs Transportable Power Set. The two Diesel Sets have been put into commercial use, whereas the 2,500 KWs set is under erection in the premises of the Central Power House and is expected to be in commission by April 1949.

Westinghouse Unit Type Power Plant.—As the Delhi Central "B" station consisting of two 10,000 KWs Turbo-Alternator Sets could not be commissioned in 1948 as originally anticipated due to post-war conditions, the Authority placed an order in December 1947 for one 5,000 KWs Westinghouse Unit Type Power Plant, at an estimated cost of Rs. 36 lacs to enable them to tide over the difficult load position in 1949 and 1950. This plant is expected to be in commission by end of January 1950.

Future Extensions.—It is expected that even when all the plants on order are brought into commercial use, the Authority will not be in a position to meet the load. The Authority is therefore, negotiating with the East Punjab Government to take 20,000 KWs Hydro-Electric Power from the Nangal Project by the middle of 1952.

XII—TRAINING OF INDIAN ENGINEERS ABROAD

The urgent need of training Indians abroad on the Commercial and Administrative side of Electricity was recognised at the meeting of the Policy Committee 3(c) of the Reconstruction Committee of Council held in New Delhi on the 25th October 1943 and, realising the importance of the training scheme in furthering electrical progress in this country, this Ministry formulated a scheme in 1945 to select 10 promising Engineers for training abroad.

In 1946 it was decided to accept the offer made by the Ontario Hydro-Electric Power Commission, Canada, to give training to three graduate engineers in designing and construction work. As in the previous scheme the Central Government bore the entire training charges in respect of their employee and half the cost of passage and subsistence allowance while on board the ship of the Provincial Government candidates.

Encouraged by the success of these schemes and visualising the growing need for such trained personnel to work in the vast programme of electrical development facing the country, it was decided in November 1947 to send 7 Indian Engineers for a year's training in the large power systems in the U.K., U.S.A. and Canada in such undertakings as may be recommended by the British Electricity Authority, the Ontario Hydro-Electric Power Commission, Canada and the U.S. Federal Power Commission. One engineer each was selected from the Provinces of West Bengal, Orissa, U.P., C.P., States of Patiala and Jaipur, and two engineers from the Central Government. These engineers are at present undergoing training at the respective centres. The Central Government will bear in entirety the expenditure—estimated at about Rs. 30,000/- on behalf of their own employees. Since Government of India are already

contributing in various ways to the development schemes of the Provincial Governments, it was decided that the entire expenditure on the training of the Provincial candidates would this time be borne by the respective Govts. in full.

This Ministry propose to send during 1949-50 two Engineers from the Central Government to specialise on large Thermal Power Stations, High Voltage Transmission Practice and the Interconnection of Power Systems by these transmission lines. With the acute scarcity among Indian Engineers of men trained in such specialised work and with the vast electrical schemes under examination, there can be no doubt that the scheme will be great benefit to the country. The training of the two engineers during 1949-50 has been estimated at Rs. 45,000/- and the details of the scheme are being worked out by the Central Electricity Commission.

XIII—ADMINISTRATION OF THE INDIAN BOILER ACT AND THE REGULATIONS

This Ministry is responsible for the administration of the Indian Boiler Act, 1923 and the regulations framed thereunder. The Central Boiler Board which consists mostly of the Chief Inspectors of Steam Boilers of various Provinces and a representative of the Ministry of Railways, set up a sub-committee for the entire revision of the Indian Boiler Regulations, 1924, in the light of the modern Industrial development and requirements. The Sub-Committee prepared the revised draft regulations and the draft economisers and Feed-pipes regulations which were published for public criticism. The last meeting of the Board was held on the 14th to the 16th February 1949 to consider *inter alia* the revision of the draft Indian Boiler Regulations in the light of the criticisms received thereon.

It is hoped that regulations will be finalised at the next meeting of the Board scheduled to be held next May. In the meantime interim arrangements are being made to accept boilers which conform to the latest boiler practices.

XIV—CENTRAL WATERPOWER IRRIGATION AND NAVIGATION COMMISSION.

Irrigation has been practiced in India from times immemorial. Without artificial application of water, cultivation is not possible in many parts of the country. India leads the world in the extent of area irrigated and many aspects of irrigation practice and technique. Hydro-electric development in the country, is however, of comparatively recent origin but even during this short time fine examples of Hydro-electric works have been set up by Indian Engineers.

2. What has been done so far does not, however, touch even the fringe of the problem. Large areas in the country are barren for want of irrigation facilities and huge sums are being spent abroad for food imports. On the other hand, about 94 per cent. of the waters of the rivers of India flow waste to the sea creating havoc on their way. These very rivers, if properly harnessed, can be turned to the service of the nation and the areas concerned can be converted from poverty to plenty. The power potential of Indian rivers has been estimated to be between 30-40 million K.W; the extent of this can be judged when it is known that the entire hydro-electric plant installed in the country at present generates only $\frac{1}{2}$ million K. W.

3. Multi-purpose river development on a regional basis with a view to providing simultaneously for the control of floods, the development of electric power, irrigation and navigation; fish culture, Malaria control and recreational facilities, is the present policy of the Government of India and various Provinces and States. To initiate, promote and pursue multi-purpose schemes of river development, the Government of India set up in 1945, a strong technical organisation known as the Central Waterpower, Irrigation and Navigation Commission (CWINC). This body which consists of a Chairman, two full time Members and appropriate technical and non-technical staff is charged with the general responsibility of initiating co-ordinating and furthering, in consultation with the Provincial and State Governments concerned, schemes for the control, conservation and utilisation of water resources throughout the country for the purposes of water-power generation, Irrigation, Navigation and Flood Control; and if so required, to undertake the construction of any such schemes.

4. The Central Waterpower Irrigation and Navigation Commission has seven sections, each under a Director to deal with (1) Irrigation (2) Waterways (3) Navigation (4) Hydrology (5) Designs (6) Publications and Statistics and (7) Research. It has an upto-date information Bureau and Library on engineering subjects and publishes material, including digests of recent literature, for the information of engineers all over the country. Those who cannot find sufficient time to read the entire published literature on the subjects relating to their activities are thus provided with the necessary references so vital to their work.

5. An important activity of the Central Waterpower Irrigation and Navigation Commission is the Research Station at Khadakvasala near

Poona. At this Research Station considerable research is carried out with the help of field models to determine the best form and details of structures proposed for the control and development of the rivers in the country.

It was felt that with the increased activities in the country in connection with large multipurpose projects, it was essential to extend and reorganise this station so that research on all subjects connected with river engineering, irrigation and generation of hydro-electric power could be taken up at this station. Government has sanctioned a scheme of re-organisation which is being implemented.

6. During the year 1948/49, the Central Waterpower Irrigation and Navigation Commission was entrusted with the construction of the Hirakud Dam Project, on behalf of the Government of Orissa, at an estimated cost of Rs. 47.81 crores. It has also undertaken the construction of a combined road-rail bridge on the Mahanadi at Sambalpur, estimated to cost approximately Rs. 1½ crores. This bridge on the National Highway from Bombay to Calcutta will facilitate the construction of the Hirakud Dam and Works connected therewith. The Hirakud Dam Project has as its main feature a dam across the main channel of the Mahanadi river ^{18,700}~~1,37,000~~ ft. long of which 5,000 ft. will be in concrete and the rest will be earth-fill. The project when completed will provide irrigation to one million acres of land and cheap electricity to the extent of 350,000 KW. Temporary quarters for staff are being constructed and work on the railway sidings and roads, is in progress. Drilling and exploratory work at the dam site is nearing completion. The dam is expected to be completed in 1954-55.

7. The Central Waterpower, Irrigation and Navigation Commission has continued detailed investigations on the Kosi river. The Kosi Project, which is expected to result from these investigations will aim at taming this river in the service of the Nation. About 3,000 square miles of rich agricultural land which the river has laid waste, will be reclaimed and irrigation will be extended to about 3 million acres of new land. The Hydro-electric works to be installed are likely to produce 1.8 million K.W. of electric power. The investigations of the Kosi Project have been proceeding for about 3 years but it will take another year or two to complete the work necessary to ensure the safety of the proposed dam which will be of unprecedented magnitude and which lies in a highly seismic zone. The entire cost of the project is estimated to be well over Rs. 100 crores, and it is likely to take about 10-15 years to complete.

8. The other projects for which investigations were undertaken by the Central Waterpower, Irrigation and Navigation Commission in the year 1948-49, are the Narbada and Tapti Projects and the Assam Valley Schemes. On the Tapti, investigations have been confined mainly to a project in the lower Tapti basin. This project is divided into two stages. The first stage provides for the construction of a barrage across the Tapti river at Kakarpara, 47 miles above Surat with canals on both banks commanding a gross area of 800,000 acres in the Bombay province and Baroda State. The second stage provides for the construction of a dam to secure assured perennial supplies for irrigation and effective flood control. The power potential of the dam would be 48,000 K.W. The work on the first stage is expected to be taken in hand during 1949-50.

Investigations are in progress for the development of Narbada Valley which falls partly in Bombay and partly in C.P. and Berar. At present there are four projects in this valley which are being investigated and these are (a) Broach Irrigation Project, (b) Bargi Project, (c) Tawa Project and (d) Punasa Power Project, Preliminary reconnaissance of the Narbada river has revealed that Narbada could be made navigable from sea upto Hoshangabad, a distance of 400 miles. This project would involve the construction of four dams and a series of locks, and training of the river upto its lower reach. Detailed investigations are intended to be started during 1949-50.

9. Late in the year 1948-49, sanction was accorded for investigations of a few more projects. These are:—

(1) *The Sabramati Project* to utilise the water of the Sabramati for irrigation and generation of power.

(2) *The C. P. & Berar Projects*.—The rivers effected are Godavari, Indravati and Sabri. The projects are conceived with the main object of providing additional irrigation and generation of electricity.

(3) *The Coorg Projects*.—These are:—

(a) *Harangi Project*.—It comprises the construction of a dam about 100 ft. high across the river Harangi. It would afford irrigation to about 7,000 acres of land and generate 1,800 K.W. of continuous power.

(b) *Barapole Project*.—This envisages the construction of two dams 100-150 ft. high one each on the two tributaries of the Barapole river. It is expected to produce about 47,000 K.W. of firm power.

(c) *Lakshmanathirtha Project*.—It comprises an anicut across the Lakshmanathirtha river to irrigate about 3000 acres of land in Coorg.

4. *The Ganga Barrage Project in West Bengal*.—The hydraulic conditions of the Hoogly estuary have deteriorated and its navigational facilities are being maintained with increasing difficulty. Also with the partition of the country, the navigation route from Calcutta now lies for 500 miles in Pakistan territory. To remedy this state of affairs and to provide navigation facilities from Calcutta through the Indian Union without having to pass through Pakistan, it is proposed to construct a barrage at a site near about Faracca combined with a rail-road bridge over the Ganga, with the object of:—

- (a) Providing economic foundations and river control for the construction of a railway and road bridge;
- (b) supplying water for resuscitation and plying of the moribund rivers;
- (c) providing irrigation;
- (d) supplying water for the benefit of Calcutta Port through the Bhagirathi; and
- (e) providing a direct and perennial navigation route from Calcutta located entirely in the Indian Union.

10. Apart from the construction and investigations of projects directly entrusted to the Central Waterpower, Irrigation and Navigation Commission this organisation has as one of its important functions to facilitate progress, resolve disputes, etc. regarding projects under construction or investigation by different Provincial and State Governments and give technical advice when requested so to do. During the year 1948-49 the Central Waterpower, Irrigation and Navigation Commission rendered such service, among others, to the U.P., West Bengal, Bihar, Madras, Hyderabad, C.P. and Berar, East Punjab, Rajputana States, Patiala State, Kashmir State and Cutch.

11. During the year 1949-50 the most important work which the Central Waterpower, Irrigation Navigation Commission will have to pursue with full vigour is the construction of the Hirakud Dam Project and that of the Kakrapar Project if the latter is sanctioned. Investigations work on the Kosi and on various other projects mentioned above will also proceed as fast as possible.

12. It has been felt that with the available resources of material, manpower and currency—domestic and foreign—it may not be physically possible to take up the construction, at the same time, of all the projects that

have been taken in hand and are contemplated by the Central Government and the various Provincial and State Governments. It is therefore necessary to determine priorities for construction. It is proposed to take up this question in consultation with the Provincial and State Governments, and the Government of India, after a study of the overall picture, will determine, with reference to various factors involved, what new projects can and should be taken up without detriment to the projects on which construction has already begun.

XV—CENTRAL BOARD OF IRRIGATION

The Central Board of Irrigation is a strong technical body consisting of the Irrigation & Hydro-Electric Chief Engineers employed in the Provinces and some of the States and also some engineering officers of the Central Government having the status of a Chief Engineer and dealing with the multi-purpose development of river valleys in general and irrigation and hydro-electric aspects in particular. The Board meets once a year to exchange ideas, discuss problems of common interest relating to irrigation, hydro-electricity and allied subjects. The research work done in the country, during the year, whether on fundamental or specific problems and other developments in technique are discussed at these meetings, and programme for research during the following year by the various irrigation and research institutions in the country, is laid down. The Board has a Research Committee which also meets once a year and discusses the problems in great detail.

2. The office of the Board is located at Simla.

XVI—DAMODAR VALLEY CORPORATION

The Damodar Valley Corporation came into being with effect from the 7th July 1948 as a result of an Act of the Dominion Legislature called the Damodar Valley Corporation Act of 1948 (XIV of 1948). The main functions of the Corporation briefly are to control floods in the Damodar, to generate electric power for distribution and provide water for irrigation and other purposes. In addition, the Corporation will endeavour to promote economic development of the Damodar Valley and the adjoining areas. It has power to acquire land and construct or cause to be constructed such dams, barrages, reservoirs, power houses and power structures, electrical transmission lines, irrigation and navigation works as may be necessary. The capital required by the Corporation is to be provided by the Central Government and the Governments of Bihar and West Bengal.

2. The Damodar Project comprises 8 multipurpose dams over the Damodar river and its tributaries, which cover an area of approximately

8,000 square miles. The Project, when completed, will produce sufficient water for irrigation of about 9 lakh acres of land of which only 1,86,000 acres are at present irrigated but only partially. Cheap power to the extent of 3,50,000 Kilowatts will be produced. Other benefits to be derived from the project will be complete immunity from floods in the areas in which the Damodar River plays havoc in the rainy season. Navigation will be provided between the Lower Valley and the Port of Calcutta.

XVII—STATIONERY & PRINTING.

A report on the working of the Printing and Stationery Department for the years 1941-47 has already been laid on the Table of the House and copies circulated to the Hon'ble Members. That report contains detailed account of activities of the printing side of the Department. The report on the stationery side of the Department will be circulated shortly.

Briefly, the Stationery and Printing Department comprises:—

A Headquarters office, is directly in charge of the Controller of Printing and Stationery, who has under him three Deputy Controllers, one for Printing, one for Stationery and the third for Inspection of Stationery Stores, five Managers of Printing Presses and the Managers of Publications.

The Deputy Controller Printing is concerned with the printing work of all the Government of India offices. There are five Printing Presses owned and run by the Government of India, two at Calcutta and one each at New Delhi, Simla and Aligarh, each in charge of a manager. Of the five presses owned by the Government of India, two are intended for the printing of forms, required by the various Ministries of the Government of India and the offices under them including Defence Services. The two Forms Presses at Aligarh and Calcutta, even though they are devoted entirely to the printing of forms, are not able to cope with the requirements and Government are considering the possibility of augmenting the printing capacity, either by the expansion of the existing Presses or even by setting of a new Press.

The remaining three Presses are for letter press printing and their capacity put together is a little less than 1,000 pages per day producing daily about 3,72,500 impressions. In addition, there is a duplicating section at the headquarters office of the Controller, for the duplicating work of the offices of the Government of India. This Section eminates a good deal of printing work as can be judged from the fact that during 1946-47, this Section produced 12 million impressions.

Under the Deputy Controller of Stationery, there is the Government of India Stationery office at Calcutta which purchases and stocks stationery stores of the various categories for distribution to the Ministries and offices of the Government of India, and certain Provincial and State Governments.

This office also deals with the purchase and distribution of paper, typewriters, duplicators, calculating machines, etc., to the various Government and State Organisations.

The Deputy Controller, Inspection is in charge of inspection and testing of Stationery Store supplied by contractors to the Stationery office and for laying down the standards and specifications thereof. He is directly under the control of the Controller of Printing & Stationery. The development of testing ^{and} the inspection side of the Stationery Office has placed that office on a sound footing and the possibility of acceptance of supplies not strictly conforming to specifications, has been eliminated.

The printing capacity of the Government of India printing presses as in the Forms Presses, falls far short of demands of the Government, which have grown out of all proportion to their printing capacity. The printing work which cannot be handled by the Government of India Presses, has to be entrusted to private presses and the value of this work increased from Rs. 1, 94,800 in 1941-42 to Rs. 24,00,000 in 1945-46. The two main factors responsible for this phenomenal increase were the increasing requirements of the Government offices during the war and the decreasing capacity of the presses for want of replacements which were not available. Of late, even the private presses have lost their eagerness for Government printing work because they can secure better rates by printing for the public than are allowed by Government.

With the partition of the country, although the printing machinery was not divided, the entire printing capacity of the Government of India Press, Simla, (one of the major Government of India Presses) was reserved for the Government of Pakistan, with the result that for all practical purposes, the printing capacity of the Government of India presses was reduced by one press. On the other hand, while the printing requirements of the Government of India offices went on increasing, the machinery went on deteriorating for want of replacements on account of the war, and prolonged period of delivery after the cessation of hostilities. It was, therefore, decided to set up an entirely new press to augment the printing capacity of the Government of India Presses. The new press is proposed to be set up at Nasik and will yet take about a couple of years to commence working. The machinery for it has been ordered and the acquisition of land for the construction of a building to house the press and other preliminaries, are under way. Other efforts to increase the printing capacity of the Presses include working of double shifts, and appointment of an officer on special duty to formulate a scheme for augmentation of the printing capacity of the Government of India Presses.

The report of an Officer on Special Duty, revealed that the printing machinery in the Government of India Presses which were 30 to 40 years old, had completely worn out and out of date, and that according to standards observed in the U.K. and the U.S.A, this machinery should, in the normal course, have been changed twice over. The Officer on Special Duty recommended replacement of the entire machinery in the Government of India presses by up-to-date and fast working modern machinery from the U.K. and the U. S. A., within a period of 5 years, at a cost of about Rs. 70 lakhs. The Government of India after considering the Officer on Special Duty's report came to the conclusion that it was desirable that the whole position be reviewed by an Expert Committee, with a non official expert, as its Chairman, two or three expert printers and a representative of the Government of India as members, to advise on the best way of augmenting the printing capacity of the presses. The Committee is expected to start functioning shortly and to finish their labours within about six weeks time.

An important event during the year in the Stationery & Printing Departments, was the opening of a Sales Depot of the Government of India Publications Branch, known as the "Kitab Mahal" in New Delhi, in order to make it more convenient for Members of the Constituent Assembly and the general public to obtain the publications therefrom. In the short time during which this depot has been in existence, it has proved very popular and is reported to have rendered the desired service to the Members of the Legislature for whom it was really intended.

Another important event of the year was the appointment of Labour officers in the Government of India Presses to bring about better relations between the workers and the management of the Presses.

One serious difficulty from which the Stationery and Printing Department generally and the Government of India Presses particularly suffered during the year was that the majority of skilled workers, who were Muslims, left for Pakistan on the partition of the country. No doubt, some Hindu skilled workers migrated from Pakistan areas, but their number was far less; the Presses were thus left with very few skilled workers. Efforts were made to make good this loss as best as possible, but there was a large gap to be filled. A scheme of 'learners' has been introduced. By this scheme the Government of India propose to recruit batches of youngmen and train them up in the Presses so that they will be able to handle the machinery skillfully after sometime and come on to the regular establishment, leaving the posts of 'learners' for a fresh batch. Government are also considering the question of opening a school for imparting training in printing and allied trades and thus open up a new avenue for youngmen of the country.

The Controller of Printing and Stationery, who was on leave in the U. K., was required by the Government of India to study the working of H.M.G.'s Stationery office with a view to suggest a reorganisation of his own department where this was necessary. His report is expected shortly.

XVIII —COAL MINES STOWING BOARD.

On the recommendations of the Coal Mining Committee appointed by the Government of India, in 1936, the Coal Mines Stowing Board was created in 1939, by the Coal Mines Safety (Stowing) Act, 1939, to administer the fund which is raised by the levy of cess on coal and coke and to spend it on the stowing of coal and other operations to prevent fires in mines and to avoid wastage of coal. During 1948-49 a sum of about 23 lakhs was collected by way of cess and paid to the Coal Mines Stowing Board for expenditure on stowing and other operations.